From: NotificationV
To: BRENDA.AKSTULEWICZ@BRENDA.AKSTULEWICZ; Hayden, Elizabeth
Subject: G1M3- Ticketed Invoice For ELIZABETH ANN HAYDEN 14MAR11..
Date: Monday, March 14, 2011 12:14:25 PM
Attachments: JLLJJU.pdf

<<JLLJJU.pdf>>
This is an automated email notification. Please do not respond to this email address.

Did you know we can also book your hotels and rental cars?

ccc/120

From:	Maier, Bill
To:	LIA04 Hoc; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Cc:	Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject:	RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs
Date:	Monday, March 14, 2011 12:19:58 PM

For Region IV, the talking points were distributed to the individual state SLOs and State Radiation Control Program Directors.

-----Original Message-----
From: LIA04 Hoc
Sent: Monday, March 14, 2011 11:18 AM
To: McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject: RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

Question from the Liaison Team. Was the attachment distributed to the Individual SLO's or did it only go as far and the RSLO's and are the questions about the individual reactors coming in after they have seen this?

Amanda Noonan
State Liaison – Liaison Team
Incident Response Center

-----Original Message-----
From: LIA04 Hoc
Sent: Sunday, March 13, 2011 3:38 AM
To: McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark; Blount, Tom; LIA06 Hoc; LIA04 Hoc; LIA02 Hoc; LIA03 Hoc; LIA12 Hoc; LIA11 Hoc; LIA01 Hoc; LIA10 Hoc
Subject: FW: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

RSLOs - The information attached has been vetted with OPA and the NRC Executive Team and has been approved for dissemination to the Governor-appointed State Liaison Officers.

Rich Turtil will be reporting to the Ops Center @ 7:00 am Sunday 3/13 and will be your POC.

Thank you for your assistance today.

Rosetta

-----Original Message-----
From: LIA09 Hoc
Sent: Sunday, March 13, 2011 3:28 AM
To: LIA04 Hoc
Subject: Emailing: State Q&A Rev 1.pdf

The message is ready to be sent with the following file or link attachments:

State Q&A Rev 1.pdf

ccl121

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

From:	McNamara, Nancy
To:	Tifft, Doug; LIA04 Hoc; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Cc:	Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark; Janda, Donna; Orendi, Monica
Subject:	RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs
Date:	Monday, March 14, 2011 12:23:02 PM

Region I sent it to SLOs only. We DID NOT include the Radiation Safety Program Control Directors.

-----Original Message-----
From: Tifft, Doug
Sent: Monday, March 14, 2011 12:20 PM
To: LIA04 Hoc; McNamara, Nancy; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject: RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

I distributed a version of this document with the non-public information removed to the region 1 states. Yes, we have received additional questions since this Q&A was distributed.

-Doug

-----Original Message-----
From: LIA04 Hoc
Sent: Monday, March 14, 2011 12:18 PM
To: McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject: RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

Question from the Liaison Team. Was the attachment distributed to the Individual SLO's or did it only go as far and the RSLO's and are the questions about the individual reactors coming in after they have seen this?

Amanda Noonan
State Liaison – Liaison Team
Incident Response Center

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To: McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark; Blount, Tom; LIA06 Hoc; LIA04 Hoc; LIA02 Hoc; LIA03 Hoc; LIA12 Hoc; LIA11 Hoc; LIA01 Hoc; LIA10 Hoc
Subject: FW: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

RSLOs - The information attached has been vetted with OPA and the NRC Executive Team and has been approved for dissemination to the Governor-appointed State Liaison Officers.

Rich Turtil will be reporting to the Ops Center @ 7:00 am Sunday 3/13 and will be your POC.

Thank you for your assistance today.

Rosetta

CCC/122

-----Original Message-----
From: LIA09 Hoc
Sent: Sunday, March 13, 2011 3:28 AM
To: LIA04 Hoc
Subject: Emailing: State Q&A Rev 1.pdf

The message is ready to be sent with the following file or link attachments:

State Q&A Rev 1.pdf

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

From: Turtil, Richard
To: LIA04 Hoc; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Virgilio, Rosetta
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject: RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs
Date: Monday, March 14, 2011 12:23:26 PM

The attachment was sent from HQ to the individual 7 Regional State Liaison Officers (RSLOs). They were informed that they could provide the information in the piece to State SLOs. We developed a Word version so that the RSLOs could delete the line that indicated:

"Non-Public Info For States Only: Questions about any radiological impact on the U.S. West coast is Adora Andy, the Deputy Associate Administrator for EPA's Office of External Affairs: cell is 202.527.5866; email andy.adora@epa.gov"

We'll hear from some of the RSLOs as to how they used this piece shortly.

Rich

-----Original Message-----
From: LIA04 Hoc
Sent: Monday, March 14, 2011 12:18 PM
To: McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject: RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

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State Liaison – Liaison Team
Incident Response Center

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Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark; Blount, Tom; LIA06 Hoc; LIA04 Hoc; LIA02 Hoc; LIA03 Hoc; LIA12 Hoc; LIA11 Hoc; LIA01 Hoc; LIA10 Hoc
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Rich Turtil will be reporting to the Ops Center @ 7:00 am Sunday 3/13 and will be your POC.

Thank you for your assistance today.

Rosetta

ccc/123

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From: LIA09 Hoc

Sent: Sunday, March 13, 2011 3:28 AM
To: LIA04 Hoc
Subject: Emailing: State Q&A Rev 1.pdf

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State Q&A Rev 1.pdf

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From:	Browder, Rachel
To:	LIA04 Hoc; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Turtil, Richard; Virgilio, Rosetta
Cc:	Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject:	RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs
Date:	Monday, March 14, 2011 12:30:12 PM
Attachments:	RE NRC Continues to Track Earthquake and Tsunami Issues.pdf

The email request from CA came in on Friday, March 11th, before the Q&As went out. However, for some reason - the email message didn't show up in my inbox until this morning - not unless I missed it. But I have been querying "unread mail".
RIV PA has the information from RIV DRP for SONGS and Diablo Canyon to provide to the Public Affairs contact in CA.
Thanks,
Rachel

-----Original Message-----
From: LIA04 Hoc
Sent: Monday, March 14, 2011 11:18 AM
To: McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject: RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

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Amanda Noonan
State Liaison – Liaison Team
Incident Response Center

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To: McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark; Blount, Tom; LIA06 Hoc; LIA04 Hoc; LIA02 Hoc; LIA03 Hoc; LIA12 Hoc; LIA11 Hoc; LIA01 Hoc; LIA10 Hoc
Subject: FW: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

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Rich Turtil will be reporting to the Ops Center @ 7:00 am Sunday 3/13 and will be your POC.

Thank you for your assistance today.

Rosetta

ccc/124

-----Original Message-----
From: LIA09 Hoc
Sent: Sunday, March 13, 2011 3:28 AM
To: LIA04 Hoc
Subject: Emailing: State Q&A Rev 1.pdf

The message is ready to be sent with the following file or link attachments:

State Q&A Rev 1.pdf

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

From:	Akstulewicz, Brenda
To:	Akstulewicz, Brenda; Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Harrington, Holly; Hayden, Elizabeth; Janbergs, Holly; McIntyre, David; Shannon, Valerie
Subject:	Phone Calls
Date:	Monday, March 14, 2011 12:28:11 PM

Hey Guys,

I'm sure we are all approaching the point where we feel we've grown a new appendage called the phone!

For incoming media calls, Val, Bethany and I are taking the caller's name, organization, and number putting it in an email and distributing them to (until OPA PA officers change) Scott, Ivonne and Dave. Obviously the recipients will change with the shift.

Thanks,
B

Brenda Akstulewicz
Administrative Assistant
Office of Public Affairs
301-415-8209
brenda.akstulewicz@nrc.gov

ccc/125

From: Janbergs, Holly
To: Brenner, Eliot; Akstulewicz, Brenda; Shannon, Valerie; Harrington, Holly; Hayden, Elizabeth
Subject: Access to OPA Resource
Date: Monday, March 14, 2011 12:22:47 PM

All –

I now have access to the OPA Resource mailbox, thanks to Val. I'm going to work with Brenda today on the posting aspects of press releases.

-B.

Beth Janbergs
Public Affairs Assistant
301-415-8211

CCC/126

From:	Logaras, Harral
To:	LIA04 Hoc
Cc:	Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Maier, Bill; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Subject:	RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs
Date:	Monday, March 14, 2011 12:31:47 PM

Region III has shared this with the Region III State Liaison Officers and we have not received any questions from them.

Sincerely,

Harral Logaras
U. S. NRC Region III
Regional Government Liaison
630-829-9659

Link to the Award Winning NRC Information Digest http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1350/v22/sr1350v22.pdf

Link to NRC Fact Sheets and Brochures http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/

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Sent: Monday, March 14, 2011 11:18 AM
To: McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject: RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

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State Liaison – Liaison Team
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Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark; Blount, Tom; LIA06 Hoc; LIA04 Hoc; LIA02 Hoc; LIA03 Hoc; LIA12 Hoc; LIA11 Hoc; LIA01 Hoc; LIA10 Hoc
Subject: FW: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

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Rich Turtil will be reporting to the Ops Center @ 7:00 am Sunday 3/13 and will be your POC.

Thank you for your assistance today.

Rosetta

ccc/127

-----Original Message-----
From: LIA09 Hoc
Sent: Sunday, March 13, 2011 3:28 AM
To: LIA04 Hoc
Subject: Emailing: State Q&A Rev 1.pdf

The message is ready to be sent with the following file or link attachments:

State Q&A Rev 1.pdf

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

From: Hayden, Elizabeth
To: Screnci, Diane; Uselding, Lara
Subject: Question about local plant safety from earthquakes
Date: Monday, March 14, 2011 12:37:00 PM

Don't forget what we have in our fact sheets (in addition to our press releases, TPs, blogs) when responding to questions

The NRC requires that safety-significant structures, systems, and components be designed to take into account:

- the most severe natural phenomena historically reported for the site and surrounding area. The NRC then adds a margin for error to account for the historical data's limited accuracy;
- appropriate combinations of the effects of normal and accident conditions with the effects of the natural phenomena; and
- the importance of the safety functions to be performed.

Beth

ccc/128

From:	Couret, Ivonne
To:	Burnell, Scott; Screnci, Diane; Sheehan, Neil; Mitlyng, Viktoria; Chandrathil, Prema; Uselding, Lara; Dricks, Victor; Hannah, Roger; Ledford, Joey; Harrington, Holly; McIntyre, David
Cc:	Shannon, Valerie; Akstulewicz, Brenda; Brenner, Eliot; Hayden, Elizabeth; Janbergs, Holly
Subject:	FYI - House Energy and Commerce Committee - LINKs to information
Date:	Monday, March 14, 2011 12:41:56 PM

Here is a link to the Committee's hearing notice: http://energycommerce.house.gov/hearings/hearingdetail.aspx?NewsID=8329 . The hearing will be before two House Energy and Commerce Committee Subcommittees: Subcommittee on Energy and Power, and Subcommittee on Environment and the Economy. It was originally planned as an FY12 budget hearing with Sec Chu (panel 1) and Chairman Jaczko (panel 2) but given the events in Japan, the focus will be largely Japan. Here is a link to Mr. Upton's (Committee chair's statement) about Japan: http://energycommerce.house.gov/news/PRArticle.aspx?NewsID=8337

CCC/129

From:	Trojanowski, Robert
To:	LIA04 Hoc; McNamara, Nancy; Tifft, Doug; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Cc:	Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject:	RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs
Date:	Monday, March 14, 2011 12:41:58 PM

While the Region II PIOs have been busy responding to media outlets, we have received no inquiries from State/ local governments with respect to the Japan event.

-----Original Message-----
From: LIA04 Hoc
Sent: Monday, March 14, 2011 12:18 PM
To: McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Browder, Rachel; Turtil, Richard; Virgilio, Rosetta
Cc: Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; Thaggard, Mark
Subject: RE: Emailing: State Q&A Rev 1.pdf for Distribution to SLOs

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State Liaison – Liaison Team
Incident Response Center

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Thank you for your assistance today.

Rosetta

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State Q&A Rev 1.pdf

CCC/130

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From: Hayden, Elizabeth
To: Burnell, Scott
Cc: McIntyre, David; Couret, Ivonne
Subject: RE: Talking Points
Date: Monday, March 14, 2011 12:55:00 PM

Thanks.

Beth Hayden
Senior Advisor
Office of Public Affairs
U.S. Nuclear Regulatory Commission
--- Protecting People and the Environment
301-415-8202
elizabeth.hayden@nrc.gov

From: Burnell, Scott
Sent: Monday, March 14, 2011 12:05 PM
To: Hayden, Elizabeth; Taylor, Robert
Cc: Harrington, Holly
Subject: RE: Talking Points

NEI – 202-739-8023 media@nei.org

DOE – 202-586-4948

ANS – Laura Steele 708-579-8224 Craig Piercy 202-470-1928 (??) ans.org

---

From: Hayden, Elizabeth
Sent: Monday, March 14, 2011 12:02 PM
To: Burnell, Scott; Taylor, Robert
Cc: Harrington, Holly
Subject: Talking Points

Can one of you update the Talking Points on WEB EOC with the latest press release and blog information? We would like to provide an update to all of OPA.

Also, there is a list of phone numbers for ANS, DOE, NEI on a yellow sticky that I left on the desk there to the left of the computer, could you send me that information so that I can send reporters there.

Beth

From: OPA Resource
To: Hayden, Elizabeth
Subject: FW: Chairman Jaczko/Secretary Chu to testify on Japan situation?
Date: Monday, March 14, 2011 1:03:41 PM

From: Carlsen, Paul [mailto:Paul_Carlsen@platts.com]
Sent: Monday, March 14, 2011 12:09 PM
To: OPA Resource
Subject: Chairman Jaczko/Secretary Chu to testify on Japan situation?

Good afternoon,
This is from Paul Carlsen of Platts, I'm covering an Edison Electric Institute Conference in London where a Westinghouse nuclear executive, Ricardo Perez, said in a speech earlier today that Chairman Jaczko and Energy Secretary Chu are scheduled to testify in Congress this week about the situation at the Japanese nuclear plants, but I don't find anything about that on either the DOE or NRC web sites. Could you confirm that is the case and if so at which committee they are to appear and when?
Thank you,
Paul Carlsen
Senior Editor
Platts Electric Power Group

CCC/132

From: Burnell, Scott
To: Hayden, Elizabeth
Subject: RE: Tsunami Study
Date: Monday, March 14, 2011 1:10:09 PM

Should be – you mean GSI-199?

From: Hayden, Elizabeth
Sent: Monday, March 14, 2011 12:46 PM
To: Burnell, Scott
Subject: Tsunami Study

Scott,

Can you tell me if Wolf Creek is on the list of those plants studied for the seismic study?

Beth Hayden
Senior Advisor
Office of Public Affairs
U.S. Nuclear Regulatory Commission
--- Protecting People and the Environment
301-415-8202
elizabeth.hayden@nrc.gov

CCC/133

From:	Uselding, Lara
To:	Hayden, Elizabeth; Screnci, Diane
Subject:	EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant
Date:	Monday, March 14, 2011 1:10:21 PM

From: keith.darce@uniontrib.com [mailto:keith.darce@uniontrib.com]
Sent: Monday, March 14, 2011 12:08 PM
To: Uselding, Lara
Subject: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

Lara,

I am trying to track down any documents on file with the NRC concerning the risk of earthquakes occurring near the San Onofre nuclear plant north of San Diego. I am particularly interested in emergency plans, analysis of the risks faced by the plant from earthquakes and predictions of the types of damage and dangers that could be created by earthquake damage to the plant. I'm also interested in documents looking at the risk and dangers posed by tsunamis to the plant.

Can you tell me if these types of documents exist and when I might be able to get them? I am trying to turn a story around on this topic for tomorrow's (Tuesday's) edition of the paper.

Thanks,

Keith

Keith Darcé
Biotechnology writer
The San Diego Union-Tribune
keith.darce@uniontrib.com
619.293.1020
www.signonsandiego.com/news/business/biotech/
Follow me on Twitter at **KeithDarce**

CCC/134

From: Hayden, Elizabeth
To: Dean, Bill
Subject: TMI EOC Mtg Next Week
Date: Monday, March 14, 2011 1:12:00 PM

Bill,

Diane tells me that the TMI EOC meeting is next week and I know this issue was brought up on the OD's call this morning. You might want to reconsider whether you shouldn't postpone this meeting. Otherwise, the BC will need to be armed with a lot of information with regard to "is TMI safe?" What health impact do we expect from the Japanese incident? What happens to the plume? How can people protect themselves? License renewal and new plant questions? I'm not sure a BC could handle it.

Beth

CCC/135

From: Kammerer, Annie
To: Hayden, Elizabeth
Cc: Burnell, Scott
Subject: RE: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant
Date: Monday, March 14, 2011 1:19:11 PM

I'm 90% sure the answer is yes, but let me confirm. I'll have the answer within 5 minutes.

From: Hayden, Elizabeth
Sent: Monday, March 14, 2011 1:18 PM
To: Kammerer, Annie
Cc: Burnell, Scott
Subject: FW: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

Annie,

Can you help with this question we received from a reporter?

Also, can you verify whether Wolf Creek is one of the plants evaluated in GSI-199?

Beth Hayden
Senior Advisor
Office of Public Affairs
U.S. Nuclear Regulatory Commission
--- Protecting People and the Environment
301-415-8202
elizabeth.hayden@nrc.gov

From: Uselding, Lara
Sent: Monday, March 14, 2011 1:10 PM
To: Hayden, Elizabeth; Screnci, Diane
Subject: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

---

From: keith.darce@uniontrib.com [mailto:keith.darce@uniontrib.com]
Sent: Monday, March 14, 2011 12:08 PM
To: Uselding, Lara
Subject: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

Lara,
I am trying to track down any documents on file with the NRC concerning the risk of earthquakes occurring near the San Onofre nuclear plant north of San Diego. I am particularly interested in emergency plans, analysis of the risks faced by the plant from earthquakes and predictions of the types of damage and dangers that could be created by earthquake damage to the plant. I'm also interested in documents looking at the risk and dangers posed by tsunamis to the plant.
Can you tell me if these types of documents exist and when I might be able to get them? I am trying to turn a story around on this topic for tomorrow's (Tuesday's) edition of the paper.
Thanks,

CCC/136

Keith

Keith Darcé
Biotechnology writer
The San Diego Union-Tribune
keith.darce@uniontrib.com
619.293.1020
www.signonsandiego.com/news/business/biotech/
Follow me on Twitter at **KeithDarce**

From: Hayden, Elizabeth
To: Brenner, Eliot
Cc: Couret, Ivonne
Subject: MSNBC Request
Date: Monday, March 14, 2011 1:47:00 PM

Directed Lisa Nelson, MSNBC (212-664-1744) to DOE and NEI to respond to her request for an interview on the future of nuclear energy. I did acknowledge NRC would be testifying at the hearing on Wed.

Beth Hayden
Senior Advisor
Office of Public Affairs
U.S. Nuclear Regulatory Commission
--- Protecting People and the Environment
301-415-8202
elizabeth.hayden@nrc.gov

ccc/137

From:	Manoly, Kamal
To:	Ake, Jon
Cc:	Burnell, Scott; Munson, Clifford; Stutzke, Martin; Chokshi, Nilesh; Kammerer, Annie; Hayden, Elizabeth
Subject:	RE: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant
Date:	Monday, March 14, 2011 4:19:16 PM

Jon,

I agree with your characterization. The GL is still in the formative state.

Kamal

From: Ake, Jon
Sent: Monday, March 14, 2011 2:08 PM
To: Kammerer, Annie; Hayden, Elizabeth
Cc: Burnell, Scott; Manoly, Kamal; Munson, Clifford; Stutzke, Martin; Chokshi, Nilesh
Subject: RE: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

As Annie has pointed out, all 96 operating reactors in the Central and Eastern U.S. were evaluated as part of the GI-199 assessment. Currently a Generic Letter is being prepared requesting additional seismic and plant-specific information, that letter will be sent to all NPP licensees in the CEUS. It is important to note that the Generic Letter has not yet been finalized, the specific information requests are being developed and reviewed internally. So, at this time we are unable to state exactly what path (analysis, back-fit etc.) a particular plant may follow as a result of the Generic Letter.

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To: Hayden, Elizabeth
Cc: Burnell, Scott; Ake, Jon
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Jon, can you answer? Did we make the list of plant names and which screened in public?

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Cc: Burnell, Scott
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Is the list of plants that were analyzed and those found problematic public?

Beth Hayden
Senior Advisor

ccc/138

Office of Public Affairs
U.S. Nuclear Regulatory Commission
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Cc: Burnell, Scott
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I hope this helps.

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Cc: Burnell, Scott
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Can you help with this question we received from a reporter?

Also, can you verify whether Wolf Creek is one of the plants evaluated in GSI-199?

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elizabeth.hayden@nrc.gov

From: Uselding, Lara
Sent: Monday, March 14, 2011 1:10 PM
To: Hayden, Elizabeth; Screnci, Diane
Subject: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

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From: keith.darce@uniontrib.com [mailto:keith.darce@uniontrib.com]
Sent: Monday, March 14, 2011 12:08 PM
To: Uselding, Lara

Subject: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

Lara,

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Can you tell me if these types of documents exist and when I might be able to get them? I am trying to turn a story around on this topic for tomorrow's (Tuesday's) edition of the paper.

Thanks,

Keith

Keith Darcé
Biotechnology writer
The San Diego Union-Tribune
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619.293.1020
www.signonsandiego.com/news/business/biotech/
Follow me on Twitter at **KeithDarce**

From: Meserve, Jeanne
To: Burnell, Scott
Cc: Hayden, Elizabeth; Brenner, Eliot
Subject: RE: Your Questions
Date: Monday, March 14, 2011 5:26:05 PM

Scott...this is all on the record?

From: Burnell, Scott [mailto:Scott.Burnell@nrc.gov]
Sent: Monday, March 14, 2011 3:31 PM
To: Meserve, Jeanne
Cc: Hayden, Elizabeth; Brenner, Eliot
Subject: RE: Your Questions

Hello Jeanne;

1) The GSI-199 study didn't reveal "vulnerabilities" but slight increases in some plants' overall hazard estimates – We continue to be satisfied that all U.S. plants are meeting NRC requirements for seismic safety. The plants designed for the greatest seismic hazards are those in the areas of greatest seismic activity.

2) The request came through the office of the U.S. Ambassador to Japan, so they can best describe the request and requestor.

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Scott Burnell
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Nuclear Regulatory Commission

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Sent: Monday, March 14, 2011 2:20 PM
To: Brenner, Eliot
Cc: Harrington, Holly; Burnell, Scott; McIntyre, David; Akstulewicz, Brenda
Subject: Jeanne Meserve Questions Needing Responses

CCC/139

Her questions are:

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3) Is MOX fuel in the #3 reactor? If so is there a greater threat to the public from this fuel melting?

4) What is the nature of the help Japan asked for? What is the team expertise composition? How many and where will they be in Japan?

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The GIP confirmed that operating nuclear power plants are safe. The assessment also found that, although still small, some seismic hazard estimates have increased and warrant further attention. In September 2010, NRC issued a Safety/Risk Assessment report (ADAMS Accession No. ML100270582) and an Information Notice (ADAMS Accession No. ML101970221) to inform stakeholders of the Safety/Risk Assessment results. Further action may include obtaining additional, updated information, as well as developing methods to determine if plant improvements to reduce seismic risk are warranted. Information regarding this generic issue and the GIP in general is available at http://www.nrc.gov/about-nrc/regulatory/gen-issues.html.

Her deadline is 5 pm and her e-mail address is Jeanne.Meserve@turner.com

Beth

From: Hayden, Elizabeth
To: Kammerer, Annie; Burnell, Scott
Subject: Re: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant
Date: Monday, March 14, 2011 5:32:26 PM

Thanks!

From: Kammerer, Annie
To: Hayden, Elizabeth; Burnell, Scott
Sent: Mon Mar 14 17:25:17 2011
Subject: RE: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

LOL. I hope that was all you needed...and more.

Annie

From: Manoly, Kamal
Sent: Monday, March 14, 2011 4:19 PM
To: Ake, Jon
Cc: Burnell, Scott; Munson, Clifford; Stutzke, Martin; Chokshi, Nilesh; Kammerer, Annie; Hayden, Elizabeth
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CCC/140

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From: Uselding, Lara
Sent: Monday, March 14, 2011 1:10 PM
To: Hayden, Elizabeth; Screnci, Diane
Subject: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

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Follow me on Twitter at **KeithDarce**

From: Stutzke, Martin
To: Ake, Jon; Kammerer, Annie; Hayden, Elizabeth
Cc: Burnell, Scott; Manoly, Kamal; Munson, Clifford; Chokshi, Nilesh
Subject: RE: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant
Date: Monday, March 14, 2011 3:20:50 PM

It's misleading to say that the GI-199 Safety/Risk Assessment determined which plants were OK and which were not. The purpose of the assessment was to determine, on a generic basis, if the risk associated with increased seismic hazard estimates in the Central and Eastern US (CEUS) warrants further investigation for potential imposition of cost-justified backfits. We determined that the seismic core-damage frequencies for 27 plants had increased by 1E-5/y or more, relative to what we thought upon conclusion of the Individual Plant Examination of External Events (Generic Letter 88-20, Supplement 4). This finding is the basis for continuing GI-199 and transitioning it to NRR for development of a generic letter that will request information needed to identify potential plant-specific backfits.

We presented a map that showed the locations of the 27 plants in the GI-199 "continue zone" during a public meeting held October 6, 2010 (see Slide #25 in ML102770665). The GI-199 Safety/Risk Assessment (ML100270582) is also publically available. It does not specifically identify the 27 plants, but contains information in appendices that could be used to figure out which CEUS plants are in the "continue zone."

Marty

From: Ake, Jon
Sent: Monday, March 14, 2011 2:08 PM
To: Kammerer, Annie; Hayden, Elizabeth
Cc: Burnell, Scott; Manoly, Kamal; Munson, Clifford; Stutzke, Martin; Chokshi, Nilesh
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www.signonsandiego.com/news/business/biotech/
Follow me on Twitter at **KeithDarce**

From: Burnell, Scott
To: Jeanne.Meserve@turner.com
Cc: Hayden, Elizabeth; Brenner, Eliot
Subject: RE: Your Questions
Date: Monday, March 14, 2011 3:31:19 PM

Hello Jeanne;

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2) The request came through the office of the U.S. Ambassador to Japan, so they can best describe the request and requestor.

3) TEPCO or another local source is in the best position to discuss whether MOX is used in the #3 reactor. Generally, the presence of plutonium in low-enriched MOX fuel is not expected to materially change the fuel's response to accident conditions nor the potential health effects from a release.

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Scott Burnell
Public Affairs Officer
Nuclear Regulatory Commission

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To: Brenner, Eliot
Cc: Harrington, Holly; Burnell, Scott; McIntyre, David; Akstulewicz, Brenda
Subject: Jeanne Meserve Questions Needing Responses

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CCC/142

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Her deadline is 5 pm and her e-mail address is Jeanne.Meserve@turner.com

Beth

From: Harrington, Holly
To: Burnell, Scott; Hayden, Elizabeth; Brenner, Eliot
Cc: McIntyre, David; Akstulewicz, Brenda
Subject: RE: Jeanne Meserve Questions Needing Responses
Date: Monday, March 14, 2011 3:26:44 PM

Eliot – Do you want Dave to respond with this information?

From: Burnell, Scott
Sent: Monday, March 14, 2011 3:19 PM
To: Hayden, Elizabeth; Brenner, Eliot
Cc: Harrington, Holly; McIntyre, David; Akstulewicz, Brenda
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ccc/143

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Cc: McIntyre, David; Akstulewicz, Brenda
Subject: RE: Jeanne Meserve Questions Needing Responses
Date: Monday, March 14, 2011 3:27:04 PM

I'm working it with Eliot, thanks.

From: Harrington, Holly
Sent: Monday, March 14, 2011 3:26 PM
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CCC/144

From: Hayden, Elizabeth
To: Burnell, Scott
Subject: Re: Your Questions
Date: Monday, March 14, 2011 5:31:26 PM

Thanks for chasing down these answers.

From: Burnell, Scott
To: Meserve, Jeanne <Jeanne.Meserve@turner.com>
Cc: Hayden, Elizabeth; Brenner, Eliot
Sent: Mon Mar 14 17:28:39 2011
Subject: RE: Your Questions

Yes. Attributable to an "NRC spokesperson," if you don't mind, as I'm trailing the Chairman's comments.

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5) We're gathering additional site-specific information and analytical modeling to look

CCC/145

at the issue in more detail for those plants where the initial review indicated a slight increase in risk. It's an effort that will certainly be informed by whatever is learned from events in Japan.

Scott Burnell
Public Affairs Officer
Nuclear Regulatory Commission

From: Hayden, Elizabeth
Sent: Monday, March 14, 2011 2:20 PM
To: Brenner, Eliot
Cc: Harrington, Holly; Burnell, Scott; McIntyre, David; Akstulewicz, Brenda
Subject: Jeanne Meserve Questions Needing Responses

Her questions are:

1) Can we provide a list of those plants with the highest potential seismic vulnerability? i.e., those that are problematic in the GSI-199 study. I've sent that question to Annie Kemmerer but need someone to followup.

2) How did the Japanese ask for our help—oral, letter, other? Who in Japan was the requestor?

3) Is MOX fuel in the #3 reactor? If so is there a greater threat to the public from this fuel melting?

4) What is the nature of the help Japan asked for? What is the team expertise composition? How many and where will they be in Japan?

5) With regard to our Fact Sheet on seismology, what are we doing to follow up:

The GIP confirmed that operating nuclear power plants are safe. The assessment also found that, although still small, some seismic hazard estimates have increased and warrant further attention. In September 2010, NRC issued a Safety/Risk Assessment report (ADAMS Accession No. ML100270582) and an Information Notice (ADAMS Accession No. ML101970221) to inform stakeholders of the Safety/Risk Assessment results. Further action may include obtaining additional, updated information, as well as developing methods to determine if plant improvements to reduce seismic risk are warranted. Information regarding this generic issue and the GIP in general is available at http://www.nrc.gov/about-nrc/regulatory/gen-issues.html.

Her deadline is 5 pm and her e-mail address is Jeanne.Meserve@turner.com

Beth

From: Burnell, Scott
To: Hayden, Elizabeth; Brenner, Eliot
Cc: Harrington, Holly; McIntyre, David; Akstulewicz, Brenda
Subject: RE: Jeanne Meserve Questions Needing Responses
Date: Monday, March 14, 2011 2:21:37 PM

Working on it here in Ops Ctr

From: Hayden, Elizabeth
Sent: Monday, March 14, 2011 2:20 PM
To: Brenner, Eliot
Cc: Harrington, Holly; Burnell, Scott; McIntyre, David; Akstulewicz, Brenda
Subject: Jeanne Meserve Questions Needing Responses

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Her deadline is 5 pm and her e-mail address is Jeanne.Meserve@turner.com

Beth

CCC/146

From: Amy Jefferies
To: Hayden, Elizabeth
Subject: Invitation to Webinar on March 23
Date: Monday, March 14, 2011 2:08:17 PM

I'm writing to invite you to join us on March 23 for the PR News Webinar - SEO Tactics & Strategies to Boost Your PR Efforts **The goal of the Webinar: to make you the SEO expert in your organization.**

Your ability to execute sound, proven search engine optimization tactics within the ever-changing search engine landscape is not only a key differentiator in driving bottom-line results, it will truly separate your organization's online visibility from that of your competitors. As a communicator you are expected to have a basic understanding of how to optimize online content, but you need to become an SEO expert to make the case with the C-suite and clients that intensive and ongoing SEO efforts will pay off with bottom-line results.

That's why I'm inviting you to join PR News on March 23 for the SEO Webinar.

After attending, you'll be able to lift your brand's Web presence to the top of the charts and tie those results to the serious time invested in optimization.

Please let me know if you have any questions, and I look forward to you joining us.

Amy Jefferies
PR News Communications Director
ajefferies@accessintel.com
www.prnewsonline.com
"Like" us on Facebook

ccc/147

From: Meserve, Jeanne
To: Hayden, Elizabeth
Subject: MAPS!
Date: Monday, March 14, 2011 3:14:10 PM

Beth,

I know you are slammed, but please don't forget my request for lists or maps of plants that may be vulnerable to tsunami or seismic activity. Thanks.

Jeanne Meserve
CNN Homeland Security Correspondent
202-898-7553 office
Follow me on twitter @JMeserveCNN

CCC/148

From: Carpenter, Gene
To: Brenner, Eliot; Burnell, Scott; Hayden, Elizabeth
Cc: Case, Michael; Gavrilas, Mirela
Subject: RE: Invitation to speak at CSPO - Monday, March 21, 6PM
Date: Monday, March 14, 2011 3:39:44 PM

That was certainly my first inclination, but thought I'd throw it up the chain in case someone else at higher paygrade had a differing opinion.

From: Brenner, Eliot
Sent: Monday, March 14, 2011 3:35 PM
To: Carpenter, Gene; Burnell, Scott; Hayden, Elizabeth
Cc: Case, Michael; Gavrilas, Mirela
Subject: RE: Invitation to speak at CSPO - Monday, March 21, 6PM

Don't think we should be participating at this early stage. Certainly not delivering a 45 minute lecture on an unfolding situation.

-----Original Message-----
From: Carpenter, Gene
Sent: Monday, March 14, 2011 3:34 PM
To: Burnell, Scott; Brenner, Eliot; Hayden, Elizabeth
Cc: Case, Michael; Gavrilas, Mirela
Subject: FW: Invitation to speak at CSPO - Monday, March 21, 6PM

FYI

I'm on AL (London) and also have class on Monday night. Would the NRC like to Support Mahmud?

Gene

From: Mahmud Farooque [Mahmud.Farooque@asu.edu]
Sent: Monday, March 14, 2011 12:10 PM
To: Carpenter, Gene
Subject: Invitation to speak at CSPO - Monday, March 21, 6PM

Hello Gene,

Hope you are doing well. This request comes with an apology for the extremely short notice. I had a last minute cancellation and I am scrambling to find a speaker for our seminar series scheduled for Monday, March 21st at 6PM. Treating the setback as an opportunity to change the topic, I am writing to explore if you or anyone from NRC would be interested in talking about nuclear safety, regulation, proliferation or S&T policy issues in the U.S. in light of the unfolding crisis in Japan.

These seminars are designed to offer CSPO's students, postdocs and faculty located in Arizona an opportunity to learn about a contemporary policy issue directly from an expert in the nation's capitol. We use our video conferencing facility in our Washington DC office to bring the seminar to CSPO's Tempe community. The talk is about 45 minutes with 15 minutes of discussion and Q&A. In addition to Tempe, we expect a small audience in our DC office as well.

Kindly let me know so we can proceed with our planning and publicity with the little time we have in hand. Thanks for your time and consideration.

I do apologize for the short lead time.

Best Wishes,

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Mahmud

Mahmud Farooque, Ph.D.
Associate Director, DC Office
Consortium for Science, Policy, & Outcomes (CSPO)
Arizona State University, DC Center
1834 Connecticut Ave, NW
Washington, DC 20009
off-campus: (202) 446-0397
on-campus: x 20397
mahmud.farooque@asu.edu

From:	FAIMISHELP Resource
To:	FAIMISHELP Resource
Cc:	Dolinka, Carl; Liu, Leslie; "Vishal Ranjan"; Curtis, Michelle; Lindsey.Hawkins@cgifederal.com; Fredericks, Carl
Subject:	FAIMIS System Availability 3/14 at 7PM (PLEASE READ)
Date:	Monday, March 14, 2011 4:08:10 PM
Importance:	High

FAIMIS Users,

Due to scheduled system activities, the FAIMIS system and FAIMIS Help Desk will be temporarily unavailable after 7PM (EDT) today, Monday, March 14, 2011. The system is scheduled to be back up at 7AM (EDT) tomorrow, Tuesday, March 15, 2011. We appreciate your patience regarding this matter.

Thank you,

FAIMIS Help Desk
(301)415-1234 Option #7

CCC/150

From:	Harrington, Holly
To:	Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth; McIntyre, David; Chandrathil, Prema; Dricks, Victor; Hannah, Roger; Ledford, Joey; Mitlyng, Viktoria; Screnci, Diane; Sheehan, Neil; Uselding, Lara
Subject:	FW: chairman at white house
Date:	Monday, March 14, 2011 3:37:31 PM
Attachments:	QUAKE_talkMARCH14.docx

These are approved by Eliot

From: Harrington, Holly
Sent: Monday, March 14, 2011 3:36 PM
To: Brenner, Eliot
Cc: Burnell, Scott
Subject: RE: chairman at white house

I married info below with the other talking points based on past press releases. Please review and if OK, I'll post on WebEOC and send to regions

From: Brenner, Eliot
Sent: Monday, March 14, 2011 3:17 PM
To: Harrington, Holly
Subject: chairman at white house

1: the type and design of these reactors and the way events have unfolded give us confidence in saying radiation at harmful levels will not reach the u.s.

2: we believe the protective steps the Japanese are taking are comparable to ones we would use here.

3: we advise Americans in japan to follow the guidance of Japanese officials

4: we are providing technical assistance to the Japanese government. We have dispatched two BWR experts and are assembling a team to send over in response to the request for help from the Japanese.

--

In the q-anmd-a ... he said that obviously we always look to learn information that can be applied to the U.S> reactors and we will certainly be looking at the information that comes from this incident. (He was very careful not to rule out any changes down the line domestically, as I think your OPED made a similar point. He did say we had a review of tsunami information in 2004

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From:	Harrington, Holly
To:	Chandrathil, Prema; Dricks, Victor; Hannah, Roger; Ledford, Joey; Mitlyng, Viktoria; Screnci, Diane; Sheehan, Neil; Uselding, Lara; Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth; McIntyre, David
Subject:	Per eliot
Date:	Monday, March 14, 2011 4:40:22 PM
Attachments:	Chairman Jaczko QA5 earthquake031111.docx Additional Chairman QAs.docx

You can talk from these Q&As (prepared for the Chairman), but do not disseminate them.

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Questions and Answers for Chairman Jaczko
Note: Talk from but do not distribute

March 11, 2011 Japan Earthquake/Tsunami Aftermath
As of 8 p.m., 3/12/2011

1. What is the NRC doing about the emergencies at the nuclear power plants in Japan? Are you sending staff over there?

Public Answer: We are closely following events in Japan, working with other agencies of the federal government, and have been in direct contact with our counterparts in that country. We are ready to provide assistance if there is a specific request. Two NRC staff members knowledgeable about boiling water reactors are participating in the USAID team that has departed for Japan.

Additional technical, non-public information:
We are taking the knowledge that the staff has about the design of the US nuclear plants and we are applying this knowledge to the Japan situation. For example, this includes calculations of severe accident mitigation that have been performed. Tony Ulses has been dispatched to Japan and should arrive Early Sunday.David Jim Trapp left 1600 Saturday should arrive in 20 hours

2. What's going to happen following the hydrogen explosion everyone's seen from the video footage?

Public Answer: If a similar event occurred at a U.S. nuclear power plant, the NRC would be seeking information to answer several questions, including: What's the status of the reactor core, the reactor vessel and the containment building? What radiation measurement equipment is available and what measurements are being reported? What efforts are being taken to keep the public safe? How did the explosion affect efforts to keep the nearby reactors in a safe condition? And most importantly – What can the NRC do to help?

Additional technical, non-public information:

The explosion affected the secondary containment of the reactor plant. The primary containment was not affected by the explosion. The Japanese are taking actions to preserve the primary containment, cool the reactor core, maintain the reactor shut down and limit the spread of radioactive contamination.

The NRC required a back fit to US reactors of the type similar to Fukushima Unit 1 to install a hardened vent line. A hardened vent provides a release path which would prevent an explosion as experienced at Fukushima Unit One.

3. What should done to protect people in Alaska, Hawaii and the West Coast do from radioactive fallout?

Public Answer: The available evidence shows the United States can be expected to avoid any impacts from radioactive material, so no public action is necessary. We believe there is very low risk to the US considering the long distance from the US and the type of event.

Additional technical, non-public information: NRC is working with DHS, EPA and other federal partners to ensure monitoring equipment is properly positioned, based on meteorological and other relevant information.

4. Can this happen here i.e. an earthquake that significantly damages a nuclear power plant? Are the Japanese plants similar to U.S. plants?

Public Answer: All U.S. nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. Even those plants that are located outside of areas with low and moderate seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety-significant structures, systems, and components be designed to take into account even very rare and extreme seismic and tsunami events.

The Japanese facilities are similar in design to several US facilities.

Additional technical, non-public information:
Currently operating reactors were designed using a "deterministic" or "maximum credible earthquake" approach. Seismic hazard for the new plants is determined using a much more robust probabilistic seismic hazard assessment approach that explicitly addresses uncertainty, as described in RG1.208. The NRC requires that adequate margin beyond the design basis ground shaking levels is assured. The NRC further enhances seismic safety for beyond-design-basis events through the use of a defense-in-depth approach.

In addition, the NRC periodically reviews the seismic risk at operating reactors when information may have changed. Over the last few years the NRC has undertaken a program called Generic Issue 199, which is focused on assessing hazard for plants in the central and eastern US using the latest techniques and determining the possible risk implications of any increase in the anticipated ground shaking levels. This program will help us assure that the plants are safe under exceptionally rare and extreme ground motions that represent beyond-design-basis events.

5. What would U.S. plants do in this situation?

Public Answer: The NRC requires plant designs to include multiple and diverse safety systems, and plants must test their emergency preparedness capabilities on a regular basis. Plant operators are very capable of responding to significant events. In addition, NRC regulations require plants to have plans in place that would allow them to mitigate even "worst case scenarios".

Since 9/11, we have implemented requirements for licensees to have additional response capabilities for extreme situations.

Additional technical, non-public information:
Our nuclear plants have procedures in place to address a variety of accident scenarios, including abnormal operating procedures, emergency operating procedures, sever accident guidelines and emergency plans.

6. Are U.S. power plants designed to withstand tsunamis?

Public Answer: Yes. Plants are built to withstand a variety of environmental hazards and those plants that might face a threat from tsunami are required to withstand large waves and the maximum wave height at the intake structure (which varies by plant.)

Additional, technical, non-public information:
Tsunami have been considered in the design of US nuclear plants since the publication of Regulatory Guide 1.59 in 1977, although the approaches that were used for design of the existing plants varied significantly. Nuclear plants are designed to withstand flooding from not only tsunami, but also hurricane and storm surge; therefore there is often significant margin against tsunami flooding. However, it should be noted that Japanese experience has shown that drawdown can be a significant problem. Drawdown was not generally analyzed in the past. The particular

Currently the US NRC has a tsunami research program that is focused on developing modern hazard assessment techniques and additional guidance through cooperation with the National Oceanic and Atmospheric Administration and the United States Geological Survey. This has already lead to several technical reports and an update to NUREG 0-800. The NOAA and USGS contractors are also assisting with NRO reviews of tsunami hazard. A new regulatory guide on tsunami hazard assessment is currently planned in the office of research, although it is not expected to be available in draft form until 2012.

7. What happens when/if a plant "melts down"?

Public Answer: To prevent the release of radioactive material, there are multiple barriers between the radioactive material and the environment, including the fuel cladding, the heavy steel reactor vessel itself and the containment building, usually a heavily reinforced structure of concrete and steel several feet thick. In a so-called "meltdown," some of the nuclear fuel has melted because of extremely high temperatures caused by a lack of adequate cooling. This does not necessarily mean that radiation is released to the environment. But it could be if other barriers fail.

Additional, technical, non-public information: None.

8. Why is KI administered during nuclear emergencies?

Public Answer: KI – potassium iodide – is one of the protective measures that might be taken in a radiological emergency in this country. A KI tablet will saturate the thyroid with non radioactive iodine and prevent the absorption of radioactive iodine that could be part of the radioactive material mix of radionuclides in a release.KI does not prevent exposure from these other radionuclides.

Additional, technical non-public information.
There are a range of protective measures that we use ... the most effective is evacuation. Local government officials are responsible for determining the best means to protect their public. KI is another means for protection but evacuation and sheltering are the primary means that are used.

9. Was there any damage to U.S. reactors from either the earthquake or the resulting tsunami?

Public Answer: No

Additional, technical non-public information:
Diablo Canyon Units 1 and 2 declared an "unusual event" based on tsunami warning following the Japanese earthquake. They have since exited the "unusual event" declaration, based on a downgrade to a tsunami advisory.

10. Has this incident changed the NRC perception about earthquake risk?

Public Answer: There has been no change in the NRC's perception of earthquake hazard (i.e. ground shaking levels) for US nuclear plants. As is prudent, the NRC will certainly be looking closely at this incident and the effects on the Japanese nuclear power plant in the future to see if any changes are necessary to NRC regulations.

Additional, technical, non-public information.
We expect that there would be lessons learned, etc.

11. Will this incident affect new reactor licensing?

Public Answer: It is not appropriate to hypothesize on such a future scenario at this point.

12. What magnitude earthquake are US plants designed to?

Public Answer: Each plant is designed to a ground-shaking level that is appropriate for its location, given the possible earthquake sources that may affect the site and its tectonic environment. Ground shaking is a function of both the magnitude of and earthquake and the distance from the fault plane to the site. The probabilistic approaches account for a large number of different magnitudes.

Additional, technical non-public information:
In the past, "deterministic" or "scenario based" analyses were used to determine ground shaking (seismic hazard) levels. Now a probabilistic method is used that accounts for all possible earthquakes coming from all possible sources (including background seismicity) and the likelihood that each particular hypothetical earthquake occurs.

13. How many US reactors are located in active earthquake zones (and which reactors)?

Public Answer: Although we often think of the US as having "active" and "non-active" earthquake zones, earthquakes can actually happen almost anywhere. Seismologists typically separate the US into low, moderate, and high seismicity zones. The NRC requires that every plant is designed for site-specific ground motions that are appropriate for their location. In addition, the NRC has specified a minimum ground shaking level to which the plants must be designed.

Additional, technical non-public information: No additional.

14. How many reactors are along coastal areas that could be affected by a tsunami (and which ones)?

Public Answer: Many plants are located in coastal areas that could theoretically be affected by tsunami. Two plants, Diablo Canyon and San Onofre, are on the Pacific Coast, which is known to have tsunami hazard. There are also two plants on the Gulf Coast, South Texas and Crystal River. There are many plants on the Atlantic Coast or on rivers that may be affected by a tidal bore. These include St. Lucie, Turkey Point, Brunswick, Oyster Creek, Millstone, Pilgrim, Seabrook, Calvert Cliffs, Salem/Hope Creek, and Surry. Tsunami on the Gulf and Atlantic Coasts occur, but are very rare. Generally the flooding anticipated from hurricane storm surge exceeds the flooding expected from a tsunami for plants on the Atlantic and Gulf Coast.

Additional, technical non-public information: None

15. How many U.S. plants have designs similar to the affected Japanese reactors (and which ones)

Public Answer: Six of the 104 US reactors are General Electric BWR 3 with Mark 1 containments similar to the design used at Fukushima Unit One.

Additional Information:
The units are: Dresden Units 2 and 3, Monticello unit 1, Pilgrim unit 1, Quad Cities Units 1 and 2.

POTENTIAL ADDITIONAL QUESTIONS FOR THE CHAIRMAN

1. **Can this happen here?**

   The events that have occurred in Japan are the result of a combination of highly unlikely natural disasters. It is extremely unlikely that a similar event could occur in the United States.

2. **I live near a nuclear power plant similar to the ones having trouble in Japan. How can we now be confident that this plant won't experience a similar problem?**

   U.S. nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically reported for the site and surrounding area. The NRC is confident that the robust design of these plants makes it extremely unlikely that a similar event could occur it then U.S.

3. **Has this crisis changed your opinion about the safety of US nuclear power plants?**

   No. The NRC remains confident that the design of U.S. nuclear power plants ensure the continued protection of public health and safety.

4. **With all this happening, how can the NRC continue to approve new nuclear power plants?**

   It is premature to speculate what, if any, effect the events in Japan will have on the licensing of new nuclear power plants.

5. **What is the NRC doing in response to the situation in Japan?**

   The NRC has taken a number of actions:
   a. Since the beginning of the event, the NRC has continuously manned its Operations Center in Rockville, MD in order to gather and examine all available information as part of the effort to analyze the event and understand its implications both for Japan and the United States.
   b. A team of officials from the U.S. Nuclear Regulatory Commission with expertise in boiling water nuclear reactors have deployed to Japan as part of a U.S. International Agency for International Development (USAID) team.
   c. The Nuclear Regulatory Commission has spoken with its counterpart agency in Japan, offering the assistance of U.S. technical experts.
   d. The NRC is coordinating its actions with other Federal agencies as part of the U.S. government response.

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6. **What other US agencies are involved, and what are they doing?**

   The entire federal family is responding to this event. The NRC is closely coordinating its efforts with the White House, DOE, DOD, USAID, and others. The U.S. government is providing whatever support requested by the Japanese government.

7. **What else can go wrong?**

   The NRC is continuously monitoring the developments at the nuclear power plants in Japan. Circumstances are constantly evolving and it would be inappropriate to speculate on how this situation might develop over the coming days.

8. **What is the worst-case scenario?**

   In a nuclear emergency, the most important action is ensure the core is covered with water to provide cooling to remove any heat from the fuel rods. Without adequate cooling, the fuel rods will melt.

9. **The US has troops in Japan and has sent ships to help the relief effort – are they in danger from the radiation?**

   The NRC is not the appropriate federal agency to answer this question. DOD is better suited to provide information regarding its personnel.

10. **Is there a danger of radiation making it to the United States?**

    In response to nuclear emergencies, the NRC works with other U.S. agencies to monitor radioactive releases and predict their path. All the available information indicates weather conditions have taken the small releases from the Fukushima reactors out to sea away from the population. Given the thousands of miles between the two countries, Hawaii, Alaska, the U.S. Territories and the U.S. West Coast are not expected to experience any harmful levels of radioactivity.

11. **Is the US Government tracking the radiation released from the Japanese plants?**

    See response to Question 10.

12. **Has the government set up radiation monitoring stations to track the release?**

    All U.S. nuclear power plants have existing monitoring stations with the ability to measure and track external radiation sources. However, should the federal government decide that additional monitoring stations are needed, the NRC will support that effort.

13. The radiation "plume" seems to be going out to sea – what is the danger of it reaching Alaska? Hawaii? The west coast?

See response to Question 10.

14. I live in the Western United States – should I be taking potassium iodide (KI)?

No protective measures are necessary in the United States. We do not expect any U.S. states or territories to experience harmful levels of radioactivity.

15. Are there other protective measures I should be taking?

The NRC supports the states with making protective measure recommendations for their residents. The NRC is not recommending any protective measures to the states as a result of the events in Japan. United States citizens in Japan are encouraged to follow the protective measures recommended by the Japanese government. These measures appear to be consistent with steps the United States would take.

16. What are the risks to my children?

See response to Question 15.

17. My family has planned a vacation to Hawaii/Alaska/Seattle next week – is it safe to go, or should we cancel our plans?

The NRC does not believe that the events in Japan warrant any travel restrictions within the United States or its territories.

18. What are the short-term and long-term effects of exposure to radiation?

The NRC does not expect that residents of the United States or it territories are at any risk of exposure to harmful levels of radiation resulting from the events in Japan.

On a daily basis, people are exposed to naturally occurring sources of radiation, such as from the sun or medical X-rays. The resulting effects are dependent on the strength and type of radiation as well as the duration of exposure.

DRAFT

JAPANESE GOVERNMENT ASKS U.S. FOR ASSISTANCE WITH REACTOR EVENTS

The Japanese government has formally asked for assistance from the United States as it continues to respond to nuclear power plant cooling issues triggered by an earthquake and tsunami on March 11. The NRC is coordinating with other federal agencies and the U.S. military on possible responses to the request, which includes providing technical advice.

Two NRC boiling-water reactor experts from the NRC are in Tokyo as part of a U.S. Agency for International Development (USAID) team. USAID is the federal government agency primarily responsible for providing assistance to countries recovering from disaster.

The NRC has been monitoring the Japanese reactor events via its Headquarters Operations Center in Rockville, Md., on a 24-hour-a-day basis.

The NRC will not comment on hour-to-hour developments at the Japanese reactors. This is an ongoing crisis for the Japanese who have primary responsibility.

#

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Quaketalking points march 14.docx

OPA

TALKING POINTS

JAPAN NUCLEAR SITUATION

As of 3/14/2011 3 P.M. EST

In a White House briefing this morning, Chairman Jaczko said the NRC is satisfied that domestic nuclear reactors are operating "safely and securely" and are adequately designed to withstand earthquakes and tsunami impacts.

He added that information from the Japanese disaster will be reviewed for potential changes to U.S. nuclear power safety requirements. The Japanese government has formally asked for assistance from the United States as it continues to respond to nuclear power plant cooling issues triggered by an earthquake and tsunami on March 11. As part of a larger U.S. government response, the NRC is considering possible replies to the request, which includes providing technical advice.

The NRC already has two experts in boiling-water reactors (BWR) in Tokyo offering technical assistance. They are part of a USAID team.

The NRC is working with other U.S. agencies to monitor radioactive releases from Japan and to predict their path. All the available information indicates weather conditions have taken the small releases from the Fukushima reactors out to sea away from the population.

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Given the results of the monitoring and distance between Japan and Hawaii, Alaska, the U.S. Territories and the U.S. West Coast, the NRC does NOT expect the U.S. to experience any harmful levels of radioactivity.

Nuclear power plants are built to withstand environmental hazards, including earthquakes. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster.

The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically reported for the site and surrounding area. The NRC then adds a margin for error to account for the historical data's limited accuracy. In other words, U.S. nuclear power plants are designed to be safe based on historical data from the area's maximum credible earthquake.

The NRC is coordinating its actions with other federal agencies as part of the U.S. government response. The NRC's headquarters Operations Center is activated and monitoring the situation on a 24-hour basis.

OPA

TALKING POINTS

JAPAN NUCLEAR SITUATION

As of 3/14/2011 3 P.M. EST

In a White House briefing this morning, Chairman Jaczko said the type and design of the Japanese reactors and the way events have unfolded give us confidence in saying radiation at harmful levels will not reach the U.S.

Jaczko also said today that we believe the protective steps the Japanese are taking are comparable to ones we would use here and that we advise Americans in Japan to follow the guidance of Japanese officials.

According to Chairman Jaczko, the NRC is always looking to learn information that can be applied to the U.S. reactors and we will certainly be looking at the information that comes from this incident.

The Japanese government has formally asked for assistance from the United States as it continues to respond to nuclear power plant cooling issues triggered by an earthquake and tsunami on March 11. The NRC is assembling a team to send over in response to the request for help.

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The NRC already has two experts in boiling-water reactors (BWR) in Tokyo offering technical assistance. They are part of a USAID team.

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OPA

TALKING POINTS

MARCH 11, 2011 JAPAN EARTHQUAKE AND WEST COAST TSUNAMI

As of 3/12/2011 9:45 a.m. EST

- The Nuclear Regulatory Commission has spoken with its counterpart agency in Japan, offering the assistance of U.S. technical experts. Should the Japanese want to make use of U.S. expertise, NRC staffers with extensive background in boiling water reactors are available to assist efforts in Japan.

- The NRC is coordinating its actions with other Federal agencies as part of the U.S. government response.

- The NRC is examining all available information as part of the effort to analyze the event and understand its implications both for Japan and the United States.

- The NRC has regulations in place that require licensees to design their plants to withstand the effects of tsunamis.
  (10CFR 50, Appendix A, Criterion 2, "Design bases for protection against natural phenomenon" requires licensees to designs structures, systems, and components important to safety to withstand the effects of natural phenomenon, including tsunamis.)

- Nuclear power plants are built to withstand environmental hazards, including earthquakes. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster.

- The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically reported for the site and surrounding area. The NRC then adds a margin for error to account for the historical data's limited accuracy. In other words, U.S. nuclear power plants are designed to be safe based on historical data from the area's maximum credible earthquake.

From: Powell, Amy
To: Hayden, Elizabeth; Brenner, Eliot
Cc: Harrington, Holly; Schmidt, Rebecca
Subject: Re: Chairman"s Qs and As
Date: Monday, March 14, 2011 6:41:18 AM

The reactor safety team in the HOO has been compiling a number of Q ans As for a variety of audiences re: the situation in Japan. OCA does not have them yet but will check status this am and share.

Amy Powell
Associate Director
Office of Congressional Affairs
U. S. Nuclear Regulatory Commission
Phone: 301-415-1673

Sent from my Blackberry

From: Hayden, Elizabeth
To: Brenner, Eliot
Cc: Harrington, Holly; Powell, Amy
Sent: Sun Mar 13 23:59:42 2011
Subject: Chairman's Qs and As

It would be helpful if we could get a complete set of the Chairman's Qs and As that have been prepared for the Wed. hearing.

CCC/157

From: Hayden, Elizabeth
To: Screnci, Diane
Subject: Fw: TMI EOC Mtg Next Week
Date: Monday, March 14, 2011 5:19:52 PM

Guess Ron will have the answers! There is a good set of EOC Questions circulating so I believe the EOC meetings may actually get our messages out in line w/the latest strategy.

From: Dean, Bill
To: Hayden, Elizabeth
Sent: Mon Mar 14 17:01:49 2011
Subject: RE: TMI EOC Mtg Next Week

Thanks. I have a lot of confidence in my branch chief, Ron Bellamy, to able to successfully address many of these issues. I will assume we will have a good set of Q and A by the time the meeting takes place on March 24.

Bill

From: Hayden, Elizabeth
Sent: Monday, March 14, 2011 1:13 PM
To: Dean, Bill
Subject: TMI EOC Mtg Next Week

Bill,

Diane tells me that the TMI EOC meeting is next week and I know this issue was brought up on the OD's call this morning. You might want to reconsider whether you shouldn't postpone this meeting. Otherwise, the BC will need to be armed with a lot of information with regard to "is TMI safe?" What health impact do we expect from the Japanese incident? What happens to the plume? How can people protect themselves? License renewal and new plant questions? I'm not sure a BC could handle it.

Beth

CCC/158

From: Hayden, Elizabeth
To: Dean, Bill
Bcc: Screnci, Diane
Subject: Re: TMI EOC Mtg Next Week
Date: Monday, March 14, 2011 5:24:13 PM

Thanks, Bill. I see there is now a good set of questions circulating. Since we are now encouraged to get our Japan messages out, the EOC meetings will help facilitate that.

From: Dean, Bill
To: Hayden, Elizabeth
Sent: Mon Mar 14 17:01:49 2011
Subject: RE: TMI EOC Mtg Next Week

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Beth

ccc/159

From: Screnci, Diane
To: Brenner, Eliot; Hayden, Elizabeth; Harrington, Holly
Subject: TNT
Date: Monday, March 14, 2011 6:04:30 PM

Earthquake – Did recorded radio interviews with WHAM (NY), WOMB (NJ), KYW (Phila), WCNY (NY), WNYC, WDEL (Wilmington), NY Public Radio.

Newspapers: Newsday, Greenfield Recorder, Bloomsburg, Waterford (Conn.) Patch, (Allentown) Morning Call, Wilmington News Journal, Press of AC, Vermont Digger, Journal News, Pittsburg Post Gazette.

Interviews with TV reporters at Channel 7 Syracuse, Channel 29 in Philadelphia, Channel 3 in Phila.

Discussed how plants are built, emergency preparedness, seismic issues (including GSI 199), operator training, etc.

DIANE SCRENCI
SR. PUBLIC AFFAIRS OFFICER
USNRC, RI
610/337-5330

CCC/160

From: Brenner, Eliot
To: Hayden, Elizabeth
Cc: Harrington, Holly
Subject: RE: Google Alert - Nuclear Regulatory Commission
Date: Monday, March 14, 2011 4:39:35 PM

I've been priming diaz and feeding Klein a little. In fact, diaz was on CNN as you were headed to the airport!

From: Hayden, Elizabeth
Sent: Monday, March 14, 2011 4:39 PM
To: Brenner, Eliot
Cc: Harrington, Holly
Subject: Fw: Google Alert - Nuclear Regulatory Commission

Getting Diaz and Klein out there would be good balance to Bradford.

From: Google Alerts <googlealerts-noreply@google.com>
To: Hayden, Elizabeth
Sent: Mon Mar 14 10:19:54 2011
Subject: Google Alert - Nuclear Regulatory Commission

News **4** new results for **Nuclear Regulatory Commission**

The week ahead: **Nuclear** safety, EPA climate rules in focus
The Hill (blog)
By Ben Geman - 03/14/11 08:05 AM ET The crisis at quake-damaged Japanese nuclear reactors will lead to questions about US nuclear safety on Capitol Hill this week. **Nuclear Regulatory Commission** Chairman Gregory Jaczko and Energy Secretary Steven Chu ...
See all stories on this topic »

Former **Nuclear Regulatory** Commissioner Warns State
Clean Energy News (press release)
What: State Representative Pricey Harrison will host a press conference with Mr. Peter Bradford, former Commissioner with the US **Nuclear Regulatory Commission** and former Chair of the Maine and New York Public Utility Commissions. ...
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Japan earthquake: **Nuclear** power under fire
Telegraph.co.uk
India plans to build at least 20 during this decade and Russia is aiming to double its nuclear capacity within the same timescale. The US **Nuclear Regulatory Commission** (**NRC**) has received applications for 25 new ones, while Japan is planning another 15 ...
See all stories on this topic »

Telegraph.co.uk

Yucca Mountain site still alive under GOP **nuclear** power plan
Bellingham Herald
If approved, the US would begin building nuclear plants on an unprecedented scale: Currently, the nation gets 20 percent of its electricity from 104 nuclear reactors. Among other things, the legislation would require the **Nuclear Regulatory Commission** ...
See all stories on this topic »

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Tip: Use site restrict in your query to search within a site (site:nytimes.com or site:.edu). Learn more.

Remove this alert.
Create another alert.
Manage your alerts.

From:	Champ, Billie
To:	Commission E-Reader Distribution; E-Reader Distribution
Subject:	COMMISSION E-READER....MONDAY, MARCH 14, 2011
Date:	Monday, March 14, 2011 11:42:34 AM
Attachments:	Tab A 03-11-11 Markey 11-0110.pdf Tab B 03-10-11 Mull-DOS 11-0114.pdf Tab C 03-04-11 Obama 11-0112.pdf Tab D 03-04-11 Berry 11-0111 .pdf dailymemos.doc

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Some of the information contained in the Reader is not publicly available.
If there are any questions, please contact SECY.

READING FILE

INDEX

March 14, 2011

INCOMING CORRESPONDENCE

Tab "A" 03/11/11 -- Letter from Congressman Markey, requests information related to the potential impacts of the earthquake in Japan and their nuclear facilities, as well as on the implications for U.S. domestic industry.

Tab "B" 03/10/11 -- Memorandum from Stephen Mull, DOS, concerns Protection of Data, Captions and Removable Media.

Tab "C" 03/04/11 -- Memorandum from President Obama, concerns Enhanced Collection of Relevant Data and Statistics Relating to Women.

Tab "D" 03/04/11 -- Letter from John Berry, concerns the working group to examine veteran's preference in the Federal government.

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ENERGY AND COMMERCE

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http://markey.house.gov

Congress of the United States
House of Representatives
Washington, DC 20515-2107

March 11, 2011

The Honorable Greg Jaczko
Chairman
Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Chairman Jaczko:

I write to request information related to the potential impacts of the devastating earthquake in Japan on that country's nuclear facilities, as well as on the implications for our own domestic industry.

The 8.9 magnitude earthquake has caused some serious damage at two nuclear facilities in Japan. The Japanese government declared an "atomic power emergency."[1] Fukushima Daiichi nuclear power plant has experienced a failure associated with its emergency diesel generators, preventing the flow of water into its cooling system. To reduce rising pressure inside the Fukushiima reactor, slightly radioactive vapor is being released.[2] Residents within a 3 km radius of Fukushima have been evacuated.[3] The United States Air Force also reportedly delivered equipment that could be used to cool the reactor.[4] The International Atomic Energy Agency (IAEA) is seeking information about whether the flow of cooling water has been restored, and about other nuclear power plants and research reactors in Japan.[5] Nuclear fuel requires continued cooling even after a plant has shut down. Failure of the cooling system for many hours is what resulted in a partial core melt at Three Mile Island in 1979.[6] There was also a fire in a turbine building at the Onagawa nuclear facility; Japanese authorities reported to the IAEA that it had been extinguished.[7]

The earthquake and tsunami pose threats to nuclear facilities in the United States. Your staff has informed mine that the Diablo Canyon nuclear power plant in San Luis Obispo, California has declared an 'unusual event' because of the tsunami warnings that have been issued. Taiwan, which has six nuclear reactors, issued a tsunami alert.

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[1] http://www.nytimes.com/2011/03/12/world/asia/12nuclear.html
[2] http://www.msnbc.msn.com/id/42025882/ns/world_news-asia-pacific/
[3] http://www.reuters.com/article/2011/03/11/us-quake-japan-iaea-statement-idUSTRE72A2F820110311
[4] http://www.reuters.com/article/2011/03/11/japan-quake-reactor-idUSL3E7EB2AH20110311
[5] http://www.iaea.org/newscenter/news/2011/tsunamiupdate.html
[6] http://www.nytimes.com/2011/03/12/world/asia/12nuclear.html
[7] http://www.reuters.com/article/2011/03/11/us-quake-japan-iaea-statement-idUSTRE72A2F820110311

This disaster serves to highlight both the fragility of nuclear power plants and the potential consequences associated with a radiological release caused by earthquake-related damage. We must ensure that America's nuclear power plants can withstand a catastrophic event and abide by the absolute highest standards for safety. Last year, I requested a GAO investigation[8] into the adequacy of Commission regulations associated with seismic safety. Earlier this week, I wrote[9] you regarding the Commission's pending approval of the design for the AP1000 nuclear reactor, in light of concerns raised by one of the Commission's most long-serving staff that there is a risk that an earthquake at the AP1000 could result in a catastrophic core meltdown. According to this individual:

- The AP1000 shield building failed tests because it is brittle, and could shatter "like a glass cup". About 60 percent of the shield building would consist of a building material that "failed miserably" in a physical test of its ability to withstand out-of-plane shear, one of the forces caused by an earthquake.
- Weak and inadequate computer simulations were used to "prove" the reactor shield is "strong enough".
- Earthquake forces may have been underestimated by Westinghouse.

My concerns about the vulnerabilities of the AP1000 reactor design are only heightened by the reports of the effect of the Japanese quake on their reactors.

I request your prompt attention to the questions raised in my earlier letter. In addition, I request that you provide me with responses to the following questions:

1) Please provide me with a detailed description of the earthquake and tsunami-related damage experienced by the nuclear facilities in Japan. If earthquake and tsunami-related damages are reported at other nuclear facilities, please also provide me with a detailed description of these damages. Please ensure that your response includes:
    a. a description of each specific failure that occurred
    b. the cause of each specific failure
    c. whether any radiological release occurred because of the failure
    d. whether each specific failure could have caused a radiological release if not promptly mitigated and
    e. how long each specific failure will take to fully repair
2) Please also indicate in your response whether you believe each nuclear power plant design a) that is currently in operation in this country, or b) a license for which has been submitted for approval to the Commission for eventual construction and operation in this country can withstand an earthquake or tsunami that is comparable in strength to the one experienced in Japan.
3) Please inform me whether you believe that what happened at the Japanese reactors as a result of the earthquake suggests any need for safety improvements at any U.S. reactor, and if so, what actions the Commission is taking to ensure such improvements are made.

---

[8] http://markey.house.gov/docs/gaoinspection.pdf
[9] http://markey.house.gov/docs/3-7-11.ejmtonrc.pdf

4) Please inform me whether the events in Japan indicate any need for changes to the emergency response plans of U.S. nuclear power plants. Would these plans be adequate in a situation where emergency responders and other resources are needed to deal with many problems simultaneously?
5) Please indicate whether NRC regulations require nuclear reactor operators to have emergency backup power for long enough to maintain safe conditions through a crisis such as that occurring in Japan, where power may not come back online for days?[10]

Please provide your response no later than close of business on Friday April 8, 2011. If you have any questions or concerns, please have your staff contact Dr. Michal Freedhoff or Dr. Ilya Fischhoff of my staff at 202-225-2836.

Sincerely,

Edward J. Markey

Edward J. Markey

[10] http://www.nrc.gov/reading-rm/doc-collections/cfr/part050/part050-0063.html

From: Harrington, Holly
To: Hayden, Elizabeth
Subject: Eliot says he may need you to come back on Friday to help out this weekend. Just wanted to give you a heads up. things are bad
Date: Monday, March 14, 2011 9:24:26 PM

CCC/163

From: Harrington, Holly
To: McIntyre, David; Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth
Subject: RE: More than 5,000 views on the blog today and the day isn"t over . . .
Date: Monday, March 14, 2011 9:50:09 PM

Ha – mine don't get counted

From: McIntyre, David
Sent: Monday, March 14, 2011 9:34 PM
To: Harrington, Holly; Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth
Subject: RE: More than 5,000 views on the blog today and the day isn't over . . .

How many of them were you?

From: Harrington, Holly
Sent: Monday, March 14, 2011 9:25 PM
To: Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth; McIntyre, David
Subject: More than 5,000 views on the blog today and the day isn't over . . .

CCC/164

From: Library Resource
To: EPUB - Nuclear News Flashes
Subject: FW: Platts Nuclear News Flashes
Date: Tuesday, March 15, 2011 8:48:32 PM
Attachments: NNF 20110315.txt

From: Platts[SMTP:SUPPORT@PLATTS.COM]
Sent: Tuesday, March 15, 2011 8:48:02 PM
To: Library Resource
Subject: Platts Nuclear News Flashes
Auto forwarded by a Rule

Dear Subscriber,

This email contains your Platts newsletter subscription.

Nuclear News Flashes
Tuesday, Mar 15, 2011

[Inside This Issue:]

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** US reactor report

*** IAEA increasing response to Japan reactors: Amano

The IAEA is increasing its response to ongoing developments at the Fukushima-I-1 reactor in Japan, IAEA Director General Yukima Amano said March 15.

Amano said at the afternoon press briefing that a Fukushima Accident Coordination Team has been formed at the IAEA, which he will head and run with assistance from Deputy Director General Denis Flory.

Following the fire in the spent fuel pool of Fukushima-I-4, also called Fukushima Daiini-4, on March 15, Amano said, "I felt the need to raise the level of response on the part of the IAEA."

Following the release of radiation from the spent fuel pool fire, Amano said, radioactive iodine and cesium had been detected "near Tokyo," Amano said at the briefing.

The IAEA will provide environmental monitoring assistance to Japan and will also help coordination assistance to Japan, he said.

For more stories on the Japan nuclear crisis, see the March 17 issue of Nucleonics Week.

*** Germany to shut seven reactors for safety reviews

German Chancellor Angela Merkel announced March 15 the provisional shutdown for three months of seven nuclear reactors pending a safety review in light of events in Japan.

Merkel had announced the previous day that the atomic law extending the lifespan of Germany's 17 nuclear reactors will be suspended for three months in order to review safety procedures at the reactors in the light of the nuclear emergency in Japan caused by devastating earthquakes and a tsunami.

"We are launching a safety review of all nuclear reactors ... with all reactors in operation since the end of 1980 set to be idled for the period of the [three-month] moratorium," Merkel said.

Merkel's government last year reversed a decision to phase out all nuclear power plants in Germany by 2022, extending the lifespan of older reactors by eight years and more modern reactors by 14 years. This reversal became law January 1 but will now be suspended for three months.

"Safety has absolute priority, everything else is subordinate," Merkel told reporters after a Cabinet meeting this past weekend.

*** Reactor design bases must be reviewed: WANO chairman

Nuclear power plant operators worldwide will have to review the design bases

of their stations in the
wake of the complex events that brought Tokyo Electric Power Co.'s Fukushima I and II nuclear power plants
to a dangerous state over the past few days, Laurent Stricker, chairman of the World Association of Nuclear
Operators, said March 15.

Whether seismic design bases are based on the right assumptions and standards will be a major point
to review, Stricker said in an interview.

WANO's board will meet at the end of this month in Paris to review ongoing assistance to Tokyo Electric
Power Co. and to see what nuclear operators worldwide need to do going forward in light of the Japanese
accident, Stricker said.

Despite progress made in nuclear plant safety since the 1986 Chernobyl accident, which led to the creation
of WANO as an industry mutual-help organization, "we find ourselves with a severe accident," he said.

The design basis of the Japanese plant was "largely" exceeded by the earthquake and subsequent tsunami
that struck the plant site, Stricker said from Atlanta, where he was attending a meeting at WANO's regional
center.

Stricker said WANO member organizations are providing experts, technical support and equipment to Tepco
via the WANO Tokyo Center, one of the organization's four regional centers.

The organization represents operators of 447 nuclear power units in 30 countries.

*** Siemens share in Areva joint venture valued at Eur1.62 billion

An independent expert has set the value of Siemens' 34% stake in Areva NP, its joint venture with France's
Areva SA, at Eur1.62 billion ($2.26 billion), Areva said March 15.

The valuation was done as part of an arbitration procedure. The two companies mandated the expert to
assess the value of the Siemens shareholding, in line with the procedure in their shareholders' agreement
of January 30, 2001.

Siemens in January 2009 announced its decision to sell the stake back to Areva, as provided for in
the shareholders' agreement. The companies have been in arbitration since mid-2009.

The Siemens put was valued on Areva's books at end-2010 at Eur2.09 billion, a value that dated from
2007.

The share price of Areva SA's non-voting certificate of investment has taken a beating since March
14 as the crisis at the Fukushima I and II nuclear power plants has led to doubts about the future of
nuclear power in many countries where the French vendor had hoped to seal new plant and services business.

Areva stock closed March 15 down 8.56% to Eur28.80, after dropping 9.61% the previous day. It is down
24% on the year. Only 4% of Areva's shares are traded publicly; the government and government-affiliated
entities own 85%.

*** Bingaman urges NRC review of nuclear safety procedures

A key lawmaker urged the NRC March 15 to study Japan's still-unfolding nuclear crisis in order to determine if US nuclear plants are vulnerable to similar disasters.

Senator Jeff Bingaman, a New Mexico Democrat who chairs the Energy and Natural Resources Committee, said NRC "has been fairly assiduous in insisting on adequate safety" for US nuclear reactors. But given the earthquake and tsunami-caused crisis at Tokyo Electric Power Co.'s Fukushima I and II nuclear power plants in Japan, Bingaman urged NRC to take a "fresh look" at its safety procedures for US nuclear facilities.

"We will need to understand what failures in design could have contributed to the problems in Japan, whether they could have been prevented, and whether similar design flaws exist in reactors here in this country," Bingaman said in a statement. "I hope that the [NRC] will quickly reach some conclusions about whether the safety precautions and provisions that it has insisted on are adequate for the future."

Bingaman acknowledged that his committee does not have jurisdiction over NRC; that authority is held by the Senate Environment and Public Works Committee. Still, Bingaman said, Japan's nuclear crisis is of great interest to his panel because of the broader implications that it holds for US energy policy.

Bingaman, who has long been a supporter of nuclear power, said the Japanese disaster has not changed his view on the need for a robust nuclear energy program in the US.

"I think nuclear power can be provided in a safe reliable way," he said, adding, "it is possible that we will learn some things from what's happened in Japan that will persuade us to put in place additional precautions."

Bingaman said he might hold a hearing on the implications of the Japanese nuclear disaster on US energy policy.

*** CPS Energy suspends talks with NRG over new South Texas units

CPS Energy has suspended talks with NRG Energy about a prospective agreement to purchase additional power from the planned two-unit, 2,700-MW expansion of the South Texas Project nuclear generating station, the San Antonio municipal utility and NRG said March 15.

CPS has a 7.625% stake in the expansion project and would be entitled to roughly 206 MW of capacity from the planned South Texas-3 and -4. It and NRG have talked about the possibility of purchasing unspecified amounts of power from Nuclear Innovation North America, the 88%-12% joint venture of NRG and Toshiba, respectively, that owns the other 92.375% of the planned units, NRG spokesman David Knox said.

CPS said in a statement that it and NRG agreed March 15 "that until more information is available about the situation in Japan and its impact on the industry worldwide, it makes sense to put our purchase power agreement discussions on hold."

Knox said March 14 that it was too soon to comment on whether the Japanese nuclear crisis at Tokyo
Electric Power Co.'s Fukushima I and II nuclear power plants might affect Tepco's plan to have 449-MW
stake in the new units if the project receives a DOE loan guarantee.

*** State might file suit in court to close Vermont Yankee

Vermont will sue Entergy if necessary to ensure Vermont Yankee closes by March 2012, notwithstanding
the NRC's decision to issue a 20-year license renewal for the unit, Vermont's Governor Peter Shumlin
said March 14.

NRC was expected to issue the license March 16, but that issuance has been delayed because of "the
agency's focus on responding to the Japanese request for assistance" in containing damage at several
nuclear power reactors caused by earthquakes and a tsunami, spokesman Scott Burnell said March 15.

"There are no technical or legal issues preventing the issuance" of the license, Burnell said.

Shumlin, a Democrat, said in an interview that he is encouraged by comments NRC Chairman Gregory Jaczko
made March 10 when the commission voted to dismiss the final challenge to the plant's license renewal.
Jaczko said "there are a variety of permits required for this facility to operate and NRC [license renewal]
is just one piece of it."

"This is good news because they re-affirmed Vermont's authority" to determine Vermont Yankee's future,
Shumlin said.

As president pro tem of the Vermont state Senate, Shumlin last year led the Senate's efforts to deny
the plant a new certificate of public good needed for operation beyond March 2012. Shumlin said March
14 that Entergy signed a legal agreement with Vermont when it bought the unit in 2002, agreeing that
the state has the right to issue or deny this certificate.

The governor said that should Entergy challenge the 2002 agreement on the grounds that it is preempted
by federal law, the state would defend the agreement in federal court.

*** Progress says Crystal River-3 restart delayed due to possible damage

Progress Energy said March 15 that the restart of Crystal River-3 will again be delayed after engineers
discovered suspected damage to the containment building that may have been caused by efforts to repair
a concrete crack that has kept the unit offline for more than a year.

A new so-called concrete delamination, or crack, may have been created as workers attempted to complete
repairs to a crack inside the containment building wall, Progress said in a statement.

The planned restart will be postponed until at least May, the company said, without specifying a new
date.

Crystal River-3 has been out of service since September 2009, when it shut for scheduled refueling

and a planned steam generator replacement. Workers discovered a delamination in the containment wall
after cutting the opening for the steam generator work. A root-cause analysis concluded the delamination
was caused by a redistribution of stress during the process of relaxing cables that give the containment
structure additional strength.

Progress had been tightening those cables when monitoring equipment detected a problem, the company
said. Repair options for the new delamination are being considered, Progress Energy Florida CEO Vincent
Dolan said in the statement.

NRC is following the situation and will decide soon if additional inspectors are needed at the site,
spokesman Roger Hannah said March 15.

*** NRC launches special inspection at GNF Wilmington fuel fabrication plant

NRC sent a three-person special inspection team to Global Nuclear Fuels-America s Wilmington, North
Carolina fuel fabrication facility to investigate an event in which plant operators failed to maintain
required process control over a small quantity of enriched uranium, NRC said in a March 14 statement.

GNF-A reported the event March 2. It occurred in a grinding station in one of the plant s uranium process
lines. NRC said GNF-A found a quantity of uranium dioxide beyond prescribed limits had accumulated in
a filter in the grinding station.

NRC said all the plant s grinders were shut down following that discovery and no other powder accumulation
was found. Other process controls and systems ensured the event posed no danger to plant employees or
the public, NRC said.

The inspection began March 14 and will examine the safety implications of the event and the adequacy
of GNF-A s corrective actions.

*** Scana still 'committed' to new nuclear units at Summer plant: Scana president

Despite the nuclear reactor accidents in Japan, Scana remains "committed" to building two new nuclear
units at its Summer plant in South Carolina, "and our intention is to remain on schedule," Kevin Marsh,
president and COO at Scana, said on a press conference call March 15.

The company still expects to receive a combined construction and operating license for the two-unit,
2,234-MW nuclear expansion project from the NRC in late 2011 or early 2012, he said.

No delay is expected in starting operation of the first new unit in 2016 and the second in 2019, Marsh
said.

Steve Byrne, executive vice president of generation and transmission and COO at SCE&G, said that the
design of Westinghouse's AP1000 reactor, the type to be built at Summer, features a 780,000-gallon "passive
containment cooling tank" above the unit's steel containment vessel that

would use gravity to feed cooling water to the reactor in an emergency. Those cooling tanks would provide three days of emergency cooling, he said, and backup cooling water sources would provide another seven days of emergency cooling.

The Scana and SCE&G executives said the Summer station near Jenkinsville, South Carolina is 135 miles from the coast and 400 feet above sea level. The plant is not located near any known active fault line, they said.

*** Spot uranium price continues to drop

The spot price of uranium and the share prices of most uranium-related companies continued to drop March 15 as the world remained focused on the crisis at four Japanese reactors.

Until that crisis is over, it is unclear how low the spot price might drop, analysts said. In the short run, "expect increased volatility," one analyst said. Another said some sellers would back away from the market as the price falls, believing the price will bounce back later in the year. Others, however, are likely to continue to lower their offer prices in order to make sales, he said.

Ux Consulting, which dropped its weekly spot price $6.50/lb to $60/lb late March 14, said the spot price appeared to be moving upward after the sale March 9 of US DOE-owned uranium. If the spot price had been under downward pressure when the Japanese earthquake hit, the market "could have seen a full capitulation," UxC said.

TradeTech's weekly spot price, published March 11, was up $1/lb to $67.75/lb.

The share price of uranium companies fell over the past several days, some by nearly 35%. Uranium One's closing share price March 10 on the Toronto Stock Exchange, for example, was (C)$5.93/share. Around mid-day March 15, its share price was about $3.87/share, a 34.7% decrease. Paladin Energy's shares on the Australian Stock Exchange dropped 32% from (A)$4.83 March 10 to $3.26/share March 15. Cameco's share price dropped about 15% from its March 10 $37.46/share close on the New York Stock Exchange to about $31.72/share the afternoon of March 15.

*** US reactor report

Turkey Point-3 is operating at 100% power following an outage to repair the condenser system, Florida Power & Light spokeswoman Veronica Swanson said in a March 15 email. FP&L manually shut down the reactor March 6. The unit reconnected to the grid March 14, Swanson said.

Calvert Cliff-2 reconnected to the grid March 15 after completing a refueling outage earlier this week, Constellation Energy Nuclear Group spokesman David Fitz said in an email. The outage began February 13. Fitz said the plant was running at 30% power late afternoon March 15 but could not estimate when it would reach full power.

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Nuclear News Flashes
Tuesday, Mar 15, 2011

[Inside This Issue:]

*** IAEA increasing response to Japan reactors: Amano

The IAEA is increasing its response to ongoing developments at the Fukushima-I-1 reactor in Japan, IAEA Director General Yukima Amano said March 15.

Amano said at the afternoon press briefing that a Fukushima Accident Coordination Team has been formed at the IAEA, which he will head and run with assistance from Deputy Director General Denis Flory.

Following the fire in the spent fuel pool of Fukushima-I-4, also called Fukushima Daiini-4, on March 15, Amano said, "I felt the need to raise the level of response on the part of the IAEA."

Following the release of radiation from the spent fuel pool fire, Amano said, radioactive iodine and cesium had been detected "near Tokyo," Amano said at the briefing.

The IAEA will provide environmental monitoring assistance to Japan and will also help coordination assistance to Japan, he said.

ccc/166

For more stories on the Japan nuclear crisis, see the March 17 issue of Nucleonics Week.

*** Germany to shut seven reactors for safety reviews

German Chancellor Angela Merkel announced March 15 the provisional shutdown for three months of seven nuclear reactors pending a safety review in light of events in Japan.

Merkel had announced the previous day that the atomic law extending the lifespan of Germany's 17 nuclear reactors will be suspended for three months in order to review safety procedures at the reactors in the light of the nuclear emergency in Japan caused by devastating earthquakes and a tsunami.

"We are launching a safety review of all nuclear reactors ... with all reactors in operation since the end of 1980 set to be idled for the period of the [three-month] moratorium," Merkel said.

Merkel's government last year reversed a decision to phase out all nuclear power plants in Germany by 2022, extending the lifespan of older reactors by eight years and more modern reactors by 14 years. This reversal became law January 1 but will now be suspended for three months.

"Safety has absolute priority, everything else is subordinate," Merkel told reporters after a Cabinet meeting this past weekend.

*** Reactor design bases must be reviewed: WANO chairman

Nuclear power plant operators worldwide will have to review the design bases of their stations in the wake of the complex events that brought Tokyo Electric Power Co.'s Fukushima I and II nuclear power plants to a dangerous state over the past few days, Laurent Stricker, chairman of the World Association of Nuclear Operators, said March 15.

Whether seismic design bases are based on the right assumptions and standards will be a major point to review, Stricker said in an interview.

WANO's board will meet at the end of this month in Paris to review ongoing assistance to Tokyo Electric Power Co. and to see what nuclear operators worldwide need to do going forward in light of the Japanese accident, Stricker said.

Despite progress made in nuclear plant safety since the 1986 Chernobyl accident, which led to the creation of WANO as an industry mutual-help organization, "we find ourselves with a severe accident," he said.

The design basis of the Japanese plant was "largely" exceeded by the earthquake and subsequent tsunami that struck the plant site, Stricker said from Atlanta, where he was attending a meeting at WANO's regional center.

Stricker said WANO member organizations are providing experts, technical support and equipment to Tepco via the WANO Tokyo Center, one of the organization's four regional centers.

The organization represents operators of 447 nuclear power units in 30 countries.

*** Siemens share in Areva joint venture valued at Eur1.62 billion

An independent expert has set the value of Siemens' 34% stake in Areva NP, its joint venture with France's Areva SA, at Eur1.62 billion ($2.26 billion), Areva said March 15.

The valuation was done as part of an arbitration procedure. The two companies mandated the expert to assess the value of the Siemens shareholding, in line with the procedure in their shareholders' agreement of January 30, 2001.

Siemens in January 2009 announced its decision to sell the stake back to Areva, as provided for in the shareholders' agreement. The companies have been in arbitration since mid-2009.

The Siemens put was valued on Areva's books at end-2010 at Eur2.09 billion, a value that dated from 2007.

The share price of Areva SA's non-voting certificate of investment has taken a beating since March 14 as the crisis at the Fukushima I and II nuclear power plants has led to doubts about the future of nuclear power in many countries where the French vendor had hoped to seal new plant and services business.

Areva stock closed March 15 down 8.56% to Eur28.80, after dropping 9.61% the previous day. It is down 24% on the year. Only 4% of Areva's shares are traded publicly; the government and government-affiliated entities own 85%.

*** Bingaman urges NRC review of nuclear safety procedures

A key lawmaker urged the NRC March 15 to study Japan's still-unfolding nuclear crisis in order to determine if US nuclear plants are vulnerable to similar disasters.

Senator Jeff Bingaman, a New Mexico Democrat who chairs the Energy and Natural Resources Committee, said NRC "has been fairly assiduous in insisting on adequate safety" for US nuclear reactors. But given the earthquake and tsunami-caused crisis at Tokyo Electric Power Co.'s Fukushima I and II nuclear power plants in Japan, Bingaman urged NRC to take a "fresh look" at its safety procedures for US nuclear facilities.

"We will need to understand what failures in design could have contributed to the problems in Japan, whether they could have been prevented, and whether similar design flaws exist in reactors here in this country," Bingaman said in a statement. "I hope that the [NRC] will quickly reach some conclusions about whether the safety precautions and provisions that it has insisted on are adequate for the future."

Bingaman acknowledged that his committee does not have jurisdiction over NRC; that authority is held by the Senate Environment and Public Works Committee. Still, Bingaman said, Japan's nuclear crisis is of great interest to his panel because of the broader implications that it holds for US energy policy.

Bingaman, who has long been a supporter of nuclear power, said the Japanese disaster has not changed his view on the need for a robust nuclear energy program in the US.

"I think nuclear power can be provided in a safe reliable way," he said, adding, "it is possible that we will learn some things from what's happened in Japan that will persuade us to put in place additional precautions."

Bingaman said he might hold a hearing on the implications of the Japanese nuclear disaster on US energy policy.

*** CPS Energy suspends talks with NRG over new South Texas units

CPS Energy has suspended talks with NRG Energy about a prospective agreement to purchase additional power from the planned two-unit, 2,700-MW expansion of the South Texas Project nuclear generating station, the San Antonio municipal utility and NRG said March 15.

CPS has a 7.625% stake in the expansion project and would be entitled to roughly 206 MW of capacity from the planned South Texas-3 and -4. It and NRG have talked about the possibility of purchasing unspecified amounts of power from Nuclear Innovation North America, the 88%-12% joint venture of NRG and Toshiba, respectively, that owns the other 92.375% of the planned units, NRG spokesman David Knox said.

CPS said in a statement that it and NRG agreed March 15 "that until more information is available about the situation in Japan and its impact on the industry worldwide, it makes sense to put our purchase power agreement discussions on hold."

Knox said March 14 that it was too soon to comment on whether the Japanese nuclear crisis at Tokyo Electric Power Co.'s Fukushima I and II nuclear power plants might affect Tepco's plan to have 449-MW stake in the new units if the project receives a DOE loan guarantee.

*** State might file suit in court to close Vermont Yankee

Vermont will sue Entergy if necessary to ensure Vermont Yankee closes by March 2012, notwithstanding the NRC's decision to issue a 20-year license renewal for the unit, Vermont's Governor Peter Shumlin said March 14.

NRC was expected to issue the license March 16, but that issuance has been delayed because of "the agency's focus on responding to the Japanese request for assistance" in containing damage at several nuclear power reactors caused by earthquakes and a tsunami, spokesman Scott Burnell said March 15.

"There are no technical or legal issues preventing the issuance" of the license, Burnell said.

Shumlin, a Democrat, said in an interview that he is encouraged by comments NRC Chairman Gregory Jaczko made March 10 when the commission voted to dismiss the final challenge to the plant's license renewal. Jaczko said "there are a variety of permits required for this facility to operate and NRC [license renewal] is just one piece of it."

"This is good news because they re-affirmed Vermont's authority" to determine Vermont Yankee's future, Shumlin said.

As president pro tem of the Vermont state Senate, Shumlin last year led the Senate's efforts to deny the plant a new certificate of public good needed for operation beyond March 2012. Shumlin said March 14 that Entergy signed a legal agreement with Vermont when it bought the unit in 2002, agreeing that the state has the right to issue or deny this certificate.

The governor said that should Entergy challenge the 2002 agreement on the grounds that it is preempted by federal law, the state would defend the agreement in federal court.

*** Progress says Crystal River-3 restart delayed due to possible damage

Progress Energy said March 15 that the restart of Crystal River-3 will again be delayed after engineers discovered suspected damage to the containment building that may have been caused by efforts to repair a concrete crack that has kept the unit offline for more than a year.

A new so-called concrete delamination, or crack, may have been created as workers attempted to complete repairs to a crack inside the containment building wall, Progress said in a statement.

The planned restart will be postponed until at least May, the company said, without specifying a new date.

Crystal River-3 has been out of service since September 2009, when it shut for scheduled refueling and a planned steam generator replacement. Workers discovered a delamination in the containment wall after cutting the opening for the steam generator work. A root-cause analysis concluded the delamination was caused by a redistribution of stress during the process of relaxing cables that give the containment structure additional strength.

Progress had been tightening those cables when monitoring equipment detected a problem, the company said. Repair options for the new delamination are being considered, Progress Energy Florida CEO Vincent Dolan said in the statement.

NRC is following the situation and will decide soon if additional inspectors are needed at the site, spokesman Roger Hannah said March 15.

*** NRC launches special inspection at GNF Wilmington fuel fabrication plant

NRC sent a three-person special inspection team to Global Nuclear Fuels-Americaâ€™s Wilmington, North Carolina fuel fabrication facility to investigate an event in which plant operators â€œfailed to maintain required process control over a small quantity of enriched uranium,â€ NRC said in a March 14 statement.

GNF-A reported the event March 2. It occurred in a grinding station in one of the plantâ€™s uranium process lines. NRC said GNF-A found a quantity of uranium dioxide beyond prescribed limits had accumulated in a filter in the grinding station.

NRC said all the plantâ€™s grinders were shut down following that discovery and no other powder accumulation was found. Other process controls and systems â€œensured the event posed no danger to plant employees or the public,â€ NRC said.

The inspection began March 14 and will examine the safety implications of the event and the adequacy of GNF-Aâ€™s corrective actions.

*** Scana still 'committed' to new nuclear units at Summer plant: Scana president

Despite the nuclear reactor accidents in Japan, Scana remains "committed" to building two new nuclear units at its Summer plant in South Carolina, "and our intention is to remain on schedule," Kevin Marsh, president and COO at Scana, said on a press conference call March 15.

The company still expects to receive a combined construction and operating license for the two-unit, 2,234-MW nuclear expansion project from the NRC in late 2011 or early 2012, he said.

No delay is expected in starting operation of the first new unit in 2016 and the second in 2019, Marsh said.

Steve Byrne, executive vice president of generation and transmission and COO at SCE&G, said that the design of Westinghouse's AP1000 reactor, the type to be built at Summer, features a 780,000-gallon "passive containment cooling tank" above the unit's steel containment vessel that would use gravity to feed cooling water to the reactor in an emergency. Those cooling tanks would provide three days of emergency cooling, he said, and backup cooling water sources would provide another seven days of emergency cooling.

The Scana and SCE&G executives said the Summer station near Jenkinsville, South Carolina is 135 miles from the coast and 400 feet above sea level. The plant is not located near any known active fault line, they said.

*** Spot uranium price continues to drop

The spot price of uranium and the share prices of most uranium-related companies continued to drop March 15 as the world remained focused on the crisis at four Japanese reactors.

Until that crisis is over, it is unclear how low the spot price might drop, analysts said. In the short run, "expect increased volatility," one analyst said. Another said some sellers would back away from the market as the price falls, believing the price will bounce back later in the year. Others, however, are likely to continue to lower their offer prices in order to make sales, he said.

Ux Consulting, which dropped its weekly spot price $6.50/lb to $60/lb late March 14, said the spot price appeared to be moving upward after the sale March 9 of US DOE-owned uranium. If the spot price had been under downward pressure when the Japanese earthquake hit, the market "could have seen a full capitulation," UxC said.

TradeTech's weekly spot price, published March 11, was up $1/lb to $67.75/lb.

The share price of uranium companies fell over the past several days, some by nearly 35%. Uranium One's closing share price March 10 on the Toronto Stock Exchange, for example, was (C)$5.93/share. Around mid-day March 15, its share price was about $3.87/share, a 34.7% decrease. Paladin Energy's shares on the Australian Stock Exchange dropped 32% from (A)$4.83 March 10 to $3.26/share March 15. Cameco's share price dropped about 15% from its March 10 $37.46/share close on the New York Stock Exchange to about $31.72/share the afternoon of March 15.

*** US reactor report

â€" Turkey Point-3 is operating at 100% power following an outage to repair the condenser system, Florida

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â€" Calvert Cliff-2 reconnected to the grid March 15 after completing a refueling outage earlier this week, Constellation Energy Nuclear Group spokesman David Fitz said in an email. The outage began February 13. Fitz said the plant was running at 30% power late afternoon March 15 but could not estimate when it would reach full power.

***

From: Bubar, Patrice
To: Brenner, Eliot; Hayden, Elizabeth
Subject: FW: REQUEST TO CALL REPORTER RE JAPANESE EVENTS
Date: Tuesday, March 15, 2011 12:15:43 PM

Eliot and Beth – another call we are referring to you.

Patty Bubar
Chief of Staff
Office of Commissioner William D. Magwood
U.S. Nuclear Regulatory Commission
301-415-1895

From: Crawford, Carrie
Sent: Tuesday, March 15, 2011 10:58 AM
To: Bubar, Patrice
Subject: REQUEST TO CALL REPORTER RE JAPANESE EVENTS

REPORTER SUSAN PHILLIPS CALLED:
RADIO STATION IN PHILADELHIA – WHYY NEWS

215-351-2013
sphillips@whyy.org

ccd 167

From: Sheehan, Neil
To: Brenner, Eliot; Hayden, Elizabeth; Harrington, Holly; Burnell, Scott; McIntyre, David
Subject: FW: Breaking News: Japanese officials pulling all workers from damaged nuclear plant
Date: Tuesday, March 15, 2011 10:53:10 PM

You may have already seen this.

From: The Washington Post [mailto:newsletters@email.washingtonpost.com]
Sent: Tuesday, March 15, 2011 10:43 PM
To: Sheehan, Neil
Subject: Breaking News: Japanese officials pulling all workers from damaged nuclear plant

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Breaking News Alert: Japanese officials pulling all workers from damaged nuclear plant
March 15, 2011 10:39:07 PM

The skeleton crew remaining at the Fukushima Daiichi nuclear power plant is being evacuated because of the risk they face from dangerous radiation levels, a Japanese government spokesman said Wednesday morning.

http://link.email.washingtonpost.com/r/O914NF/RNLMUS/2CTGID/I6J2YM/I8HZS/E4/h

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CCC/168

From: Sheron, Brian
To: Brenner, Eliot; Hayden, Elizabeth
Subject: FW: NBC deadline question for NRC on seismic hazard estimates
Date: Tuesday, March 15, 2011 9:47:25 AM

One of you want to handle?

From: Bill Dedman [mailto:Bill.Dedman@msnbc.com]
Sent: Tuesday, March 15, 2011 9:06 AM
To: Manoly, Kamal; Sheron, Brian; Hiland, Patrick; OPA Resource
Subject: NBC deadline question for NRC on seismic hazard estimates

Good morning,

My name is Bill Dedman. I'm a reporter for NBC News and msnbc.com, writing an article today about:

SAFETY/RISK ASSESSMENT RESULTS FOR GENERIC ISSUE 199, "IMPLICATIONS OF UPDATED PROBABILISTIC SEISMIC HAZARD ESTIMATES IN CENTRAL AND EASTERN UNITED STATES ON
EXISTING PLANTS"

I reached out to NRC Public Affairs yesterday but have not heard back, and my deadline is end-of-day today. I'm hoping to get on the phone today with someone from NRC to make sure I'm conveying this information accurately to the public. If nothing else, I'm hoping one of the technical people can help clarify the points below. My telephone number is 203-451-9995.

I've read Director Brian Sheron's memo of Sept. 2, 2010, to Mr. Patrick Hiland; the safety/risk assessment of August 2010; its appendices A through D; NRC Information Notice 2010-18; and the fact sheet from public affairs from November 2010.

I have these questions:

1. I'd like to make sure that I accurately place in layman's terms the seismic hazard estimates. I need to make sure that I'm understanding the nomenclature for expressing the seismic core-damage frequencies. Let's say there's an estimate expressed as "2.5E-06." (I'm looking at Table D-2 of the safety/risk assessment of August 2010.) I believe that this expression means the same as 2.5 x 10^-06, or 0.0000025, or 2.5 divided by one million. In layman's terms, that means an expectation, on average, of 2.5 events every million years, or once every 400,000 years. Similarly, "2.5E-05" would be 2.5 divided by 100,000, or 2.5 events every 100,000 years, on average, or once every 40,000 years. Is this correct?

2. These documents give updated probabilistic seismic hazard estimates for existing nuclear power plants in the Central and Eastern U.S. What document has the latest seismic hazard estimates (probabilistic or not) for existing nuclear power plants in the Western U.S.?

3. The documents refer to newer data on the way. Have NRC, USGS et al. released those? I'm referring to this: "New consensus seismic-hazard estimates will become available in late 2010 or early 2011 (these are a product of a joint NRC, U.S. Department of Energy, U.S. Geological Survey (USGS) and Electric Power Research Institute (EPRI) project). These consensus seismic hazard estimates will supersede the existing EPRI, Lawrence Livermore National Laboratory, and USGS hazard estimates used in the GI-199 Safety/Risk Assessment."

CCC/169

4. What is the timetable now for consideration of any regulatory changes from this research?

Thank you for your help.

Regards,

Bill Dedman

From: Powell, Amy
To: Harrington, Holly
Cc: Hayden, Elizabeth
Subject: AV at tomorrow"s hearing
Date: Tuesday, March 15, 2011 9:08:39 AM

Hi Holly –

Yesterday, I spoke with Christine, at your request, in multimedia services about where and when the hearing would be, time, talked with the Committee about access, etc. This morning, Danita left a VM asking me how many people we will need for the recording. Would you or someone else in OPA be able to step her through that? I don't have any idea about that level of detail. Her number is 415-5166 I'm cc'ing Beth in case you are getting well-deserved rest and this needs to be redirected.

Amy Powell
Associate Director
U. S. Nuclear Regulatory Commission
Office of Congressional Affairs
Phone: 301-415-1673

CCC/170

From:	Library Resource
To:	EPUB - Energy Daily
Subject:	FW: Your issue of The Energy Daily
Date:	Tuesday, March 15, 2011 7:35:28 PM
Attachments:	ed0316.pdf

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Sent: Tuesday, March 15, 2011 7:35:21 PM
To: Library Resource
Subject: Your issue of The Energy Daily
Auto forwarded by a Rule

the energy daily

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Sincerely,

Sabrina Ousmaal
Associate Publisher

P.S. - For site license & group subscriptions information, contact me at 703-236-2665 or sabrina.ousmaal@ihs.com

March 16, 2011 Headlines

Japanese Nuke Crisis Deepens With Explosion, Spent Fuel Fire, Releases

Japan's nuclear crisis went into a sickening downward spiral Tuesday, with Japanese officials telling the International Atomic Energy Agency that an explosion may have damaged the primary reactor containment vessel of Unit No. 2 at the runaway Fukushima Daiichi nuclear power plant complex, and that a fire in the spent fuel storage facility for the plant's Unit 4 had resulted in radioactivity being released directly into the atmosphere. Meanwhile, congressional Democrats Tuesday raised questions about whether U.S. reactors were capable of withstanding earthquakes of the magnitude that devastated core cooling capability at the Japanese reactors. They said 35 reactors are located in seismically active zones in California and the Midwest. The lawmakers also questioned whether the U.S. Nuclear Regulatory Commission has tough enough rules in place to ensure that U.S. reactors have adequate backup power supplies to operate cooling water pumps if an earthquake were to knock out grid power to a...

Divided FERC Says 'Negawatts' Equal Megawatts

Over lawsuit threats from merchant generators and a strong dissent from Commissioner Philip Moeller, the Federal Energy Regulatory Commission approved a final rule Tuesday that will compel U.S. grid operators when power prices are high to ensure that power customers are paid the same amount for cutting a megawatt as a generator would get for providing one. Approved 4-1, the rule requires the nation's organized power markets to pay power customers full locational marginal prices (LMP)—in other words the same prices generators are fetching for producing a megawatt—for cutting demand by a megawatt at times when the grid is strained. The rule contains an important new requirement, however: That grid operators on a monthly basis identify market conditions when the new compensation system would impose net costs —rather than benefits—on customers. Under those conditions, demand response would not have to be paid at the same level as generators. FERC says the rule will drive down power...

GOP Escalates Attacks On EPA Climate Regulations

In an escalation of GOP attacks on the Environmental Protection Agency's climate change rules, Senate Republican Leader Mitch McConnell Tuesday introduced an amendment to small business legislation pending on the Senate floor that would strip EPA of its Clean Air Act authority to regulate greenhouse

gases. McConnell's amendment came as the House Energy and Commerce Committee debated amendments to identical legislation introduced March 3 by committee Chairman Fred Upton (R-Mich.). At press time the Republican-controlled House committee appeared poised to approve Upton's bill, likely on a party-line vote. The Republican legislation would mandate that carbon dioxide, the main greenhouse gas, is not a "pollutant" as defined by the Clean Air Act; repeal the agency's science-based finding that greenhouse gases endanger public health and welfare; prevent EPA and the state of California from setting new greenhouse gas emissions limits for post-model year 2016 motor vehicles; and void an EPA...

NARUC Establishes Pipeline Safety Panel

Amid anticipated congressional action this year to reauthorize federal pipeline safety regulations and programs, the National Association of Regulatory Utility Commissioners Tuesday announced the creation of a new task force on pipeline safety. The announcement follows a succession of gas pipeline failures in recent months, including the September 9 San Bruno incident in which eight people were killed after a distribution pipeline owned by Pacific Gas & Electric Co. ruptured and burst into flames. NARUC said Arkansas Public...

BP Expands Biofuels Business in Brazil

In what the global oil giant said was its alternative energy segment's largest investment yet, BP plc last week announced an agreement to acquire majority control of Companhia Nacional de Acucar e Alcool, an ethanol and sugar producer in Brazil, for $680 million BP said the deal, under which BP also agreed to...

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Fax 847-564-9453

From: NRC Announcement
To: NRC Announcement
Subject: From the Chairman: Events in Japan
Date: Tuesday, March 15, 2011 9:38:08 AM

NRC Daily Announcements Highlighted Information and Messages

Tuesday March 15, 2011 -- Headquarters Edition

From the Chairman: Events in Japan

From the Chairman: Events in Japan

By now I am sure that most of you are aware of the tragic earthquake and tsunami that struck Japan last week, killing thousands of people, destroying cities and infrastructure, and knocking out large portions of the electricity grid.

I am so proud of our staff and the dedication and tenacity they have shown during the tragic events of the past several days. NRC employees have been willingly working around the clock, and their energy, experience and expertise have been invaluable to our response. Those of you who have not directly been involved in this effort are playing just as valuable a role in making sure that the facilities we license are safe and secure.

The natural disasters in Japan—and the resulting situations at the Fukushima nuclear power plant—are sobering in their size and scope. It's easy to become distracted by the stories and images of devastation and destruction. The best thing we can do in this situation is to make sure we remain mindful of our responsibilities for the safety and security of our existing nuclear plants and materials, and to keep our focus where it must always be—on our mission. I continue to appreciate your dedication to ensure the safety and security of the American people.

(2011-03-15 00:00:00.0) View item in a new window

The latest Announcements are always on the NRC@WORK Home Page.

Announcements by Date | Announcements by Category

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Frequently Asked Questions About the NRC Daily Announcements Email

ccc/172

From: NRC Announcement
To: NRC Announcement
Subject: Daily: 3 New Items from Tuesday, March 15, 2011
Date: Tuesday, March 15, 2011 10:03:24 PM

NRC Daily Announcements Highlighted Information and Messages

Tuesday March 15, 2011 -- Headquarters Edition

General Interest: Document Hold Instructions Re: Yucca High Level Waste Repository
Employee Resources: Rotational Opportunity - NRR/DPR, Project Manager, GG-13/14/15

Event: New iLearn Semiannual Customer Satisfaction Survey

General Interest: Document Hold Instructions Re: Yucca High Level Waste Repository

Yellow Announcement No. 033, "Document Hold Instructions Re: Yucca High Level Waste Repository," is now available on the internal Web site under Yellow Announcements.

This announcement can also be found in the ADAMS 2011 Yellow Announcements folder in the Main Library of the ADAMS Document Manager. In the folder, Yellow Announcements are arranged in report number order.

If you have difficulty accessing a Web link in this announcement, contact the NRC Announcement Coordinator, Beverly Martin, ADM/DAS, 301-492-3674.

(2011-03-15 00:00:00.0) View item in a new window

Employee Resources: Rotational Opportunity - NRR/DPR, Project Manager, GG-13/14/15

The **Office of Nuclear Reactor Regulation, Division of Policy and Rulemaking,** has rotational opportunities for **GG-13/14/15** for 3- to 6-month assignments as a **Project Manager** in support of rulemaking activities. The start and end dates are negotiable.

Detailed information is available on the NRC internal Web page.

If you have difficulty accessing a Web link in this announcement, contact the NRC Announcement Coordinator, Beverly Martin, ADM/DAS, 301-492-3674.

CCC/173

(2011-03-15 00:00:00.0) View item in a new window

Event: New iLearn Semiannual Customer Satisfaction Survey

Beginning March 21, 2011, employees will have the opportunity to submit a brief and anonymous **iLearn Customer Satisfaction Survey**. Human Resources Training & Development conducts this survey semiannually. The survey helps us understand your satisfaction level with iLearn and also directs our continuous improvement efforts. The last survey indicated that iLearn user satisfaction improved significantly and we are working hard to continue that trend.

This survey only takes 3 to 5 minutes to complete. A link to the survey will be sent via e-mail from the iLearn system.

Please help us make iLearn better. Based on previous survey results we have:

- Improved the process to assign required training.
- Added an easy computer diagnostic tool, available on the iLearn homepage.
- Improved the iLearn help desk password reset process.
- Improved iLearn email notifications with detailed explanations and links to job aids where appropriate.
- Added 42 new job aids to the iLearn homepage.
- Redesigned the iLearn homepage to make finding and searching for job aids a priority.
- Added a growing collection of e-books through Books 24x7, over 20,000 books from 463 publishers available through iLearn.
- Added over 500 new online courses.

If you have any questions, please contact Emaad Burki.

(2011-03-15 00:00:00.0) View item in a new window

From:	OPA Resource
To:	Ash, Darren; Barkley, Richard; Batkin, Joshua; Bell, Hubert; Belmore, Nancy; Bergman, Thomas; Bollwerk, Paul; Bonaccorso, Amy; Borchardt, Bill; Bozin, Sunny; Brenner, Eliot; Brock, Terry; Brown, Boris; Bubar, Patrice; Burnell, Scott; Burns, Stephen; Carpenter, Cynthia; Chandrathil, Prema; Clark, Theresa; Collins, Elmo; Couret, Ivonne; Crawford, Carrie; Cutler, Iris; Dacus, Eugene; Dapas, Marc; Davis, Roger; Dean, Bill; Decker, David; Dricks, Victor; Droggitis, Spiros; Flory, Shirley; Franovich, Mike; Gibbs, Catina; Haney, Catherine; Hannah, Roger; Harbuck, Craig; Harrington, Holly; Hasan, Nasreen; Hayden, Elizabeth; Holahan, Gary; Holahan, Patricia; Holian, Brian; Jacobssen, Patricia; Jaczko, Gregory; Jasinski, Robert; Jenkins, Verlyn; Johnson, Michael; Jones, Andrea; Kock, Andrea; Kotzalas, Margie; Ledford, Joey; Lee, Samson; Leeds, Eric; Lepre, Janet; Lew, David; Lewis, Antoinette; Loyd, Susan; Magwood, William; McCrary, Cheryl; McGrady-Finneran, Patricia; McIntyre, David; Mensah, Tanya; Mitlyng, Viktoria; Monninger, John; Montes, David; Nieh, Ho; Ordaz, Vonna; Ostendorff, William; Owen, Lucy; Powell, Amy; Quesenberry, Jeannette; Reddick, Darani; Regan, Christopher; Reyes, Luis; Riddick, Nicole; RidsSecyMailCenter Resource; Riley (OCA), Timothy; Rohrer, Shirley; Samuel, Olive; Satorius, Mark; Schaaf, Robert; Schmidt, Rebecca; Scott, Catherine; Screnci, Diane; Shaffer, Vered; Shane, Raeann; Sharkey, Jeffry; Sheehan, Neil; Sheron, Brian; Siurano-Perez, Osiris; Steger (Tucci), Christine; Svinicki, Kristine; Tabatabai, Omid; Tannenbaum, Anita; Taylor, Renee; Temp, WDM; Thomas, Ann; Uhle, Jennifer; Uselding, Lara; Vietti-Cook, Annette; Virgilio, Martin; Virgilio, Rosetta; Walker-Smith, Antoinette; Weaver, Doug; Weber, Michael; Weil, Jenny; Werner, Greg; Wiggins, Jim; Williams, Evelyn; Zimmerman, Roy; Zorn, Jason
Subject:	*RESEND*Press Release: NRC Analysis Continues to Support Japan"s Protective Actions
Date:	Tuesday, March 15, 2011 2:46:06 PM
Attachments:	11-049.docx

To be posted on the live web and public release in 10-15 minutes.

Office of Public Affairs
US Nuclear Regulatory Commission
301-415-8200
opa.resource@nrc.gov

ccc/174

NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

Office of Public Affairs Telephone: 301/415-8200
Washington, D.C. 20555-0001
E-mail: opa.resource@nrc.gov Site: www.nrc.gov
Blog: http://public-blog.nrc-gateway.gov

No. 11-049 March 15, 2011

NRC ANALYSIS CONTINUES TO SUPPORT JAPAN'S PROTECTIVE ACTIONS

NRC analysts overnight continued their review of radiation data related to the damaged Japanese nuclear reactors. The analysts continue to conclude the steps recommend by Japanese authorities parallel those the United States would suggest in a similar situation.

The Japanese authorities Monday recommended evacuation to 20 kilometers around the affected reactors and said that persons out to 30 kilometers should shelter in place.

Those recommendations parallel the protective actions the United States would suggest should dose limits reach 1 rem to the entire body and 5 rem for the thyroid, an organ particularly susceptible to radiation uptake.

A rem is a measure of radiation dose. The average American is exposed to approximately 620 millirems, or 0.62 rem, of radiation each year from natural and manmade sources.

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From:	OPA Resource
To:	Ash, Darren; Barkley, Richard; Batkin, Joshua; Bell, Hubert; Belmore, Nancy; Bergman, Thomas; Bollwerk, Paul; Bonaccorso, Amy; Borchardt, Bill; Bozin, Sunny; Brenner, Eliot; Brock, Terry; Brown, Boris; Bubar, Patrice; Burnell, Scott; Burns, Stephen; Carpenter, Cynthia; Chandrathil, Prema; Clark, Theresa; Collins, Elmo; Couret, Ivonne; Crawford, Carrie; Cutler, Iris; Dacus, Eugene; Dapas, Marc; Davis, Roger; Dean, Bill; Decker, David; Dricks, Victor; Droggitis, Spiros; Flory, Shirley; Franovich, Mike; Gibbs, Catina; Haney, Catherine; Hannah, Roger; Harbuck, Craig; Harrington, Holly; Hasan, Nasreen; Hayden, Elizabeth; Holahan, Gary; Holahan, Patricia; Holian, Brian; Jacobssen, Patricia; Jaczko, Gregory; Jasinski, Robert; Jenkins, Verlyn; Johnson, Michael; Jones, Andrea; Kock, Andrea; Kotzalas, Margie; Ledford, Joey; Lee, Samson; Leeds, Eric; Lepre, Janet; Lew, David; Lewis, Antoinette; Loyd, Susan; Magwood, William; McCrary, Cheryl; McGrady-Finneran, Patricia; McIntyre, David; Mensah, Tanya; Mitlyng, Viktoria; Monninger, John; Montes, David; Nieh, Ho; Ordaz, Vonna; Ostendorff, William; Owen, Lucy; Powell, Amy; Quesenberry, Jeannette; Reddick, Darani; Regan, Christopher; Reyes, Luis; Riddick, Nicole; RidsSecyMailCenter Resource; Riley (OCA), Timothy; Rohrer, Shirley; Samuel, Olive; Satorius, Mark; Schaaf, Robert; Schmidt, Rebecca; Scott, Catherine; Screnci, Diane; Shaffer, Vered; Shane, Raeann; Sharkey, Jeffry; Sheehan, Neil; Sheron, Brian; Siurano-Perez, Osiris; Steger (Tucci), Christine; Svinicki, Kristine; Tabatabai, Omid; Tannenbaum, Anita; Taylor, Renee; Temp, WDM; Thomas, Ann; Uhle, Jennifer; Uselding, Lara; Vietti-Cook, Annette; Virgilio, Martin; Virgilio, Rosetta; Walker-Smith, Antoinette; Weaver, Doug; Weber, Michael; Weil, Jenny; Werner, Greg; Wiggins, Jim; Williams, Evelyn; Zimmerman, Roy; Zorn, Jason
Subject:	Press Release: (Revised) NRC Sends Additional Experts to Assist Japan
Date:	Tuesday, March 15, 2011 11:41:12 AM
Attachments:	11-048R.docx

Attached to be released in approximately 15 minutes.

Office of Public Affairs
US Nuclear Regulatory Commission
301-415-8200
opa.resource@nrc.gov

ccd/175

REVISED: NRC SENDS ADDITIONAL EXPERTS TO ASSIST JAPAN

The NRC has sent nine additional experts to Tokyo to provide assistance as requested by the Japanese government. Acting as part of a U.S. Agency for International Development assistance team, the NRC has dispatched the experts to Tokyo to provide assistance as requested by the Japanese government.

The first members of the team left the United States Monday evening and were due to arrive in Tokyo Wednesday afternoon. The team includes additional reactor experts, international affairs professional staffers, and a senior manager from one of the NRC's four operating regions.

The team members come from the NRC's headquarters in Rockville, Md., and from offices in King of Prussia, Pa., Chattanooga, Tenn., and Atlanta. The team has been instructed to: conduct all activities needed to understand the status of efforts to safely shut down the Japanese reactors; better understand the potential impact on people and the environment of any radioactivity releases; if asked, provide technical advice and support through the U.S. ambassador for the Japanese government's decision making process; and draw on NRC-headquarters expertise for any other additional technical requirements. The team will be in communication with the Japanese regulator, the U.S. Embassy, NRC headquarters, and other government stakeholders as appropriate.

The team is led by Charles A. Casto, deputy regional administrator of the NRC's Center of Construction Inspection, based in NRC's office in Atlanta. Casto has worked in the commercial nuclear power industry at three different nuclear power plants, including Browns Ferry, which has three boiling water reactors, operated by the Tennessee Valley Authority in Alabama. He has also worked as a licensed reactor operator and operator instructor. Casto will provide a single point of contact for the U.S. Ambassador in Japan on nuclear reactor issues.

The two reactor experts sent Saturday to Japan will participate as members of this assistance team.

Note To Editors: Revision reflects an additional team member, there are now a total of 11 NRC staffers on the assistance team.

###

From: Landau, Mindy
To: Brenner, Eliot; Hayden, Elizabeth
Cc: Ellmers, Glenn; Muessle, Mary
Subject: EDO Update and FAQs
Date: Tuesday, March 15, 2011 7:30:22 AM

Eliot/Beth,

The Chairman will hopefully send a network announcement out to the staff today conveying appreciation for their hard work, etc., and communicate at a high level. Bill will follow with an EDO update that contains more detailed information. Are the FAQs that you prepared for the Chairman in final form? We thought it would be good to link to them (on a SharePoint site, if possible) to prepare the staff to answer questions they might be getting from friends and family. Also, NRR has a number of public meetings coming up and this might support them as well.

Can you send me the FAQs or let me know the status?

Thanks,
Mindy

Mindy S. Landau
Deputy Assistant for Operations
Communication and Performance Improvement
Office of the Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
301-415-8703
mindy.landau@nrc.gov

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From: Harrington, Holly
To: Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth; McIntyre, David; Chandrathil, Prema; Dricks, Victor; Hannah, Roger; Ledford, Joey; Mitlyng, Viktoria; Screnci, Diane; Sheehan, Neil; Uselding, Lara
Subject: TNTs to me tonight
Date: Tuesday, March 15, 2011 1:54:03 PM

CCC/177

From:	BOUCHOT Emmanuel
To:	Treier Anton; Jean.GAUVAIN@oecd.org; amcgarry@rpii.ie; besenyei@haea.gov.hu; vc@aerb.gov.in; valentina.ionescu@cncan.ro; david.tredinnick@arpansa.gov.au; roberto.ranieri@isprambiente.it; marli.vogels@minvrom.nl; fgrande@cnsns.gob.mx; moisiibogdan@cncan.ro; miyake-ryo@meti.go.jp; risto.isaksson@stuk.fi; sunni.locatelli@cnsc-ccsn.gc.ca; kees.jansen@minvrom.nl; dagmar.zemanova@ujd.gov.sk; anneli.hallgren@ssm.se; deniz.yueksel@bmu.bund.de; watanabe-makoto@meti.go.jp; mkelly@rpii.ie; schwang@kins.re.kr; mcle@csn.es; i.sokolova@gosnadzor.ru; otake-fumie@jnes.go.jp; stanislaw.janikowski@paa.gov.pl; brafferty@rpii.ie; anne.marit.ostreng@nrpa.no; wolfgang.hilden@ec.europa.eu; niina.yliknuussi@ec.europa.eu; yhhah@kins.re.kr; karina.debeule@fanc.fgov.be; r.spiegelberg-planer@iaea.org; soaresjc@cii.fc.ul.pt; camelia.liutiev@cncan.ro; Hayden, Elizabeth; aurele.gervais@cnsc-ccsn.gc.ca; marek.bozenhard@sujb.cz; gerard.westerhof@minvrom.nl; lise.roberts@hse.gsi.gov.uk; ddawson@rpii.ie
Cc:	PETIT Evangelia
Subject:	[Japan situation] RE : NEA/CNRA - WGPC-12 meeting will be held as scheduled but with flexibility
Date:	Tuesday, March 15, 2011 2:34:22 PM

Dear members,

the media pressure concerning the Japanese nuclear events is dramatically high. Our communication team is working 24h/24.

I really apologize but I have to cancel my attendance to the 12th WGPC meeting.

Nevertheless, according to the current French situation in the field of media, I would propose the group to have discussion about the national situation of each of countries:

- type of media pressure ?
- type of media interest :
* Japan situation ?
* national situation about nuclear activity ?
* other
- coutermeasures for national people living in Japan
- polemics about the use of nuclear energy

I think it would be interesting to compare the different national situation in these different fields according to Japan crisis..

thank you for your comprehension.

Best regards

E . Bouchot

De : Treier Anton [Anton.Treier@ensi.ch]
Date d'envoi : lundi 14 mars 2011 09:00
À : Jean.GAUVAIN@oecd.org; amcgarry@rpii.ie; besenyei@haea.gov.hu; vc@aerb.gov.in; valentina.ionescu@cncan.ro; david.tredinnick@arpansa.gov.au; roberto.ranieri@isprambiente.it; marli.vogels@minvrom.nl; fgrande@cnsns.gob.mx; moisiibogdan@cncan.ro; miyake-ryo@meti.go.jp; risto.isaksson@stuk.fi; sunni.locatelli@cnsc-ccsn.gc.ca; kees.jansen@minvrom.nl; dagmar.zemanova@ujd.gov.sk; anneli.hallgren@ssm.se; deniz.yueksel@bmu.bund.de; watanabe-makoto@meti.go.jp; mkelly@rpii.ie; schwang@kins.re.kr; mcle@csn.es; BOUCHOT Emmanuel; i.sokolova@gosnadzor.ru; otake-fumie@jnes.go.jp; stanislaw.janikowski@paa.gov.pl; brafferty@rpii.ie; anne.marit.ostreng@nrpa.no; wolfgang.hilden@ec.europa.eu; niina.yliknuussi@ec.europa.eu; yhhah@kins.re.kr; karina.debeule@fanc.fgov.be; r.spiegelberg-planer@iaea.org; soaresjc@cii.fc.ul.pt; camelia.liutiev@cncan.ro; elizabeth.hayden@nrc.gov; aurele.gervais@cnsc-ccsn.gc.ca; marek.bozenhard@sujb.cz; gerard.westerhof@minvrom.nl; lise.roberts@hse.gsi.gov.uk; ddawson@rpii.ie
Objet : AW: NEA/CNRA - WGPC-12 meeting will be held as scheduled but with flexibility

Dear WGPC members,

CCC/178

in Switzerland, we have a very big media interest concerning the earthquakes and accidents in Japan und the safety of NPPs.
My workload for the media is enormous. That is the reason that I cannot participate at the WGPC-meeting of this week in Paris. I am very sorry about this, and I hope you understand our decision.

I think, we have to talk about these events in Japan at a later workshop of the WGPC.

All the best for you and specially for the japaneese people.

Best regards,
Anton Treier

Swiss Federal Nuclear Safety Inspectorate ENSI
Industriestrasse 19
CH-5200 Brugg
Phone +41 56 460 85 70
anton.treier@ensi.ch
www.ensi.ch

-----Ursprüngliche Nachricht-----
Von: Jean.GAUVAIN@oecd.org [mailto:Jean.GAUVAIN@oecd.org]
Gesendet: Samstag, 12. März 2011 15:42
An: amcgarry@rpii.ie; besenyei@haea.gov.hu; vc@aerb.gov.in; valentina.ionescu@cncan.ro; david.tredinnick@arpansa.gov.au; roberto.ranieri@isprambiente.it; marli.vogels@minvrom.nl; fgrande@cnsns.gob.mx; moisiibogdan@cncan.ro; miyake-ryo@meti.go.jp; risto.isaksson@stuk.fi; Treier Anton; sunni.locatelli@cnsc-ccsn.gc.ca; kees.jansen@minvrom.nl; dagmar.zemanova@ujd.gov.sk; anneli.hallgren@ssm.se; deniz.yueksel@bmu.bund.de; watanabe-makoto@meti.go.jp; mkelly@rpii.ie; schwang@kins.re.kr; mcle@csn.es; emmanuel.bouchot@asn.fr; i.sokolova@gosnadzor.ru; otake-fumie@jnes.go.jp; stanislaw.janikowski@paa.gov.pl; jean.gauvain@oecd.org; brafferty@rpii.ie; anne.marit.ostreng@nrpa.no; wolfgang.hilden@ec.europa.eu; niina.yliknuussi@ec.europa.eu; yhhah@kins.re.kr; karina.debeule@fanc.fgov.be; r.spiegelberg-planer@iaea.org; soaresjc@cii.fc.ul.pt; camelia.liutiev@cncan.ro; elizabeth.hayden@nrc.gov; aurele.gervais@cnsc-ccsn.gc.ca; marek.bozenhard@sujb.cz; gerard.westerhof@minvrom.nl; lise.roberts@hse.gsi.gov.uk; ddawson@rpii.ie
Betreff: NEA/CNRA - WGPC-12 meeting will be held as scheduled but with flexibility

Dear WGPC Members,

Probably most of you are exceptionally on duty during this week-end. Al out thoughts arec with our Japanese colleagues severely affected by the Tohoku pacific ocean earthquake and the subsequent Tsunami.

With the Chair we have considered the possibility to postpone our annual WGPC meeting.

However, after considering advantages (unique opportunity to discus NRO real-life issues) and disadvantage (problem should be only in countries with a single staf in charge of public communication), and also considering that it would be strange not to use the situation to discuss "Crisis communication" it was decided to maintain the meeting as scheduled, taking into account the necessary flexibility in case one member coul not attend the whole meeting.

At the NEA you will have Internet Connexion and we can also facilitate telephone access to your Capital during the leeting if needed.

Tuesday Afternoen there wil be a preparatory meeting with the Chair and the Team Leaders.
The Regular meeting will be from Wednesday to Friday.

IN case you cannot be replaced in your organisation we wil fully understand, but we would appreciate that you let us know.

Best Regards

Jean Gauvain
NEA/NSD

From: [k195hyh@kins.re.kr]
Sent: 12 March 2011 15:28
To: REIG Javier, NEA/SURN
Cc: GAUVAIN Jean, NEA/SURN; yhhah@kins.re.kr
Subject: Re: WGPC meeting will be held as scheduled?

Thank you, Javier and Jean,

I've just came back home from the office where key KINS staff members including President are still working at the KINS Emergency Response Center.

Fortunately, Korea will not be impacted from Japan accident because their wind direction is working the opposite way toward the Pacific Ocean.

On my side, no change with my travel plan is expected. So Jean, no problem to meet you at the NEA office around 12:00 next Tuesday as originally scheduled.

Enjoy your weekend and see you soon.

Best regards,
Yeonhee

From:	OPA Resource
To:	Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Harrington, Holly; Hayden, Elizabeth; Janbergs, Holly; McIntyre, David
Subject:	FW: From the Feedback & Share Page - ABNORMAL OCCURRENCE EVENTS REPORTING
Date:	Tuesday, March 15, 2011 2:56:19 PM

-----Original Message-----
From: Communications Site [mailto:webwork.resource@nrc.gov]
Sent: Tuesday, March 15, 2011 2:01 PM
To: Bonaccorso, Amy; Pulaski, Jordan; Virgilio, Rosetta; Ryan, Michelle; Culp, Lisa; Jasinski, Robert; Steger (Tucci), Christine; Wright, Lisa (Gibney); Mroz (Sahm), Sara; Powell, Amy; Croston, Sean; OPA Resource; Bonaccorso, Amy; Barkley, Richard; Woodruff, Gena; Heck, Jared; Farnholtz, Thomas; Powell, Amy; OPA Resource; Tomon, John
Subject: From the Feedback & Share Page - ABNORMAL OCCURRENCE EVENTS REPORTING

Topic: ABNORMAL OCCURRENCE EVENTS REPORTING
John J. Tomon of RES has used the Communication Tool Feedback and Share page to share a tool. This tool can be found in ADAMS under ML110180210. This tool has been coordinated with ADM,FSME,NMSS,NRO,NRR,NSIR,OCA,OGC,OI,OPA,RES,Region I,Region II,Region III,Region IV. This is a revised tool.

Special Instructions: This plan is ready to post to the "Active Communication Plans" webpage.
Sensitivity: Non-sensitive

If you have any questions, the lead can be reach at (301) 251-7904.

ccl 179

From:	Taylor, Renee
To:	Abraham, Susan; Akstulewicz, Brenda; Andersen, James; Ash, Darren; Baker, Pamela; Belmore, Nancy; Bettis, Ashley; Boger, Bruce; Borchardt, Bill; Boyce, Thomas (OIS); Boyd, Lena; Brenner, Eliot; Brown, Milton; Buckley, Patricia; Campbell, Andy; Casby, Marcia; Casto, Chuck; Cianci, Sandra; Cohen, Miriam; Collins, Elmo; Crawford, Carrie; Crouch, Nicole; Cullison, David; Dambly, Jan; Dapas, Marc; Darby, Krystal; Deegan, George; Delligatti, Mark; Dembek, Stephen; Doolittle, Elizabeth; Dorman, Dan; Dubose, Sheila; EDO Distribution; Ficks, Ben; Flory, Shirley; Garland, Stephanie; Givvines, Mary; Golder, Jennifer; Grobe, Jack; Gusack, Barbara; Harris, Natasha; Hasan, Nasreen; Hayden, Elizabeth; Higginbotham, Tina; Holahan, Gary; Holahan, Patricia; Hopkins, Rhonda; Howard, Patrick; Howell, Art; Jaegers, Cathy; Kaplan, Michele; Kelley, Corenthis; Krupnick, David; Landau, Mindy; Lee, Pamela; Lew, David; Mamish, Nader; Matakas, Gina; McCrary, Cheryl; Miles, Patricia; Mitchell, Reggie; Moore, Scott; Muessle, Mary; ODaniell, Cynthia; Owen, Lucy; Pederson, Cynthia; Poland, Catherine; Powell, Amy; Pulliam, Timothy; Quesenberry, Jeannette; Raynor, Kathleen; Reynolds, Steven; Rheaume, Cynthia; Riddick, Nicole; Ronewicz, Lynn; Ross, Brenda; Ross, Robin; Salus, Amy; Santiago, Patricia; Satorius, Mark; Schaeffer, James; Schmidt, Rebecca; Schum, Constance; Schumann, Stacy; Schwarz, Sherry; Shah, Maria; Shay, Jason; Smith, Beverly; Somerville, Glenda; Sprogeris, Patricia; Stewart, Sharon; Tannenbaum, Anita; Taylor, Renee; Tomczak, Tammy; Tracy, Glenn; Uhle, Jennifer; Veltri, Debra; Virgilio, Martin; Walker, Dwight; Weber, Michael; Wert, Leonard; West, Steven; Williams, Barbara; Wyatt, Melissa; Zimmerman, Roy; Seltzer, Rickie; Arildsen, Jesse
Subject:	Scheduling Call Summary - March 14, 2011
Date:	Tuesday, March 15, 2011 4:20:48 PM
Attachments:	Scheduling Call Summary for 3-14-11.docx

Please find attached the notes from the March 14th scheduling call with the AO.

Thank you,

Renee Taylor

Administrative Assistant to the Executive Director for Operations

U.S. Nuclear Regulatory Commission

(301) 415-1701

ccc/180

Scheduling Call Summary for March 14, 2011

Agenda/Action Items:

1) OEDO discussed issues associated with NRC's support of recovery efforts in Japan. It was noted that all requests for support from the NRC Operations Center have first priority. Two NRC personnel were deployed to the American Embassy in Tokyo and nine additional (six program office and three OIP) personnel are being deployed to help support the Japanese regulators. Staff not directly supporting the response efforts should continue to focus on work in progress. It was also noted that the upcoming Congressional briefings will shift focus from budget issues to issues associated with the Japanese nuclear incidents.

2) NSIR stated that the Headquarters Operations Center staffing is expected to continue at current levels through Friday, and at possible reduced levels through the weekend.

3) OEDO discussed the Strategic Acquisition Transformation Plan. The SRM was issued on February 28th, and both major recommendations were accepted by the Commission. It was noted that contractual authority will reside with the EDO, to be further delegated, and that the process for generating Chairman papers has been terminated. It was also noted that new procurement templates will be promulgated in the near future.

4) OEDO discussed profiling of OIG reports and emphasized that, after a final report is published it will be made public and posted in ADAMS. Following this, all subsequent correspondence should be made public (with the exception of items that are classified, OUO, etc).

5) OEDO discussed feedback from the recent Commission Agenda Planning Meeting. It was noted that the Commissioners were very pleased with recent meetings. Notable points included good eye contact from speakers (i.e., not reading from a script), good presentation of technical detail, and use of pictures to illustrate salient points. The need for revisions to guidance for Commission meeting preparation is being evaluated.

6) CFO requested survey feedback concerning implementation of FAIMIS by March 25.

From:	Burnell, Scott
To:	Hannah, Roger; Ledford, Joey; Screnci, Diane; Sheehan, Neil; Chandrathil, Prema; Mitlyng, Viktoria; Uselding, Lara; Harrington, Holly; McIntyre, David; Couret, Ivonne
Cc:	Brenner, Eliot; Hayden, Elizabeth
Subject:	FW: Estimated Fatalities for US Nuclear Plant Spent Fuel Fires: 77,000
Date:	Tuesday, March 15, 2011 4:53:52 PM

The gentleman has submitted a petition; the NRC will review it to determine if it has ***any*** scientific validity. The NRC believes spent fuel pools are safe, even in cases of extended blackouts, given the very low heat levels involved and the ease with which the pools can be refilled. In some cases analysis has shown the spent fuel can be safely air-cooled.

[[deflect any questions about scary numbers with the "we'll review for scientific validity"]]

From: Thomas Popik [mailto:thomasp@resilientsocieties.org]
Sent: Tuesday, March 15, 2011 4:35 PM
To: thomasp@resilientsocieties.org
Subject: Estimated Fatalities for US Nuclear Plant Spent Fuel Fires: 77,000

FOR IMMEDIATE RELEASE

March 15, 2011

FIRE BREAKS OUT AT SPENT FUEL POOL FOR FUKUSHIMA DAIICHI UNIT 4

ESTIMATED FATALITIES FOR US NUCLEAR PLANT SPENT FUEL FIRES WOULD BE 77,000

NASHUA NH (March 15)--The recently reported spent fuel pool fire at Fukushima Daiichi Unit 4 demonstrated the vulnerability of nuclear power plants to loss of outside power. The Unit 4 spent fuel pool has been without outside power for cooling circulation pumps since the earthquake on March 11.

The Foundation for Resilient Societies has projected there would be widespread United States fatalities from spent fuel pool fires should there be a similar loss of outside power from natural disaster. Using data supplied by Oak Ridge National Laboratories, the Nuclear Regulatory Commission, and the US Census Bureau, the Foundation estimates fatalities of 77,000. United States population within 10 miles of nuclear power plants exceeds 3.5 million. Detailed information about data sources is provided in a Petition for Rulemaking submitted to the Nuclear Regulatory Commission on March 14 and available for download at www.resilientsocieties.org. The Petition contains fatality estimates for all 104 operating nuclear power plants in the United States.

Spent fuel pools are present at all operating nuclear power plants. Fuel rods continue to generate substantial heat after removal from the reactor core, necessitating active cooling in water pools. There are 104 nuclear power reactors operating in the United States at 65

CCC/181

sites in 31 states. Each site has one or more spent fuel pools. Spent fuel contains a number of radioactive elements resulting from fission within the reactor core, the most significant being Ruthenium-106 with a half-life of one year and Cesium-137 with a half-life of 30 years. Should spent fuel rods become uncovered by water as a result of boiling, the zirconium cladding of the rods would likely catch fire.

While there are multiple scenarios that could cause uncovering of spent fuel rods and result in zirconium fire, the most significant scenario is long-term loss of outside power supplied by the commercial electric grid. Current design criteria for nuclear power plants and associated spent fuel pools assume reliable and quickly restored commercial grid power. In the event of a long-term loss of commercial grid power, it is likely that water in spent fuel pools would heat up and boil-off, fuel rods would become uncovered by water, zirconium cladding would catch fire, and large quantities of radioactive elements would be released into the atmosphere.

The Petition of the Foundation for Resilient Societies, submitted to the NRC on February 14, proposes requirements for unattended spent fuel pool cooling at nuclear power plants. For more information contact Thomas Popik, Foundation for Resilient Societies, email thomasp@resilientsocieties.org, phone 603-321-1090.

###

From: Hayden, Elizabeth
To: "Jean.GAUVAIN@oecd.org"
Subject: BB CHarger
Date: Tuesday, March 15, 2011 5:13:16 PM

Jean, can I charge my blackberry at the NEA office tomorrow morning. I managed to leave mine at home!

CCC/182

From:	FAIMISHELP Resource
To:	FAIMISHELP Resource
Cc:	Dolinka, Carl; Liu, Leslie; "Vishal Ranjan"; Curtis, Michelle; "Lindsey.Hawkins@cgifederal.com"; Fredericks, Carl
Subject:	RE: FAIMIS System Availability 3/15 at 8PM (PLEASE READ)
Date:	Tuesday, March 15, 2011 7:02:39 PM
Importance:	High

It appears the prior notification below did not reach all users. Please disregard this message if you received the first one.

From: FAIMISHELP Resource
Sent: Tuesday, March 15, 2011 4:53 PM
To: FAIMISHELP Resource
Cc: Dolinka, Carl; Liu, Leslie; 'Vishal Ranjan'; Curtis, Michelle; 'Lindsey.Hawkins@cgifederal.com'; Fredericks, Carl
Subject: FAIMIS System Availability 3/15 at 8PM (PLEASE READ)
Importance: High

FAIMIS Users,

Due to scheduled system activities, the FAIMIS system will be temporarily unavailable after 8PM (EDT) today, Tuesday, March 15, 2011. The system is scheduled to be back up at 7AM (EDT) tomorrow, Wednesday, March 16, 2011. We appreciate your patience regarding this matter.

Thank you,

FAIMIS Help Desk
(301)415-1234 Option #7

CCC 183

From:	Harrington, Holly
To:	Harrington, Holly; Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth; McIntyre, David; Chandrathil, Prema; Dricks, Victor; Hannah, Roger; Ledford, Joey; Mitlyng, Viktoria; Screnci, Diane; Sheehan, Neil; Uselding, Lara
Cc:	Landau, Mindy
Subject:	RE: Senate Hearing on Thursday
Date:	Tuesday, March 15, 2011 7:17:21 PM

This information is erroneous. Apparently this is on Wednesday (not Thursday) and small . . .

From: Harrington, Holly
Sent: Tuesday, March 15, 2011 5:47 PM
To: Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth; McIntyre, David; Chandrathil, Prema; Dricks, Victor; Hannah, Roger; Ledford, Joey; Mitlyng, Viktoria; Screnci, Diane; Sheehan, Neil; Uselding, Lara
Cc: Landau, Mindy
Subject: Senate Hearing on Thursday

New: **Nuclear Crisis in Japan**
Senate Environment and Public Works Committee (Chairwoman Boxer, D-Calif.) will hold a briefing on the ongoing crisis associated with nuclear power facilities in Japan, including potential ramifications for the United States. *3:30 p.m., 406 Dirksen*

CCC/184

From:	Harrington, Holly
To:	Harrington, Holly; Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth; McIntyre, David; Chandrathil, Prema; Dricks, Victor; Hannah, Roger; Ledford, Joey; Mitlyng, Viktoria; Screnci, Diane; Sheehan, Neil; Uselding, Lara; Tobin, Jennifer; Wittick, Susan
Cc:	Landau, Mindy; Janbergs, Holly; Akstulewicz, Brenda; Shannon, Valerie; Taylor, Robert
Subject:	RE: Senate Hearing on Thursday
Date:	Tuesday, March 15, 2011 8:39:38 PM
Attachments:	Q&AforRespondingtothePublic.docx

These Q&As for use in responding to the public have been approved for verbal use. We will also consider posting them. Hopefully, these will help.

From: Harrington, Holly
Sent: Tuesday, March 15, 2011 5:47 PM
To: Brenner, Eliot; Burnell, Scott; Couret, Ivonne; Hayden, Elizabeth; McIntyre, David; Chandrathil, Prema; Dricks, Victor; Hannah, Roger; Ledford, Joey; Mitlyng, Viktoria; Screnci, Diane; Sheehan, Neil; Uselding, Lara
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CCC/185

From: Google Alerts
To: Hayden, Elizabeth
Subject: Google Alert - Nuclear Regulatory Commission
Date: Tuesday, March 15, 2011 9:23:08 PM

News **8** new results for **Nuclear Regulatory Commission**

Nuclear Regulatory Commission puts temporary hold on Vermont Yankee license

Boston Globe (blog)

The **Nuclear Regulatory Commission** has put a temporary hold on a 20-year extension for the controversial Vermont Yankee nuclear power plant. Spokesman Neil Sheehan said the license - approved the day before Japan's earthquake last week - was supposed to **...**

See all stories on this topic »

Progress Energy: Florida **Nuclear** Plant Restart Delayed On Repairs

Wall Street Journal

Repair work is "probably on the order of months," **Nuclear Regulatory Commission** spokesman Roger Hannah said. Walls of the reactor building are about 42-inches thick. Part of the Crystal River building was damaged in late 2009 when an opening was made **...**

See all stories on this topic »

Judge upholds **NRC** waiver for nuclear plant

Wall Street Journal

AP ALBANY, NY — A federal judge has upheld the **Nuclear Regulatory Commission's** exemption from its fire-protection rules for the Indian Point nuclear power plant in the lower Hudson Valley. The exemption lets Entergy keep using material that protects **...**

See all stories on this topic »

NRC tapping tech for better analysis of nuclear accidents

Computerworld

For the past few years, researchers from the **Nuclear Regulatory Commission** (**NRC**) have been engaged in a project called State of the Art Reactor Consequence Assessment (SOARCA), to better understand how a nuclear reactor would behave in a severe **...**

See all stories on this topic »

NRC hearings begin Wednesday

Victoria Advocate

The **Nuclear Regulatory Commission** is coming back to town on Wednesday. The Atomic Safety and Licensing Board, a branch of the **NRC**, is in town on Wednesday and Thursday to hear oral arguments over the Victoria County Station Early Site Permit submitted **...**

See all stories on this topic »

Health risks of radiation depend on dose, duration, kind of exposure

The Canadian Press

The US **Nuclear Regulatory Commission** says doses of less than 10 rems over a long time period are not a health concern. Q. When does it threaten health? A. Symptoms of radiation sickness — nausea, vomiting and hair loss — can occur at exposures of 50 **...**

See all stories on this topic »

State **Nuclear** Regulators Monitor Japan

GPB

Southern Company's CEO says the events in Japan shouldn't affect Plant Vogtle's construction. But the **Nuclear Regulatory Commission** could delay the project until it's clearer what failed

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at the Japanese plants.
See all stories on this topic »

NJ Seeks To Limit **Nuclear** Waste Stored At Shut Plants
Wall Street Journal
By Naureen S. Malik Of DOW JONES NEWSWIRES NEW YORK (Dow Jones)--New Jersey is seeking to join a multistate challenge that would limit how long shuttered nuclear power plants can store waste on site. The US **Nuclear Regulatory Commission** passed a rule **...**
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Subject: Google Alert - Nuclear Regulatory Commission
Date: Tuesday, March 15, 2011 12:47:33 PM

News **4** new results for **Nuclear Regulatory Commission**

Japan's Nuclear Fallout Unlikely to Reach the US, **NRC** Official Says

Global Security Newswire

By Aamer Madhani WASHINGTON -- The head of the **Nuclear Regulatory Commission** expressed confidence on Monday that there's little chance of radioactivity from Japan's badly damaged nuclear power plants reaching the United States (see GSN, March 14). **...**

See all stories on this topic »

Bingaman wants fast **NRC** reactor safety review, eyes hearing

The Hill (blog)

M.) said Tuesday that he wants the **Nuclear Regulatory Commission** to act quickly on assessments of whether safety standards for US reactors are adequate in light of the unfolding crisis in Japan. "I think undoubtedly they'll be taking a fresh look at **...**

See all stories on this topic »

SENTINEL EDITORIAL: There is a lesson for Americans in the Japanese **nuclear** crisis

The Keene Sentinel

The **Nuclear Regulatory Commission's** announcement that it has approved a 20-year license extension for the Vermont Yankee power plant came last week, one year before the plant's current license expires. And in a frightful irony, the announcement came **...**

See all stories on this topic »

Radiation Matters

Imperial Valley News

According to the **Nuclear Regulatory Commission** (**NRC**), Japan's nuclear emergency presents no danger to California. CDPH is monitoring the situation closely in conjunction with our state and federal partners, including **NRC**, US Environmental Protection **...**

See all stories on this topic »

Tip: Use a minus sign (-) in front of terms in your query that you want to exclude. Learn more.

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From: Google Alerts
To: Hayden, Elizabeth
Subject: Google Alert - Nuclear Regulatory Commission
Date: Tuesday, March 15, 2011 2:10:39 AM

News **6** new results for **Nuclear Regulatory Commission**

Regulations, readiness minimize **nuclear** risks in United States
Pittsburgh Tribune-Review
"But it wouldn't be correct to say there is no way," said Peter Bradford, a former member of the **Nuclear Regulatory Commission**. One nuclear power plant is within 50 miles of Pittsburgh -- the Beaver Valley Nuclear Power Station in Shippingport, **...**
See all stories on this topic »

The Local Politics of Closing **Nuclear** Power Plants
WNYC
In both New Jersey and New York, leaders have been looking for exit plans for their decades-old nuclear plants. After a long and political fight in New Jersey, the federal **Nuclear Regulatory Commission** granted a 20-year operating license for Oyster **...**
See all stories on this topic »

Fukushima Radiation Release Exceeds **NRC** Design-Basis Limit
All Things Nuclear
US **Nuclear Regulatory Commission** (**NRC**) regulations require nuclear license applicants to show that their plants can withstand a series of design-basis accidents without releasing radiation that would exceed a given level. In particular, the whole-body **...**
See all stories on this topic »

Japan's **nuclear** crisis stirs debate about Vermont Yankee
BurlingtonFreePress.com
Just last week, the **Nuclear Regulatory Commission** agreed the plant met its safety standards and could be relicensed until 2032. "That takes the issue of safety off the table," said Larry Smith, manager of communications for Entergy Nuclear Vermont **...**
See all stories on this topic »

Quake-Prone Pacific Rim Atomic Plants May Hold Keys to US **Nuclear** Plans
Bloomberg
Nuclear power "remains a part of the president's overall energy plan," Jay Carney, the White House press secretary, told reporters yesterday at a briefing. The **Nuclear Regulatory Commission** remains confident that plants operating in the US are safe, **...**
See all stories on this topic »

Michigan's 4 **nuclear** plants are fortified against disaster, experts say
Detroit Free Press
Three of Michigan's nuclear reactors -- two at the DC Cook plant near South Haven and one at Palisades near Bridgman -- are similar ages as the ones in Japan, but all have been relicensed by the **Nuclear Regulatory Commission** until at least 2030. **...**
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From: Google Alerts
To: Hayden, Elizabeth
Subject: Google Alert - Nuclear Regulatory Commission
Date: Tuesday, March 15, 2011 5:04:56 PM

News **7** new results for **Nuclear Regulatory Commission**

Japan nuclear response similar to US policy-**NRC**

Reuters Africa

WASHINGTON, March 15 (Reuters) - The US **Nuclear Regulatory Commission** on Tuesday said Japan's response to its nuclear crisis was mostly in line with US safety policies. The commission's analysts have reviewed radiation data from Japanese nuclear **...**

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Nuclear expert: U.S. should review worst case scenarios

Reuters

Neil Sheehan, a spokesman for the US **Nuclear Regulatory Commission**, said federal regulators will study the Japanese accident to improve safety at US reactors. "There's no question we're going to be looking for lessons learned to come out of this," he **...**

See all stories on this topic »

Half of U.S. **nuclear** reactors over 30 years old

CNNMoney

By Steve Hargreaves, senior writerMarch 15, 2011: 3:37 PM ET NEW YORK (CNNMoney) -- Half of the nation's 104 nuclear reactors are over 30 years old, according to the US **Nuclear Regulatory Commission**. Most of the remaining reactors are at least 20 years **...**

See all stories on this topic »

NRC investigating process control over enriched uranium at Castle Hayne facility

StarNewsOnline.com

By Jim Brumm The **Nuclear Regulatory Commission** (**NRC**) has sent a special inspection team to Global Nuclear Fuel in Castle Hayne to look into the company's failure to maintain process control over enriched uranium. The inspection was generated by GNF's **...**

See all stories on this topic »

Christie Administration challenges federal rule on **nuclear** waste

NJ.com

By John Barna/Gloucester County Times TRENTON -- New Jersey sought permission Tuesday from a federal appeals court to join a legal action with New York, Vermont, and Connecticut that challenges a federal **Nuclear Regulatory Commission** rule that extends **...**

See all stories on this topic »

Fears mounting over US **nuclear** plants

CNN

"Can you be sure there isn't another fault out there," asked one woman at the **Nuclear Regulatory Commission** hearing. Officials with the **Nuclear Regulatory Commission** and the owner of the plant, PG&E, told residents the plant could withstand the **...**

See all stories on this topic »

CNN

David Lochbaum, **nuclear** engineer: US power plants are safe "as long as natural **...**

CNN (blog)

Lochbaum is one of the nation's top independent experts on nuclear power. At UCS, he monitors

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safety issues at the nation's nuclear power plants, raises concerns with the **Nuclear Regulatory Commission**, and responds to breaking events, such as current **...**
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Subject: Google Alert - Nuclear Regulatory Commission
Date: Tuesday, March 15, 2011 9:14:43 AM

News **4** new results for **Nuclear Regulatory Commission**

Nuclear crisis comes as Vermont debates its **nuclear** future

North Country Public Radio

Just last week, the Federal **Nuclear Regulatory Commission** gave Vermont Yankee approval to operate for another two decades. But the disaster in Japan is sparking new opposition among state lawmakers. Brian Mann spoke with Shay Totten, a reporter and **...**

See all stories on this topic »

Officials Say US **Nuclear** Plants Designed To Withstand Disasters

WSJM

WSJM

The US **Nuclear Regulatory Commission** on Monday sent a couplé of experts to Japan to help officials there deal with the potential meltdown of some power plant reactors damaged in the earthquake and tsunami. Safety, we're told, is the biggest concern for **...**

See all stories on this topic »

Nuclear Regulatory Commission admits it is 'quite possible' radiation could **...**

Auburn Journal

Worst case scenario could see 30000 ft winds (note: the ones 6 miles up, aka the Jet Stream) sending **nuclear** cloud across Pacific, possibly hitting by Tuesday night. Unit 2's roof now has a crack and is venting steam. The status of its containment is **...**

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US **Nuclear** Output Falls to Lowest Level in Almost 4 Months

Bloomberg

(EXC), American Electric Power Co. and the Nebraska Public Power District shut reactors, the **Nuclear Regulatory Commission** said. Production nationwide decreased by 2215 megawatts since March 11 to 85699 megawatts, or 84 percent of capacity, **...**

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Tip: Use a plus sign (+) to match a term in your query exactly as is. Learn more.

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From: Google Alerts
To: Hayden, Elizabeth
Subject: Google Alert - Nuclear Regulatory Commission
Date: Tuesday, March 15, 2011 5:54:04 AM

News **4** new results for **Nuclear Regulatory Commission**

Factbox: Japan effect on new U.S. **nuclear** power plants

Reuters

The chairman of the US **Nuclear Regulatory Commission**, Gregory Jaczko, has said the agency will vote by late summer or early autumn on whether to approve Toshiba Corp unit Westinghouse's AP1000 nuclear reactor design. The reactor would be used by **...**

See all stories on this topic »

Kewaunee Power Station's license renewed

Green Bay Press Gazette

11:00 pm Reports and documents related to the Kewaunee license renewal can be found here: www.**nrc**.gov/reactors /operating/licensing/renewal /applications/kewaunee.html. The US **Nuclear Regulatory Commission** has renewed the operating license for the **...**

See all stories on this topic »

Hebert introduces bill to remove Legislature's power to vote on VY's **...**

vtdigger.org

Mike Hebert, R-Vernon, stands by his position that the more qualified **Nuclear Regulatory Commission** (**NRC**) and the Vermont Public Service Board, not the Vermont Legislature, should determine whether the nuclear power station should be allowed to run for **...**

vtdigger.org

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Vogtle unsure of effect from crisis

The Augusta Chronicle

PSC member Doug Everett said that design changes and safety upgrades imposed by the US **Nuclear Regulatory Commission** after the Three Mile Island nuclear accident led to cost overruns during construction of Vogtle's first two units that pushed the **...**

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Tuesday, March 15, 2011
ED Vol. 39, No. 50

THE ENERGY DAILY

Business and Policy Coverage of the Power, Natural Gas, Oil, Nuclear and Renewables Industries

www.TheEnergyDaily.com

EPA Gives Biomass Three-Year Reprieve From GHG Rules

BY CHRIS HOLLY

In a partial victory for the biomass industry, the Environmental Protection Agency announced Monday that carbon dioxide emissions from biomass power plants and other biogenic sources will not be subject to the agency's greenhouse gas permitting rules for three years, saying it will use the period to review the latest science on the contribution of biomass to global warming and develop a rulemaking to address emissions from biomass and other biogenic sources such as ethanol production.

In letters to Senate Agriculture, Nutrition and Forestry Committee Chairman Debbie Stabenow (D-Mich.), Senate Finance Committee Chairman Max Baucus (D-Mont.) and Rep. Peter DeFazio (D-Ore.), EPA Administrator Lisa Jackson said the agency by July 1 would complete a rulemaking codifying the three-year deferral from requirements of EPA's greenhouse gas tailoring rule.

Jackson said over the next three years the agency will

(Continued on p. 2)

U.S. Nukes Brace As Japan Fights To Cool Reactors

BY JEFF BEATTIE

Amid growing indications that the overseas emergency will increase regulatory scrutiny of the U.S. nuclear industry, U.S. and Japanese officials yesterday acknowledged at least partial fuel meltdown at a third reactor at the Fukushima Daiichi nuclear power plant following Friday's earthquake and tsunami, as plant workers scrambled Monday to flood the reactors with boron-laced seawater to avert full meltdown and widespread radiation release.

In a Monday morning update on the crisis, Tokyo Electric Power Co. (TEPCO) acknowledged that fuel rods at Fukushima Daiichi unit 2 reactor had been more than half-exposed following failure of that unit's emergency cooling system.

Although TEPCO said seawater injections by late morning had boosted coolant levels to "the halfway point," the World Nuclear Association later reported that "serious damage to the reactor core of Fukushima Daiichi 2 seems likely after all coolant was lost for a period."

Unit 2 was the latest reactor to lose its cooling system at Fuku-

(Continued on p. 3)

S&P: Shale Boom Straining Pipelines' Credit Profiles

BY JOHNATHAN RICKMAN

In a new dynamic for the pipeline industry's "once-staid" credit profile, booming, low-cost shale gas production is boosting competitive pressure on some pipelines carrying higher-priced conventional gas, increasing the risk that these pipelines may have to lower their transportation rates—and suffer lower future cash flows—to compete with newer pipelines that transport shale gas, Standard & Poor's said last week.

In an analysis released March 8, the credit ratings agency said few gas pipelines are likely to see their business risk classifications scored worse than "satisfactory" over time due to changing natural gas supply dynamics. However, S&P said "rate discounting is likely for some pipelines to remain competitive" with the slew of new pipelines being built to ship surging new supplies from fast-growing shale plays to demand centers across the country.

The S&P analysis follows moves by the ratings agency to lower ratings on at least two major natural gas pipelines—Rockies Express Pipeline LLC (REX) and Midcontinent Express Pipeline LLC—to "BBB-/stable."

S&P noted that shale gas production increasingly is displacing higher-cost, conventional gas production, with many of the new unconventional gas basins located geographically closer to traditional demand markets and long-haul interstate transportation connections.

The advent of new horizontal drilling technologies not only has allowed producers to reach previously unrecoverable shale gas reserves, but also has lowered the "break-even" point for producers to about $3 to $4 per million British thermal units (mmbtu) compared with more than $5 per mmbtu in many traditional gas supply basins in the United States.

And development of the nation's

(Continued on p. 2)

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EPA Gives Biomass Three-Year Reprieve From Rules... (Cont'd from p. 1)

conduct a rigorous scientific review that will guide the agency as it develops a new regulation covering emissions from biomass, ethanol, and other biogenic emission sources.

"EPA will ensure that partners within the federal government and scientists outside of it with relevant expertise will play meaningful roles in the examination," Jackson told the lawmakers.

The tailoring rule, which took effect January 2, requires large stationary sources of greenhouse gases to account for their emissions in their Clean Air Act Prevention of Significant Deterioration and Title 5 permits.

An earlier version of the tailoring rule had proposed that emissions from biomass should not be counted towards the tons-per-year emission threshold that would trigger the rule's permitting requirements. The final rule, however, reversed course on the issue, saying that EPA would count biomass carbon dioxide (CO_2) emissions in the same way emissions from fossil fuel emissions are counted under the tailoring rule.

At the same time, EPA said in guidance issued to states that co-firing with biomass could be among the list of options for "best available control technology" (BACT) that sources could use to meet the requirements of the tailoring rule.

On August 3, 2010, the National Alliance of Forest Owners (NIFO) petitioned EPA to reconsider and freeze the tailoring rule, saying EPA had not justified its reversal on emissions from biomass generation facilities.

EPA in January agreed to reconsider the tailoring rule, but declined to halt its implementation. In a Monday letter to attorneys representing NIFO, EPA Assistant Administrator for Air and Radiation Gina McCarthy said the agency "plans to effectuate a detailed examination of the science associated with CO_2 emissions from biomass-fired and other biogenic stationary sources and to consider the technical issues that the agency must resolve in order to account for such CO_2 emissions in ways that are scientifically sound and also manageable in practice."

EPA said it also is issuing guidance to help state permitting authorities establish a legal and technical rationale for concluding that the combustion of biomass fuels can be considered BACT for biogenic CO_2 emissions at stationary sources.

EPA's decision to temporarily defer biomass from the tailoring rule requirements is based largely on the fact that there remains disagreement among scientists, environmentalists and biomass producers on whether biomass and other biogenic emission sources contribute to global warming.

Biomass constitutes a net carbon "sink" when viewed in the context of total U.S. emissions, meaning that the nation's stock of trees and other vegetation absorb more carbon dioxide through respiration than plants release during decomposition.

The U,S. annual inventory of carbon emissions and sinks, for example, states that "it is assumed that the [carbon] released during the consumption of biomass is recycled as U.S. forests and crops regenerate, causing no net addition of CO_2 to the atmosphere."

Biomass producers argue, therefore, that burning biomass fuels will not increase net emissions because new plants will take up the carbon released by burning biomass.

However, as EPA noted in its proposal Monday, some scientists have asserted that some uses of biomass could increase net CO_2 emissions and that biomass fuels should not be excluded categorically from the tailoring rule's requirements.

NAFO President and Chief Executive Officer David Tenny called EPA's move "a critical step toward reducing market uncertainty and putting more rural Americans to work producing renewable energy. Biomass energy can and should be a leading source of renewable energy in the U.S."

Tenny urged EPA to move swiftly on the new regulation.

Shale Boom Straining Pipelines' Credit Profiles... (Continued from p. 1)

sizable shale resource—which the Energy Department estimates reflects 20 percent of total remaining recoverable U.S. natural gas supplies—is expected to remain robust and keep gas prices relatively low for the foreseeable future.

Additionally, as market forces have pushed power producers to replace aging, carbon-intensive coal plants with gas for electricity generation, the Obama administration has begun to pitch the shale gas boom as a key component of its clean energy agenda.

"Where the gas comes from, however, is important for a pipeline's capacity," said S&P.

"The estimates of the size and recoverability of the Marcellus Shale have increased significantly in the past few years," added the agency, referring to the prolific geological formation that underlies Ohio, New York, West Virginia, Maryland and Pennsylvania.

"If the Marcellus does indeed become a large, low-cost gas source, the need to export gas over longer distances to the Northeast becomes questionable.

"As an example, REX was built to move [conventional, capacity constrained] gas supplies east out of the Rockies to northeastern markets where natural gas has generally sold at a substantial premium relative to the Rocky Mountain regions," said S&P.

"However, new supplies in the Appalachian-based Marcellus Shale are growing rapidly. Depending on its ultimate growth trajectory, the Marcellus alone could supply much of the northeastern market, making flows along REX unnecessary. Even today, we're witnessing some flows back to the Chicago region from the eastern segment of REX."

S&P said while newer "supply-push" pipelines accommodating shale producers are more susceptible to gas prices and production levels than "demand-pull" pipelines serving regulated utilities with a captive customer base, some new push pipelines have been backed by contracts extending at least 10 years, upping competition for pipeline capacity.

"We believe that rate discounting is likely for some pipelines to remain competitive," said S&P.

"For example, Boardwalk Pipeline announced in 2010 that it's discounting rates by about 15 percent on a portion of its pipeline capacity due to lower [pricing differentials between various geographic pricing hubs]. We're hearing anecdotes that this trend is rippling through other pipeline routes. Shorter contract terms with lower rates inevitably will lead to lower cash flows and possibly increased debt leverage," added the Wall Street firm.

"...[B]ecause shale gas production is generally more economical than conventional gas supply sources, the dependency and corresponding transportation rates on other transportation routes and their intrinsic worth is beginning to suffer. In short, some pipelines could become 'stranded' assets."

"While U.S. natural gas pipelines will always be an essential part of the nation's energy infrastructure, their credit is undergoing some strain that may weaken the once-staid industry for bondholders," added S&P.

"Assuming lower recontracted rates, pipelines will likely face lower ratings unless sponsors decrease distributions and allow the pipelines to reduce debt."

U.S. Nukes Brace As Japan Fights To Cool Reactors... *(Cont'd from p. 1)*

shima Daiichi; plant workers scrambled over the weekend to flood Units 1 and 3, whose backup diesel-generator cooling systems failed after Friday's tsunami flooded key electrical systems.

Reactor containment buildings covering Units 1 and 3 were subsequently blown apart by hydrogen explosions, which experts say stemmed from cooling water loss and fuel exposure. Fueling rods' zirconium cladding interacted with water and high heat to produce hydrogen, the experts say.

As of Monday afternoon, David Lochbaum, director of Union of Concerned Scientist's (UCS) nuclear safety project, said that while reactors 1 and 3 appeared to be cooling and stabilizing, Unit 2 looked to be a growing problem.

Lochbaum said pressure inside the Unit 2 reactor vessel appeared to have increased to the point that pumps trying to send cooling water into the reactor were overwhelmed. Under that situation, "the water just doesn't move" into the reactor, Lochbaum said, blocking plant workers' ability to cool exposed fuel inside and prevent further core damage.

Importantly, there were no reports as of press time Monday that containment vessels—reinforced shells of steel and concrete—had been breached at any of the Fukushima Daiichi reactors, the key factor for preventing catastrophic radiation release, according to experts.

In a report released Sunday, the Federation of Electric Power Companies of Japan said the highest radiation measurements at Fukushima Daiichi site peaked at 1157 milisievert per hour, or about 150 millirem, at 2 PM Sunday Japan time, and were subsequently dropping.

Former Nuclear Regulatory Commission Chairman (NRC) Richard Meserve said that is about one-tenth the amount of radiation a person receives in undergoing a CT scan.

"You do not want a dose of any variety," but "I am not troubled by that that dose," Meserve told *The Energy Daily*.

"I don't thank that's a dose that's going to produce any sort of health concerns," said Meserve, now an attorney with Covington & Burling LLP.

Even Edwin Lyman, a nuclear industry critic with UCS, agreed that radiation released thus far from the Japanese accident—the result of periodic gaseous release to relieve pressure in the Daiichi units 1, 2 and 3—was a "limited" health problem.

In a conference call with reporters, Lyman stressed the key will be to prevent full fuel meltdown, in which the reactor's fuel could melt through the reactor vessel core, breach containment building flooring and enter the environment.

"The real concern is should there be a much larger radiation release," Lyman said in a media call with reporters.

With events very much in flux as of press time Monday, the Japanese accident already ranks among the most severe to ever hit the nuclear industry. Japanese officials coded the event a "4"—or an "event with local consequences"—over the weekend on an International Atomic Energy Agency 1-7 scale on the safety significance for nuclear incidents.

By comparison, the 1979 Three Mile Island nuclear accident was ranked a "5" and the 1986 Chernobyl accident a "7".

It also has become clear that the U.S. nuclear industry will be affected by the Japanese accident, although to what degree will not become clear for some time.

In a White House briefing Monday, NRC Chairman Gregory Jaczko said: "Whenever there is any new information we always take that new information into consideration and make changes whenever necessary, but right now we continue to believe that nuclear power plants in the U.S. operate safely and securely."

Partially in reaction to the terrorist attacks of September 11, 2001, U.S. nuclear plants are designed to mitigate severe accident scenarios such as aircraft impact, which include the complete loss of offsite power and all on-site emergency power sources, according to industry officials.

Any new NRC review could focus on plants on the West Coast, the region of the country most vulnerable to earthquakes.

One of California's two nuclear plants—Pacific Gas & Electric's (PG&E) Diablo Canyon nuclear plant—is in the middle of an NRC re-licensing review. Southern California Edison plans to submit an NRC application in 2013 to re-license the San Onofre nuclear plant, located in San Clemente, Calif. Washington-based Energy Northwest applied to NRC in 2010 to re-license the Columbia Generation Station, near Richland, Wash. Spokesmen for all three companies said Monday they plan to pursue the license extensions and that it is too soon to draw firm conclusions from the Japanese experience.

As for new U.S. nuclear projects, the Japanese accident could hinder at least two that are deeply dependent on Japanese support if Japanese enthusiasm for nuclear investment wanes.

Deeply embattled TEPCO owns a conditional 10 percent stake in an NRG Energy-led new reactor project at the South Texas Project nuclear plant in Texas, subject to the project's gaining an Energy Department loan guarantee.

U.S. industry experts questioned Monday whether the Japanese company would be willing to continue that investment with a high-grade nuclear emergency, and months of expensive cleanup work, underway at home.

Another Japanese company, Toshiba Corp., also owns 12 percent of the project. And NRG has said it plans to seek financial aid from Japanese export credit agencies—another level of backing that might dry up as Japan focuses on its domestic emergency.

Also largely dependent on Japanese backing is a new enrichment plant that USEC Inc. is building in Ohio. That project also is conditionally backed by Toshiba, and USEC officials made clear last month they will need aid from Japanese export credit agencies to win the U.S. federal loan guarantee upon which Toshiba's full backing is conditional.

In a more direct business impact, USEC said Monday that enriched uranium sales to Japan have accounted for approximately 10 to 20 percent of its revenue over the past five years. That number will almost certainly shrink if the Japanese nuclear industry contracts going forward.

Meserve, the former NRC chairman, said "I would anticipate there will be a very major lesson-learned effort that comes out of this, and that the primary issue will be are there any major changes that we should make to our requirements."

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NUCLEAR REGULATORY COMMISSION NEWS CLIPS

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NRC NEWS:

W.H. Remains Committed To Nukes (POLITCO)

By Bob King
Politico, March 15, 2011

The Obama administration said Monday that it remains committed to nuclear power as part of a "clean energy" agenda, but officials brushed back questions about whether the Japanese disaster should raise concerns about the industry's safety in the US

Nuclear "remains a part of the president's overall energy plan," White House press secretary Jay Carney said at a briefing also attended by Nuclear Regulatory Commission Chairman Gregory Jaczko and Deputy Energy Secretary Daniel Poneman.

Carney deflected questions on whether President Barack Obama would support Connecticut Sen. Joe Lieberman's call for a freeze on permitting of new US nuclear power plants until more was known about the causes of the Japanese problems.

Jaczko also did not directly answer questions on how US nuclear plants compare in safety with their Japanese counterparts. And he declined to "speculate" on whether US plants were designed to withstand an 8.9-magnitude earthquake, although he said reactors here include safeguards against "significant" disasters such as quakes, tsunamis and tornadoes.

"Right now we continue to believe that nuclear power plants in this country operate safety and securely," Jaczko said.

Jaczko added that given the large distances involved, it's "very unlikely" that harmful radiation from Japan will make its way to Hawaii or the West Coast.

Carney said the US is ready to provide "any and all assistance" Japan needs. "They are a very close ally," he said, adding that "we're committed to helping Japan recover from this."

White House Says Obama Won't Back Off Nuclear Energy (HILL)

By Sam Youngman and Ben Geman
The Hill, March 15, 2011

President Obama continues to believe that nuclear energy is key to US energy policy even as uncertainty and fear grip Japan, where plants were damaged during last week's earthquake and tsunami.

Senior Obama administration officials said Monday that Obama remains committed to nuclear power, and that US nuclear plants had been built to withstand the strain of strong storms and earthquakes.

In a briefing at the White House, press secretary Jay Carney said that information is still coming in on the status of the damaged nuclear plants in Japan, but for now Obama is committed to keeping nuclear energy in the US portfolio.

Greg Jaczko, chairman of the Nuclear Regulatory Commission (NRC), attended the briefing with Carney. He said that analysis of the damage, the type of reactor and the distances involved indicate a "very low likelihood" that any potential fallout from Japan might reach Hawaii, US territories or the Western states.

US nuclear power plants are built and tested to endure the strain of natural phenomena like hurricanes, earthquakes and tornadoes, Jaczko said.

"Right now, we continue to believe that nuclear power plants in this country operate safely and securely," Jaczko said.

To that end, both Jaczko and Energy Department deputy secretary Dan Poneman said that nuclear energy "continues to play an important role in providing a low-carbon future."

The NRC has dispatched two nuclear experts to Tokyo to help the Japanese.

Top Democrats on the House Energy and Commerce Committee, meanwhile, called on Republicans to hold hearings on nuclear power-plant safety, saying the crisis in Japan had raised "serious questions."

Carney, who said that nuclear energy accounts for more than 20 percent of the US's electricity, said Obama continues to receive updates on the situation in Japan. John Brennan, Obama's top assistant for homeland security, is coordinating an inter-agency response from the White House, Carney said.

A number of power companies in recent years have begun applying for NRC licenses to build what would be the first new US reactors in decades.

The White House has supported the efforts.

Last year the administration approved $8.3 billion worth of Energy Department loan guarantees for utility giant Southern Company to add two new reactors to its Vogtle nuclear plant in Georgia -- a decision Obama announced personally. But the project would still need an NRC construction and operating license to move ahead.

The White House fiscal year 2012 budget plan would give the Energy Department another $36 billion in loan guarantee authority for supporting new reactors.

And Obama used January's State of the Union speech to float a "clean energy standard" that would require power companies to collectively supply 80 percent of US electricity from various low-carbon sources -- including nuclear power -- by 2035.

Carney said Monday that although the crisis in Japan is still unfolding, the White House isn't backing away from the proposed "clean" standard. He said that US officials will incorporate information from Japan "into how we view safety and security of nuclear energy as a resource."

"When he [Obama] talks about reaching a clean energy standard, it's a vital part of that," Carney said. "We remain to the clean-energy standard and the other aspects of the president's energy plan."

This story was first posted at 2:39 p.m. and most recently updated at 4:28 p.m.

Crisis At Japanese Nuclear Complex Prompts Calls For US Review (MCT)

By Rob Hotakainen, Renee Schoof And Margaret Talev, Mcclatchy Newspapers

McClatchy, March 15, 2011

WASHINGTON — As Japan copes with one crisis after another at its Fukushima Daiichi nuclear complex, a review of federal records indicates that nearly a quarter of America's nuclear reactors in 13 states share the same design of the ill-fated Japanese reactors.

The plants, called Mark I Boiling Water Reactors, were designed by General Electric. GE, which is donating $5 million to Japan for its relief effort, said Monday it was too early to assess what produced the problems at the complex.

On Monday, the Japanese blasts prompted calls for an immediate review of the 104 nuclear plants now operating in the United States, including many aging facilities, to see if they could withstand a gut-punch by nature that would kill the electricity, cripple the cooling system and threaten a nuclear meltdown.

The Japanese crisis, and the potential scrutiny of America's reactors, comes as the nuclear industry seemingly had won a new lease on life. After decades as an orphan technology shuttered by the meltdown at Three Mile Island in Pennsylvania, rising concerns about global warming, the need to curb carbon pollution and a quest for more electric production to fuel economic expansion buoyed nuclear fortunes.

GOP lawmakers in the House of Representatives even proposed tripling US nuclear production by building 200 new plants in the next 19 years.

Now, that all seems at risk.

With the Fukushima complex still making headlines, White House officials sought to assure the public that there's nothing to worry about.

"The US power plants are designed to very high standards for earthquake effects," said Gregory Jaczko, chairman of the US Nuclear Regulatory Commission (NRC). "All our plants are designed to withstand significant natural phenomena, like earthquakes, tornadoes, and tsunamis."

Five of the six reactors at the Japanese plant, which suffered a second explosion Monday, use the same General Electric reactor that are at 23 nuclear plants in North Carolina, Georgia, Illinois, Pennsylvania, New York, New Jersey, Alabama, Nebraska, Iowa, Michigan, Minnesota, Massachusetts, and Vermont, according to a database maintained by the NRC.

All but two of them began operating in the 1970s.

"These need to be examined," said Michael Mariotte, executive director of the Nuclear Information and Resource Service, an anti-nuclear organization. "When the reactor designs are the same, and the reactor's ages are the same, comparisons seem more than appropriate."

On Capitol Hill, some are calling for a halt to further nuclear development in the US

Rep. Ed. Markey of Massachusetts, the top-ranked Democrat on the House Natural Resources Committee, called for a moratorium on new reactors in seismically active areas until a new safety review is completed. In addition, Markey joined three other Democrats in asking the House GOP to conduct a hearing on the safety of US nuclear plants.

Independent Senator Joe Liebermann of Connecticut, the chairman of the Senate Homeland Security Committee, said it was time to "quickly put the brakes on" the US industry.

But in a speech on the Senate floor, Tennessee Republican Sen. Lamar Alexander came to the nuclear industry's defense: "Without nuclear power, it is hard to imagine how the United States could produce enough cheap, reliable clean electricity to keep our economy moving and to keep our jobs from going overseas."

Any reactor design today faced with the combination of an earthquake and a tsunami would likely be in a similar situation as the plant in Japan, said David Lochbaum, a nuclear engineer who directs the Union of Concerned Scientists' nuclear safety program. Reactors are built to withstand an earthquake or a tsunami, but not both on the same day, he said: "We'll have to go back and revisit that and see if we can do better."

On a different front, Lochbaum said US reactors generally have less backup battery power than Japan's. Most have four hours of battery power, though some have eight hours: "We're light compared to what Japan had and Japan came up short, which would suggest we're even more vulnerable than they are."

Richard Caperton, an energy policy analyst with the Center for American Progress, which is closely aligned with the Obama administration, said it's too early to draw lessons from Japan because it's not fully known what happened.

"The Japanese situation reminds us there's always a danger with a nuclear reactor and when we build new nuclear reactors we need to realize bad things can happen to them," he said.

Despite, Three Mile Island, he said the US nuclear industry has "justifiably earned a reputation for safety."

For example, since the Sept. 11, 2001, attacks, new nuclear plants have to be built to withstand a plane flying into them. Other risks also have to be taken into account, such as climate change that could bring more frequent flooding, he said.

The Nuclear Energy Institute, an advocacy group for the US nuclear industry, said that US and international experts would study the Japan accidents and incorporate the lessons learned in the design of US reactors.

Beyond the safety issues, the growth of the nuclear industry already has been hampered by economics given their high price tag.

States such as South Carolina and Georgia have passed laws to encourage new plants by allowing ratepayers to be assessed for the cost of construction before the plants are built. Banks, however, have been unwilling to give utilities loans for new reactors unless the federal government guarantees it will repay the borrowings if the utility can't.

President Barack Obama, who describes nuclear power as "clean energy," last month proposed $36 billion in loan guarantees to help power companies build more plants.

White House press secretary Jay Carney said nuclear power "remains a part of the president's overall energy plan."

"When he talks about reaching a clean energy standard, it's a vital part of that," Carney said.

The NRC Monday said it was monitoring events in Japan from its headquarters operations center in Rockville, Md., on a 24-hour basis.

The NRC's Jaczko said there is a "very low probability that there's any possibility of harmful radiation levels in the United States or in Hawaii or any other US territories" as a result of the situation in Japan.

(Tish Wells also contributed to this article.)

Obama Stands By Nuclear Power (WSJ)

By Jared A. Favole and Tennille Tracy

Wall Street Journal, March 15, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Japan's Blasts Cast Doubt On Nuclear Renaissance (AP)

By Angela Charlton And John Heilprin, Associated Press

Associated Press, March 15, 2011

PARIS – Switzerland freezes plans to build new nuclear plants, Germany raises questions about its nuclear future, and opposition to atomic reactor construction mounts from Turkey to South Africa.

Will explosions and other worries at a tsunami-stricken Japanese nuclear plant halt what has come to be known as the nuclear renaissance?

Fears about nuclear safety that took a generation to overcome after the accidents at Chernobyl and Three-Mile Island are resurfacing around the globe. They are casting new doubt on a controversial energy source that has seen a resurgence in recent years, amid worries over volatile oil prices and global warming.

"Europe has to wake up from its Sleeping Beauty slumber" about nuclear safety, Austria's Environment Minister Nikolaus Berlakovich told reporters in Brussels. He suggested an EU-wide stress test for nuclear plants, much like European banks have been tested for their ability to cope with financial shocks.

Yet some experts and officials say those fears are overblown, given the exceptional nature of Japan's earthquake and ensuing tsunami. The Japanese blasts may slow the push for more nuclear plants, but appear unlikely to stop it, given the world's fast-growing energy needs.

The governments of Russia, China and Poland said they are sticking to plans to build more reactors. Even earthquake-prone Chile says it won't discard a nuclear option. Spain warned against hasty decisions.

Japan's nuclear plant explosions come as the US government looks to expand its nuclear energy industry by offering companies tens of billions in financial backing. Administration officials said the US would seek lessons from the Japanese crisis but said the events in Japan would not diminish the United States commitment to nuclear power.

"It remains a part of the president's overall energy plan," White House spokesman Jay Carney said. "When we talk about reaching a clean energy standard, it is a vital part of that."

In Atlanta, the CEO of Southern Co. said Monday he does not expect Japan's problems to delay construction of two more nuclear reactors in Georgia, at the first nuclear plant in the United States to break ground in a generation.

Elsewhere, governments began questioning their vision of a nuclear-energized future amid rising threats of a meltdown at one Japanese reactor.

Switzerland ordered a freeze on new plants or replacements "until safety standards have been carefully reviewed and if necessary adapted," Energy Minister Doris Leuthard said. The decision put on hold the construction of nuclear power stations at three sites approved by Swiss regulatory authorities.

Switzerland now has five nuclear power reactors that produce about 40 percent of the country's energy needs. It also has nuclear research reactors.

In Germany, the government said it is suspending for three months a decision to extend the life of its nuclear power plants. That also means that two older nuclear power plants will be taken off the grid shortly — at least for now — pending a full safety investigation, Chancellor Angela Merkel told reporters.

A previous government decided to shut all 17 German nuclear plants, but Merkel's administration last year moved to extend their lives by an average 12 years.

"The pictures from Japan show us that nothing, even the worst, is unthinkable," EU Energy Commissioner Guenther Oettinger told Germany's Deutschlandfunk radio.

The European Union called a meeting Tuesday of nuclear safety authorities to assess Europe's preparedness in case of a nuclear emergency.

Individual EU members including Britain, Bulgaria and Finland also urged a nuclear safety review.

Meanwhile, opposition voices rose up in Turkey and Sweden to renounce or scale back governments' nuclear expansion plans. And anti-nuclear groups staged rallies around France, the world's most nuclear-dependent country, as the government sought to reassure the public that the risks remain minimal.

Environmental group Earthlife Africa said it wants South Africa, the only African country with an existing nuclear plant, to follow Germany's example. But South African government officials want to expand nuclear power.

German popular opinion continues to favor non-nuclear sources of energy. But elsewhere in Europe, people have become increasingly open to using nuclear power as memories fade of the accident in Chernobyl, Ukraine — the world's worst nuclear accident, 25 years ago next month. Eastern Europe sees nuclear energy as a way of gaining a measure of independence from Russia's burgeoning gas and oil empire.

Statistics from the International Atomic Energy Agency show there are 442 nuclear reactors in operation worldwide, with 65 new facilities under construction. Construction last year was started on 14 new reactors — in China, Russia, India, Japan and Brazil. In 2005, in comparison, ground was broken for only three reactors.

Boosters have argued that new-design reactors pose fewer safety risks, and that nuclear-produced electricity doesn't emit the pollution that causes global warming.

Even as Japan's damaged reactors were beginning to deteriorate Friday, Chilean President Sebastian Pinera told state television that "the new so-called smart technologies, are technologies that are absolutely earthquake-proof in terms of security. And that's why we are studying this option, because Chile can't categorically reject any alternative in energy generation."

Pinera is planning to sign a nuclear energy accord with the US during President Barack Obama's visit to Santiago next week.

The head of the Ukrainian Chernobyl Union called for setting up nuclear safety squads of professionals trained to respond to nuclear accidents who could be rapidly dispatched to any accident site.

"Nuclear accidents will continue happening as nuclear energy develops," Yuri Andreyev told the AP.

Experts said it was too early to evaluate all the consequences of the Japanese explosions.

"This is a massive earthquake, followed by a massive tsunami," said Physics Prof. Paddy Regan of the University of Surrey at Guildford. "Imagine if this would have been next to a chemical plant or a gas plant that would have exploded. ... There is a risk here but we have to keep the fears rational."

Heilprin reported from Bern, Switzerland. Geir Moulson and Juergen Baetz in Berlin, George Jahn in Vienna, Raf Casert and Gabriele Steinhauser in Brussels, Maria Danilova in Kiev, Donna Bryson in Johannesburg, Federico Quilodran in Santiago, Chile, contributed to this report.

Japanese Crisis Only The Latest Hurdle For US Nuclear Industry (HUFFPOST)

By Chris Kirkham

Huffington Post, March 15, 2011

NEW YORK -- Even before a tsunami ravaged Japan and presented the world with a potentially calamitous nuclear meltdown, a much-touted expansion of the US nuclear energy industry was already a tough sell with the American public, not to mention the lawmakers in charge of the national pursestrings.

Nuclear reactors are enormously expensive. Unlike Japan, the United States has a trove of other energy resources to draw on -- not least, huge, newly-discovered reserves of natural gas -- limiting the urgency to invest in alternative sources such as nuclear power.

Now, in the wake of an unfolding nuclear crisis in Japan, those championing aggressive construction of nuclear facilities face an immeasurably more difficult task. After a weekend spent absorbing the prospect of full-blown nuclear catastrophe in Japan, perhaps the world's most sophisticated engineering power, Americans appear far less inclined to assume such risks on their own shores, experts say.

"There's no question in my mind that the situation in Japan will delay any major activities in the United States," said Forrest Remick, a former member of the US Nuclear Regulatory Commission and a professor emeritus of nuclear engineering at Pennsylvania State University.

Although nuclear energy has the backing of powerful politicians in Washington, including President Barack Obama, its value as a clean energy alternative has long been haunted by the specter of past accidents -- Three Mile Island in 1979 and Chernobyl in 1986 -- and the vexing questions surrounding disposal of nuclear waste.

But recent times seemed to be placing the industry in a different light. A swelling US trade deficit combined with fears that some oil-producing states nurture anti-American terrorist groups has fueled interest in alternatives to imported petroleum. Concerns about climate change have intensified the search for cleaner sources of energy. In the past decade, those two forces have helped the nuclear industry transcend its association with past disasters, sowing hopes for a nuclear renaissance.

But the scenes from Japan now dominating the media have dealt a considerable blow to that scenario, underscoring the dangers attendant to nuclear power.

"Having a nuclear reactor is bit like having a trained elephant," said Ellen Vancko, the nuclear energy and climate change project manager at the Union of Concerned Scientists, an environmental research group. "When the elephant is trained and well-behaved and does all the tricks, there most likely isn't going to be a problem. But sometimes elephants have a mind of their own, and nuclear power is particularly unique, in that reactors have a life of their own. When it gets out of control, problems occur."

As stock markets opened Monday morning, companies tied to the nuclear industry took an early hit. General Electric, which has a partnership with the Japanese firm Hitachi to design new reactors, slid 2.1 percent to start the day and has continued to fall. The company also designed one of the reactors at the Fukushima Daiichi plant that suffered an explosion Saturday.

Uranium companies saw the sharpest declines, with Denison Mines Corp. plummeting 27 percent and Uranium Energy Corp. falling 22 percent.

Some experts suggested the situation in Japan, while alarming, should not be used as an argument against expanded nuclear power in the United States, because of differences in geography – Japan is more vulnerable to major earthquakes and tsunamis.

"Unfortunately, we have a habit of not putting things into perspective," said Remick, the former member of the US Nuclear Regulatory Commission. "So I think it will result in an overreaction."

But even those inclined toward that view said the Japan tragedy should compel a swift reassessment of the risks.

"A review on reactors in earthquake-prone regions is certainly called for," said Burton Richter, a Nobel Laureate in Physics and professor emeritus at Stanford University. "If I was doing it, I wouldn't approve any new ones in earthquake-prone regions until this is fully understood."

Currently there are two nuclear power plants in earthquake-prone California, which the industry says have undergone extensive seismic analysis to withstand magnitudes greater than 7.0, along with all other nuclear reactors in the country.

The Japan events present a quandary to President Obama, who has been a vocal proponent of expanding nuclear energy. On Sunday, a White House spokesman staked out the middle ground, acknowledging safety concerns while also reiterating the president's support for nuclear.

"Meeting our energy needs means relying on a diverse set of energy resources that includes renewables like wind and solar, natural gas, clean coal and nuclear power," the spokesman said, adding that the administration is committed to learning from what happened in Japan and "ensuring that nuclear energy is produced safely and responsibly here in the US"

Nuclear power is often viewed as a bargaining chip in the political debate over climate change. Nuclear energy production does not directly contribute to carbon dioxide emissions, as do coal-fired power plants, but environmental groups on the left have traditionally opposed or been lukewarm toward nuclear because of the concerns with the waste it produces.

"Throwing a bone to nuclear is not entirely unlike offshore drilling," said Michael Levi, the director of the Program on Energy Security and Climate Change at the Council on Foreign Relations. "Middle-of-the-road Democrats are increasingly seeing support for nuclear as one concession they can make to the other side in trying to find compromise, and this will make it harder for them to do that. That's unquestionable."

As an entrenched part of the utility industry for decades, nuclear has traditionally been embraced by those on the right. Obama has given the nod to nuclear energy several times in recent months.

In his State of the Union speech, he mentioned the concept of a "clean energy standard," which, as opposed to a "renewable energy standard," would put nuclear energy alongside the push for renewables such as wind and solar. And last month he repeated a budget request, also made last year but not approved by Congress, for $36 billion in loan guarantees for new nuclear reactors.

Immediate political fallout from the events in Japan is still difficult to evaluate, with a variety of sometimes-contradictory reactions capturing attention.

On Sunday's political talk shows, both Democratic Sen. Charles Schumer (N.Y.) and Senate Majority Leader Mitch McConnell (R-Ky.) said the situation in Japan did not change their support for nuclear energy.

"I'm still willing to look at nuclear," Schumer said. "As I have always said, it has to be done safely and carefully."

But Independent Connecticut Sen. Joe Lieberman, historically a supporter of nuclear energy as an option for dealing with climate change, suggested the need for a pause.

"I think we've got to kind of quietly and quickly put the brakes on until we can absorb what has happened in Japan as a result of the earthquake and the tsunami and then see what more, if anything, we can demand of the new power plants that are coming online," Lieberman said on CBS' "Face the Nation."

Rep. Edward Markey (D-Mass.) has raised numerous concerns on the nuclear front since the tsunami, asking the Nuclear Regulatory Commission to halt approval of a new design for a new nuclear reactor and calling for safety reviews of 31 reactors in the United States that are designed like the stricken ones in Japan.

Even before the crisis in Japan, the nuclear industry in the United States had been facing decades of stagnation.

Although no one was injured in Three Mile Island, the 1979 disaster in Pennsylvania cast a pall over the industry that led to a significant slowdown in expansion.

No new nuclear power plants have been built in the United States in three decades, although nuclear energy production has increased as existing plants have become more efficient. The most recent reactor was built 15 years ago.

Nonetheless, the United States remains the leading producer of nuclear energy worldwide, with a fleet of 104 nuclear reactors spread across 31 states -- most of them built in the 1970s and '80s. The industry has generally been the source of about one-fifth of the nation's power supply.

Before the economic recession, incentives for nuclear power in the Bush administration prompted a flurry of applications to build more than 20 new reactors and 14 new nuclear power plants. The current near-term expectation is for four new reactors at sites in South Carolina and Georgia.

But the financing challenges proved immense, with the estimated costs of the 14 plants coming in at $188 billion. Regulatory approvals required three to four years of government review. And the recession put a damper on rising demand for electricity.

Cost overruns have often plagued past projects, and the financial risk is often so great that without government loan guarantees, an entire company could be taken down in the event of failure.

The discoveries of vast new deposits of homegrown natural gas in areas like the Marcellus Shale in Pennsylvania and Northeast made the arithmetic difficult for nuclear investment. And the lack of any comprehensive climate bill, with some form of tax on carbon, has dampened the urgency to invest in large-scale nuclear projects.

As recently as last week, the chief executive of Exelon Corp., a utility company based in Illinois that is the largest owner of nuclear plants in the United States, cited much less expensive natural gas as the primary driver of clean energy in the years to come.

"Some in Congress talk about doubling or tripling the size of the existing nuclear fleet to face our energy challenges," Exelon CEO John Rowe said in a speech last Tuesday at the American Enterprise Institute. "Since these plants are not currently economic at today's low natural gas prices, the government would have to spend $300 billion to 600 billion to get these plants built."

Tom Kauffman, a spokesman for the Nuclear Energy Institute, a lobbying group representing the industry, conceded that public opinion in the wake of Japan could alter public opinions on nuclear energy.

"There's a multitude of variables that are going to impact the situation for new builds, and this is one of those variables that will affect people's views," he said. "But new nuclear power plants will be built. We expected it to be slow, and to be measured. Time will tell."

Unlike the United States, which has historically had vast deposits of coal, oil and natural gas to fuel its own electricity, Japan in recent decades has placed much more of an emphasis on nuclear power because the small island country has fewer domestic natural resources, making its energy supply more vulnerable to fluctuations in import prices.

Japan has actively pursued continuous development of nuclear reactors in recent years, and is the third-largest producer of nuclear energy in the world. The country sources about a third of its energy from nuclear, and aimed to grow it more over the next decade.

Several US companies involved in building nuclear reactors, including Westinghouse and GE, have partnered with Japanese companies to develop new technologies.

"They're extremely developed, they're extremely careful and cautious, and my guess on what you'll see coming out of this is there's a lot of stuff they did right in terms of their safety procedures," said Sarah Ladislaw, a senior fellow on energy and national security at the Center for Strategic and International Studies.

"All of that being said," she added, "this just shows, even with all that good planning, what is possible when you're dealing with these kind of facilities."

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Japan's Nuclear Crisis Renews Safety Debate (VOA)

By Dan Robinson

Voice of America, March 15, 2011

President Barack Obama said Monday that the United States is doing everything it can to assist Japan in dealing with the aftermath of last week's earthquake and tsunami, and the resulting crisis at Japanese nuclear power plants. Meanwhile, US officials are discussing concerns that events in Japan raise for nuclear power generation in the United States.

Nuclear power is an important component of energy production in the United States, providing about 20 percent of electricity consumed in the country.

But explosions at earthquake damaged Japanese atomic reactors, as Japanese officials struggle to prevent nuclear core meltdowns, have sparked renewed debate in the US and elsewhere about the safety of nuclear power.

Appearing at a White House news briefing, Nuclear Regulatory Commission Chairman Gregory Jaczko said that due to the distance involved, there is little chance that harmful radiation from Japan's damaged reactors will reach Hawaii or the US mainland.

But reporters pressed him about the extent to which the situation in Japan could alter Obama administration thinking about the safety of nuclear power plants in service in the United States.

"What I can say is, we have a strong safety program in place to deal with seismic events that are likely to happen at any nuclear facility in this country," Jaczko said. "As we get past this immediate crisis, where we continue to provide support to the Japanese, we will gather information about the specifics of the event. But I don't want to speculate too much about what exactly were the relevant factors in Japan at this point."

Jaczko called the situation in Japan "serious," and said US reactors are built to withstand earthquakes and tsunamis.

Deputy Energy Secretary Daniel Poneman said US officials will take into account information emerging from events in Japan, but he indicated there will be no sudden change in US energy policy.

"We are going to continue to take all learnings into account as we proceed, from episodes that happen, from hypotheticals that we might be able to come up with," he said. "[There is] nothing new about it. It is a matter of our continuous approach to our own development or our energy resources to make sure they are done continuously and safely."

President Obama said the United States and other nations will stand by Japan and provide whatever assistance it needs to deal with the earthquake, tsunami and nuclear situation.

The president spoke in the Oval Office after he met with visiting Danish Prime Minister Lars Loekke Rasmussen.

"I am in close contact with [Japanese] Prime Minister [Naoto] Kan," he said. "And our teams are in close cooperation, as is our military, in the region, and we expect to continue that cooperation until we have some stabilization of the situation."

The president did not mention the debate in the United States about nuclear power resulting from the situation in Japan. He spoke only in general terms about the need for the US to move more toward energy independence.

Nuclear Regulatory Commission Chairman Jaczko told reporters that US technical experts are in Tokyo to help their Japanese counterparts deal with damage to reactors from the earthquake and tsunami.

Asked whether he could say the situation in Japan might worsen, Jaczko declined to speculate. But he said that Japan is a technically advanced nuclear country with significant resources.

On Nuclear Power, US Won't Do 'anything Different' (WP)

By Perry Bacon Jr.

Washington Post, March 15, 2011

As Japan deals with explosions at two nuclear reactors following the earthquake and tsunami there, White House officials on Monday defended the use of nuclear power in the United States .

"At this time, we don't have any information that would cause us to do anything different,"said Gregory B. Jaczko, chairman of the Nuclear Regulatory Commission, at a White House briefing.

White House press secretary Jay Carney, at the same briefing, also defended the use of nuclear power, saying it "remains a part of the president's overall energy plan."

Obama has embraced the use of nuclear power throughout his administration. But after the problems in Japan, Sen. Joseph Lieberman (I-Conn.) has called for a temporary halt in the construction of new nuclear plants. The Obama administration has not supported that idea.

Japanese Nuclear Disaster Stirs Talk Of Revisiting US Energy Policy (FOX)

By Sharon Kehnemui

FOX News, March 15, 2011

President Obama has no plans to change the US approach to energy policy despite the possible meltdown of as many as three nuclear reactors in Japan following a massive earthquake and tsunami, the White House announced Monday.

Tamping down some of the hysteria that has been building since Japan announced that it had lost coolant operations on three nuclear reactors at the Fukushima Daiichi plant, the hardest hit by Friday's devastation, White House spokesman Jay Carney said in his daily briefing that nothing has changed at home.

Nuclear power "remains a part of the president's overall energy plan. When he talks about reaching a clean energy standards it's a vital part of that. And as we get more information from Japan and what happened there, that can be incorporated, but right now we remain committed to the clean energy standards and the other aspects of the president's energy plan," he said.

"From a policy perspective, we will continue to operate our reactors and ... operate them safely. We will continue to seek to build nuclear into a part of a responsible energy future, and we will uphold our confidence in the NRC to make sure that we always do so to the extent that it can be done safely," added Deputy Energy Secretary Dan Ponemon, who also briefed reporters along with Nuclear Regulatory Commission spokesman Greg Jaczko.

In the president's already contentious energy policy proposals, he has proposed $36 billion in loan guarantees for nuclear power. Opponents to nuclear power say a better investment is in solar or wind power research.

"We have put hundreds of billions of dollars of subsidies into the nuclear industry and we've spent a fraction of that trying to develop the kinds of energy sources that we desperately need. I think we need a major reordering of our financial priorities here," said Dr. Ira Helfand of Physicians for Social Responsibility.

More than 200,000 people have been evacuated from northeast Japan after cooling systems shut down at the Fukushima Daiichi plant, which led to explosions and radiation leaks following Friday's earthquake and tsunami. US Navy ships sent to help

with the humanitarian crisis were forced to move upwind after low-level radiation was detected on 17 helicopter crew members positioned there for relief efforts.

Back at home, Obama expressed his concern for the people of Japan, and pledged that the United States "will stand with the people of Japan" in the difficult days ahead.

On Monday, Japan officially requested US assistance in helping to cool three nuclear reactors whose fuel rods Japanese officials say they believe had begun melting. Two NRC and two Energy Department experts are already on the ground consulting with their Japanese colleagues. Additional technicians may travel there soon.

With consistently bad news trickling out from Japanese government officials about the potential nuclear meltdown, much of the attention at home has turned away from the unfolding tragedy to the debate about whether a similar fate could await the US

"This is nuclear power's Achilles' heel and shows why it is sheer folly to pour resources into building and maintaining nuclear reactors in the US," Tyson Slocum, director of Public Citizen's energy program, said in a statement.

The disaster in Japan "demonstrates the difficulty in planning for both the 'known unknowns' and 'unknown unknowns' that impact nuclear reactors from natural disaster and terrorism," Slocum added.

"It really comes down to luck," said Rita King, a freelance journalist specializing in nuclear issues.

King said nuclear facilities and other buildings aren't constructed for the "unthinkable." While the Fukushima Daiichi plant withstood the 8.9 magnitude earthquake, it was wiped out by a tsunami. Even as the containment walls of the facility withstood hydrogen explosions, hundreds of aftershocks bring additional uncertainties, she said.

But the American Council on Science and Health, a group of scientists and doctors that monitors the use of science in public policy debate, said dire warnings about US insecurity are the work of agenda-driven groups.

"The anti-nuclear energy activists trying to exert pressure to stunt the progression of nuclear power do not really care about nuclear safety," said Dr. Gilbert Ross of ACSH. "Eliminating nuclear power as a source of energy is the wrong answer from any point of view. Nuclear power offers the safest and cleanest source of energy on Earth."

Senate Majority Leader Mitch McConnell, R-Ky., suggested the dire warnings only undermine US energy independence.

"We ought not make a long-term decision about energy policy based on an environmental catastrophe in another part of the world," he said.

The NRC is not in a position to discuss any potential changes to safety and security measures at US nuclear plants, Jaczko told reporters, particularly because no one has yet fully assessed the sequence of events in the Japanese plant failure. But people who worry about a repeat should take stock of the "very high standards" imposed on US facilities to withstand earthquakes, tornadoes and tsunamis.

"We have a strong safety program in place to deal with seismic events that are likely to happen at any nuclear facility in this country," he said, adding that the NRC reviewed tsunami survival capabilities after the 2004 Indian Ocean quake.

"As an independent regulatory agency, we will always take whatever steps are necessary to ensure the safety and security of nuclear power plants in this country," Jaczko added.

Despite the debate roaring at home, the United States may not be in a position to replace nuclear power, which currently supplies 20 percent of US electricity.

"Nuclear plants run at 100 percent capacity for about 18 months between refueling. They put massive amounts of power onto the grid. They are base load power source," said Alex Flint, a spokesman with the Nuclear Energy Institute, the nation's nuclear energy trade association.

Plus, Flint noted, other fuels include their own set of consequences.

"Whether we build more coal plants or gas plants or expanded hydro facilities we'd deal with the externalities associated with every one of those power sources," he said. "However one generates electricity, there are consequences associated with it. there are tradeoffs."

US Nuclear Experts Arrive In Japan (IBD/UPI)

Investor's Business Daily/United Press Intern, March 15, 2011

MINAMISANRIKU, Japan, Mar 14, 2011 (UPI via COMTEX) -- The United States dispatched two technical experts to help Japan address the crisis at its quake-damaged nuclear plants, White House officials said Monday.

Besides the two experts, the administration is assembling another team of experts to be deployed, said Gregory Jaczko, chairman of the US Nuclear Regulatory Commission.

"It is a serious situation in Japan," Jaczko said, explaining US personnel were helping Japanese officials to look for pays to keep the reactors cooled.

Japan's recovery from an epic earthquake, tsunami and subsequent explosions at nuclear reactors in the quake zone sustained another setback when fuel rods at a Japanese reactor were fully exposed after cooling broke down, the plant operator said Monday. The rods at Fukushima's No. 2 reactor were exposed when a pump pouring in seawater to cool it ran out of fuel, Tokyo Electric Power Co. told Kyodo News.

The water levels later recovered.

The Japanese news service also reported rescuers found 1,000 bodies on two shores in Miyagi prefecture and another 1,000 in the town of Minamisanriku, where 10,000 people – more than half the local population – has not been accounted for. The fate of tens of thousands of people, including about 8,000 residents of Otsuchi remains unknown.

The official death toll from the earthquake that struck Friday and the tsunami it triggered was 1,897, excluding the latest reports of found bodies, authorities said.

On Sunday, the Japan Meteorological Agency upgraded the intensity of Friday's temblor to a magnitude of 9.0. The US Geological Survey had pegged it at 8.9.

The affects of radiation fallout from the plants on the United States or its territories was minimal, Jaczko said.

"Based on the type of reactor design, we see a very low likelihood that there's any possibility of harmful radiation levels in the United States, Hawaii or US territories," Jaczko said. "We believe the steps the Japanese taking to respond to the crisis are consistent to approach we would take in the United States."

During a speaking engagement in Arlington, Va., President Obama reiterated America's support for the people of Japan, saying he told Japanese Prime Minister Naoto Kan "the United States will continue to offer any assistance we can as Japan recovers from multiple disasters, and we will stand with the people of Japan in the difficult days ahead."

A hydrogen explosion, similar to one at the No. 1 reactor Saturday, was heard at Fukushima's No. 3 reactor Monday and may have knocked out the cooling system at No. 2, the utility said. Only one of five fire pumps was working. Kyodo News reported 11 workers were injured in the Monday explosion but TEPCO and the government's nuclear safety agency said the reactor's container was not damaged.

To prevent an explosion at No. 2, the utility is considering breaching a hole in the wall to release hydrogen. It also is depressurizing the containment vessel of No. 2 by releasing radioactive steam, the government's Nuclear and Industrial Safety Agency said.

TEPCO's priority right now is injecting water into the No. 2 reactor. No. 1 and No. 3 also still need coolant water injections, officials said.

The plant has been shut down Friday when northeastern Japan was hit by the twin-curses of the earthquake and a tsunami of unimaginable strength that carried speeding walls of Pacific Ocean seawater up to 30 feet high.

Saturday's explosion at the No. 1 reactor led to the evacuation of residents within a 12.5-mile radius of the plant.

The US 7th Fleet temporarily repositioned its ships and aircraft away from Japan's Fukushima Dai-Ichi Nuclear Power Plant after detecting low-level contamination in the air and on its aircraft operating in the area, the Pentagon said.

The source of this airborne radioactivity is a radioactive plume released from the power plant, the pentagon said in a release.

Sensitive instruments detected low levels of radioactivity on 17 air crew members returning to the USS Ronald Reagan after conducting disaster relief missions near Sendai, the Defense Department said. The radioactivity was removed from the affected personnel by washing with soap and water, officials said. No other contamination was detected.

"We remain committed to our mission of providing assistance to the people of Japan," the 7th Fleet statement said.

US Nuclear Plants Designed To Withstand Disasters (BeaverCoTms)

By Michael Pound

Beaver County Times, March 15, 2011

The Beaver Valley Nuclear Power Station was built to withstand all kinds of natural disasters – including earthquakes.

But while the chances of a seismic event on the scale of what occurred in Japan last week happening here are minuscule, the US Nuclear Regulatory Commission still takes seriously that possibility.

"Each of the plants in the United States was designed to withstand the worst-case scenario for a variety of natural disasters, and since 9/11, we've increased what we consider for terrorism events as well," said Neil Sheehan, an NRC spokesman. "Even at older facilities like Beaver Valley, we still pay attention to those factors as the years pass."

The earthquake and subsequent tsunami in Japan has disrupted electricity and water supplies to several nuclear power stations there; the water is especially crucial, as it is needed to cool the reactors that drive power generation and lack of water in those plants has caused near-meltdown conditions.

Sheehan said American nuclear generation plants are designed to withstand the worst of whatever nature throws at them; the designs are specific to conditions in a particular region.

"Seismic conditions are a concern for a plant in western Pennsylvania, but not to the degree that they would be in California, for example," Sheehan said. "Around the Gulf (of Mexico), we're looking at hurricanes; in the Plains or the Midwest, we're looking at tornadoes or lightning storms."

The designs work when they need to, said John Metzger, director of the nuclear engineering program at the University of Pittsburgh.

"In 1992, Hurricane Andrew made a pretty direct hit on a plant in south Florida," Metzger said of the Category 5 storm. "The plant was well-built and it was able to continue operating."

Structural issues aren't addressed during standard maintenance or inspections at nuclear facilities, such as the maintenance shutdown of Beaver Valley 2 begun just last week, Sheehan said. But the NRC does look at how a plant has aged -- and how its owner has corrected age-related issues – during the licensing process.

"We take a close look at how they manage aging of the structures and components of the plant," Sheehan said. "That's an important part of making sure the structures and the overall facilities are sound."

Beaver Valley's licenses were last renewed in 2009, according to NRC records.

Earthquakes can be felt here from time to time; last June, a 5.0-magnitude quake centered near Ottawa, Ontario, caused buildings to briefly sway in the Pittsburgh region. That quake was generated in the western Quebec seismic zone, an area that encompasses southwestern Quebec and northeastern Ontario; it is the cause of three or four small earthquakes a year and produces one that causes minor damage about once a decade, according to the USGS.

That seismic zone isn't the closest to our area. The Pembroke Faults in southern West Virginia and the central Virginia seismic zone near Richmond both are closer, although neither has produced significant seismic activity, USGS data shows.

Nineteenth-century earthquakes generated by the New Madrid seismic zone, which stretches from southern Missouri into Arkansas and Tennessee, were reportedly felt in New York and Boston, but while a big quake there would be a concern for nuclear power plants in that region, it probably wouldn't be a problem at Beaver Valley.

"There are plants nearby the New Madrid zone, and there are plants in California," Sheehan said. "They were designed the same way – they should hold up to the strongest possible event for that region and then some."

The plants in Japan were designed that way, too, Metzger said. But that situation, and its severity, are different.

"We're talking about a catastrophic situation with very serious consequences," Metzger said. "That could happen in the United States, but in our region it seems very unlikely."

Michael Pound can be reached online at mpound@timesonline.com.

Learn more

John Metzger, director of the nuclear engineering program at the University of Pittsburgh, will open an undergraduate lecture to the public Wednesday night to discuss what's happened in Japan and what the ramifications of the disaster could be. The lecture, which begins at 6:15 p.m. Wednesday, will be held at 157 Benedum Hall on Pitt's campus in Pittsburgh's Oakland neighborhood.

US Nuclear Agency Chief Leaves Reporters With More Questions Than Answers (CBS News)

Political Hotsheet

By Chip Reid

CBS News, March 15, 2011

White House Press Secretary Jay Carney brought a special guest to the briefing room today – Chairman of the Nuclear Regulatory Commission Gregory Jaczko.

He was asked repeatedly about the safety of US nuclear power plants, but his answers did little to satisfy reporters looking for information that might assure readers and viewers that American nuclear plants are built to withstand a crisis of this magnitude.

Asked whether the Japan incident had led to safety concerns at US nuclear facilities, Jaczko gave an equally general reply: the NRC is "always focused on the safety and security of nuclear power plants in this country. That will always be something that we do. Whenever there's any new information, we always take that information into consideration and – and make changes, if necessary. But right now, we continue to believe that nuclear power plants in this country operate safely and securely."

In the White House briefing room that's exactly the kind vague answer that always provokes a series of follow-ups.

Is there any new attempt to study the ability of US plants to withstand an earthquake? Another imprecise answer: All US plants are "designed to withstand significant natural phenomena, like earthquakes, tornadoes, and tsunamis."

I tried to pin him down: "Would plants in the United States be able to withstand a quake of this magnitude?"

No luck. His response: "I don't want to speculate on anything like that at this point."

I followed up with a one last attempt at getting a precise answer: "In the United States, are they built to withstand a quake of this magnitude, of an 8.9?" But he responded with another generality: "At this point what I can say is we have a strong safety program in place to deal with seismic events that are likely to -- to happen at any nuclear facility in this country." (watch the exchange in the video above)

Only after we get past the immediate crisis, he said, will the NRC will gather information and take a closer look at what this means for US plants.

The truth is, of course, that Mr. Jaczko knows vastly more about this than any briefing room reporter. And maybe there is no precise answer to our questions, at least not yet. But for those of us seeking to understand how US reactors would fare in a similar situation, his answers were pretty thin gruel.

On another question about how the Japan quake could affect America, the NRC was much more precise -- eventually.

Whe I asked whether harmful radiation from Japan could reach America under a worst case scenario, Mr. Jaczko said it was "very unlikely."

Apparently even the NRC was unsettled by that answer, because shortly after the briefing I received an unprompted email from a senior NRC official offering a more definitive response: "Based on the type of reactor and nature of the events, NRC expert analysts see no scenarios in which harmful levels of radiation would reach Hawaii, Alaska, the US Territories or the West Coast of the United States."

Chip Reid is CBS News' chief White House correspondent. You can read more of his posts in Hotsheet here.

Markey Warns Obama On US Nuclear Disaster Response (WSJ)

By Patrick O'Connor

Wall Street Journal (blog), March 14, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Amid Lawmakers' Concerns, Officials Say US Nuclear Plants Are Safe (CNNINTL)

Rep. Ed Markey says the US should reconsider any plans for nuclear power plants in areas prone to earthquakes.

By CNN Wire Staff

CNN International, March 15, 2011

Washington (CNN) -- Any plans to build a nuclear power plant in an area of the United States prone to earthquakes should be reconsidered in light of the damage to Japanese reactors by last week's earthquake and tsunami, Democratic Rep. Ed Markey of Massachusetts told CNN on Monday.

"We just have to call a time out and examine whether or not those safety features necessary in the future are built into new nuclear power plants in our country," said Markey, who sits on the House committee overseeing nuclear power.

In response, the chairman of the independent Nuclear Regulatory Commission, which regulates US reactors, said the plants were built to withstand earthquakes and other natural disasters.

"All our plants are designed to withstand significant natural phenomena, like earthquakes, tornadoes, and tsunamis," NRC Chairman Gregory Jaczko said at the White House.

Jaczko was invited to brief reporters by White House Press Secretary Jay Carney. He also said there is little chance of radiation from the troubled Japanese reactors affecting the United States.

The design of the Japanese reactors and the nature of the problems there made it "a very low probability that there's any possibility of harmful radiation levels in the United States or in Hawaii or any other US territories" from Japan, he said.

The leaking of radiation from Japan's damaged reactors raised questions about the safety of the 104 non-military US nuclear reactors, which provide 20 percent of the nation's power supply.

On Sunday, a Senate proponent of nuclear energy also called for a temporary halt in building nuclear power plants in the United States until the situation in Japan can be examined.

Sen. Joseph Lieberman, an independent from Connecticut who sits with the Democratic caucus, said on the CBS program "Face the Nation" that the United States should "put the brakes on right now until we understand the ramifications of what's happening in Japan."

Markey sounded a similar call Monday, saying, "Any plant that is being considered for a seismically vulnerable area in the United States should be reconsidered right now."

He also called for ensuring that backup systems for US nuclear plants include sufficient cooling fluids for shutting down reactors and for the government to distribute radiation-blocking potassium iodide to people living within a 20-mile radius of a nuclear plant, as was called for in a 2002 bill he authored.

According to Markey, the Bush administration refused to comply with the law, and now he wants the Obama administration to ensure that "any family within a 20-mile radius of a nuclear power plant in the United States has access to the potassium iodide, especially to protect their children." So far, he said, the administration has declined to take that step.

At the White House briefing, Deputy Energy Secretary Daniel Poneman made clear that nuclear power remains part of US energy policy.

"Seventy percent of the carbon-free electricity in this country comes from nuclear power," said Poneman, who also appeared at Carney's request. "So we do see nuclear power as continuing to play an important role in building a low-carbon future, but be assured that we will take the safety aspect of that as of our paramount concern."

House Majority Leader Eric Cantor of Virginia also said the situation in Japan should not affect the role of nuclear power in US energy policy, noting that he agrees with President Barack Obama on that point.

"This is the result of a tsunami, and the shutdown and what is going on over there with the reactor has a direct causal link with the tsunami, so I do believe that we certainly do want to get to the bottom of it, and if we can learn any lessons from Japan's experience for sure," said Cantor, who has a facility in his district applying for a nuclear power plant license. "But nuclear power is an essential part of the energy mix in this country."

Also Monday, Tony Pietrangelo of the Nuclear Energy Institute, the policy organization of the nuclear energy and technology industry, said US plants are "designed to withstand the most severe seismic events or earthquakes, as well as tsunamis where applicable, and flooding."

"We have rules to deal with station blackout, which is what they are experiencing in Japan," Pietrangelo said, referring to the power loss at the Japanese nuclear plants that affected the function of backup response systems. It was the "one-two" punch of the earthquake and tsunami that caused the problem, as the Japanese reactors withstood the shaking without significant problem, he said.

US plants, Pietrangelo said, "are designed for the seismic events in their area."

"The West Coast plants are designed to higher standards than the Central and Eastern United States," he said. "It is based on a historical look at what has happened in those areas, what soil or rock they sit in. They are very robust. I think, as we have seen in Japan, despite the magnitude of that earthquake, they hold up quite well."

To Markey, though, the problem is that "it's impossible to totally predict all of the different kinds of events which can unfold in these types of circumstances."

"Let's be honest," he added, "none of the experts can be 100% certain what magnitude of an earthquake that can hit."

The United States nuclear reactors operate at 65 plants across the country. In addition, there are dozens of reactors, weapons labs and other nuclear facilities associated with national defense. Most of the civilian plants are located near major population centers.

A new nuclear plant has not been commissioned since the Three Mile Island meltdown in Pennsylvania in 1979, although dozens that were under construction at the time have come on line.

More recently, increased electricity use, a desire to generate homegrown energy and concern over global warming have made carbon-free nuclear power more attractive.

The government has set aside $18 billion for new nuclear plants, and Obama wants to spend an additional $36 billion.

Federal regulators are reviewing 20 applications to build nuclear plants, and several existing facilities have applied to extend their operating licenses.

Perhaps the most vulnerable US plants are the two built on California's Pacific coast near the San Andreas Fault.

Those plants were built to withstand a magnitude-7.5 earthquake, said Robert Alvarez, a nuclear expert at the Institute for Policy Studies and a former senior official at the US Department of Energy.

The San Francisco quake of 1906 measured 8.3, said Alvarez, and Friday's Japanese quake was a massive 8.9.

"I don't think we should renew those operating licenses," he said.

Spokesmen for the utilities that own the California plants, Pacific Gas & Electric and Southern California Edison, said Sunday that the plants are designed to meet the maximum quake projected for their immediate vicinity, which is not thought to exceed a magnitude of 6.5.

According to Pietrangelo of the Nuclear Energy Institute, every two years, US nuclear plants undergo emergency planning exercises run by the Nuclear Regulatory Commission and the Federal Emergency Management Agency.

"We are the gold standard of emergency planning, and other industries have learned from what we do on our stations," Pietrangelo said.

CNNMoney's Steve Hargreaves and CNN's Tom Cohen, Deirdre Walsh and Dana Bash contributed to this story.

Nuclear Reactor Nightmare: Could It Happen In The US? (CBS News)

By David W Freeman

CBS News, March 15, 2011

As workers in Japan struggle to limit the release of dangerous radiation from the nation's earthquake-stricken nuclear reactors, some in the US are wondering: Could the same thing happen here?

Some experts say yes.

"We have 23 nuclear reactors that are the same design as the Fukushima plants that have failed," Dr. Ira Helfand, past president of Physicians for Social Responsibility and a long-time critic of nuclear power, told CBS News.

A database maintained by the Nuclear Regulatory Commission shows that 23 of 104 nuclear plants in the US are boiling water reactors that use GE's Mark 1's radioactivity-containment system, the same system used by the reactors at the troubled reactors at the Fukushima Dia-ichi plant in Japan, MSNBC reported. The reactors are in Alabama, Georgia, Illinois, Iowa, Massachusetts, Michigan, Minnesota, Nebraska, New Jersey, New York, North Carolina, Pennsylvania, and Vermont.

Calls to GE were referred to the Nuclear Energy Institute, an industry group. In an email to CBS News, it confirmed that some plants use the same basic system as the Japanese plants, but added that "specific elements of the safety systems will vary."

According to Dr. Helfand, some of the US plants with containment systems similar to the ones in the Japanese reactors are built on fault lines, including one near New York City.

"The Indian Point reactor just north of New York City is built on a fault capable of generating a magnitude 7 earthquake, but it was only built to withstand a magnitude 3 quake," he said. "If the Indian Point reactor experienced a major meltdown, the entire New York metropolitan area, with 20 million people, would be at risk."

The Diablo Canyon nuclear plant on the central California coast, which is within about 60 miles of the San Andreas Fault, and even close to other faults, was built to withstand a 7.5 earthquake, according to owner Pacific Gas and Electric. The company maintains that the faults in the region are not expected to produce any larger quakes.

Chairman of the Nuclear Regulatory Commission Gregory Jaczko was asked at a press briefing by CBS News White House correspondent Chip Reid whether reactors in the US could withstand a quake similar to the 9.0 event in Japan. He offered a vague response: "At this point what I can say is we have a strong safety program in place to deal with seismic events that are likely to – to happen at any nuclear facility in this country."

What steps, if any, should be undertaken by people living near a power plant in the US?

"I would want the nuclear facility to be honest with me and tell me if this is the same kind of reactor design as the ones in Japan," Dr. Jerome M. Hauer, former director of emergency management for New York City, told CBS News. "And what are they doing to ensure that the flaws that this earthquake exposed are being dealt with. If anything happens to the plant, how are you going to deal with them?"

In its email to CBS News, the Nuclear Energy Institute said it was premature to draw conclusions from Japan's nuclear crisis about the US nuclear energy program.

"Japan is facing what literally can be considered a 'worst case' disaster and, so far, even the most seriously damaged of its 54 reactors has not released radiation at levels that would harm the public," the email said. "That is a testament to their rugged design and construction, and the effectiveness of their employees and the industry's emergency preparedness planning."

Nuclear Experts Weigh In On GE Containment System (WP)

By Jia Lynn Yang

Washington Post, March 15, 2011

Since General Electric supplied the design four decades ago for all six nuclear reactors at the Fukushima Daiichi power plant in northeastern Japan, some regulators and critics have questioned whether the system – which was supposed to be smaller and less expensive than others – can withstand a nightmare scenario.

Their concerns focused on the reactor's containment system that is the final line of defense against a wide release of radiation. Now GE's technology is facing the ultimate test: Can the structure enclosing the reactor keep the hot, radioactive stew bottled up inside? And can the spent fuel pools withstand a combination of explosions and equipment failure?

There is no sign so far that GE's design is to blame for any of the plant's problems, which mainly have been the result of power failures after the massive earthquake and tsunami that slammed the area Friday. The containment structure is holding up.

Some experts said that if the situation deteriorates at the nuclear plant, GE's design - known as the Boiling Water Reactor Mark 1 - may not withstand the massive amount of hydrogen gas that could be released.

"We're not at that point yet," said Paul Gunter, director of the Reactor Oversight Project at Beyond Nuclear. "But these vessels are brittle. They were going to retire Fukushima Daiichi in just a few more months, and so this particular Mark 1 with its substandard design was reaching its endlife, and so it raises a lot of concerns."

GE defended its technology on Monday while it offered engineers to help Japanese officials contain the crisis.

"The BWR Mark 1 reactor is the industry's workhorse with a proven track record of safety and reliability for more than 40 years," GE said in a statement. "Today, there are 32 BWR Mark 1 reactors operating as designed worldwide. There has never been a breach of a Mark 1 containment system."

GE's design is unique. The company specializes in boiling water reactor systems - in contrast to the pressurized water technology produced by rivals such as Westinghouse and Ariva. Two-thirds of the nuclear plants in the United States rely on pressurized water technology, according to Edward Blandford, a researcher who focuses on nuclear reactor design at Stanford's Center for International Security and Cooperation.

In 1986, a top official at the Nuclear Regulatory Commission raised concerns about the GE containment system's design.

"I don't have the same warm feeling about GE containment that I do about the larger dry containments," said Harold Denton, director of NRC's Office of Nuclear Reactor Regulation during an industry conference, according to a report at the time by the publication, Inside N.R.C. "There has been a lot of work done on those containments, but Mark I containments . . . you'll find something like a 90 percent probability of that containment failing."

"There is a wide spectrum of ability to cope with severe accidents at GE plants," Denton said. "And I urge you to think seriously about the ability to cope with such an event if it occurred at your plant."

GE's Mark 1 containment system was designed to withstand discrete problems known as design basis accidents, such as a broken pipe releasing hot steam, said Ken Bergeron, a physicist and former scientist with the Sandia National Laboratories, where he worked on nuclear reactor accident simulation.

"Unfortunately, some of the shortcuts that were taken to accommodate the design basis accident at a fairly low cost results in containment that does not do well for severe accidents," Bergeron said.

There are also fresh concerns about the fuel rods, which are above the reactors. Since the Sept. 11 terrorist attacks, some nuclear experts have said that the rods should be closer to the ground to avoid exposure to terrorist attacks.

Officials are concerned that structural damage to the plant may have exposed some of the rods to the air, which would spread radiation.

House Dems Call For Hearings On US Nuclear Safety (HILL)

By Andrew Restuccia

The Hill, March 15, 2011

Top Democrats on the House Energy and Commerce Committee are calling on Republicans to hold hearings on US nuclear power plant safety in light of the nuclear crisis in Japan.

"The worsening nuclear crisis in Japan is raising serious questions in the minds of many Americans about the safety and preparedness of nuclear power plants in the United States," the Democrats said in a letter Monday. "We request that the committee conduct an investigation and hold hearings to examine the issue."

A massive earthquake and resulting tsunami in Japan have led to at least two partial meltdowns in nuclear reactors there, raising concerns about whether US reactors can withstand major natural disasters.

The White House said Monday it will not change course on its nuclear energy policies as a result of the Japanese disaster, and the Nuclear Regulatory Commission insisted that US nuclear reactors can withstand tsunamis and earth quakes.

But the lawmakers said Monday the NRC should consider the potential dangers of nuclear power when approving new projects and renewing reactor licenses.

The lawmakers take aim at the Vermont Yankee nuclear project, a boiling water reactor similar to those in question in Japan. The Yankee plant has come under criticism from Vermont lawmakers.

"In recent years, the NRC has approved over 60 license renewal applications, including several for plants with the same design as the endangered Japanese facilities," the letter says. "In fact, the NRC recently voted to renew the operating license for the Vermont Yankee nuclear plant, which is of the same design as some of other reactors experiencing severe problems in Japan."

Committee ranking Democrat Henry Waxman (Calif.), Energy and Power subcommittee ranking Democrat Bobby Rush (Ill.), Oversight and Investigations subcommittee ranking Democrat Diana DeGette (Colo.) and Rep. Edward Markey (D-Mass.) sent the letter Monday.

The letter was sent to full committee Chairman Fred Upton (R-Mich), Energy and Power subcommittee Chairman Ed Whitfield (R-Ky.) and Oversight and Investigations subcommittee Chairman Cliff Stearns (R-Fla.).

Japan Nuclear Fears To Dominate House Hearings (EED)

By Hannah Northey

E&E Daily, March 15, 2011

Key lawmakers and regulators this week will dig into unfolding details surrounding the nuclear emergency Japan declared in the wake of a massive 8.9 magnitude earthquake and tsunami and how US officials are safeguarding the domestic nuclear fleet.

Rep. Fred Upton (R-Mich.), chairman of the House Energy and Commerce Committee and a proponent of nuclear power, said he will use a Wednesday hearing to question the head of the Nuclear Regulatory Commission about the Fukushima Daiichi nuclear power plant, as well as domestic operations.

"We will use that opportunity to explore what is known in the early aftermath of the damage to Japanese nuclear facilities, as well as to reiterate our unwavering commitment to the safety of US nuclear sites," Upton said in reference to the hearing at which NRC Chairman Gregory Jaczko will testify.

Energy Secretary Steven Chu is slated to join Jaczko at the joint hearing of the Subcommittee on Energy and Power and the Subcommittee on Environment and the Economy. The hearing was scheduled to review the Obama administration's fiscal 2012 budget request for the Department of Energy and NRC, but attention has turned to the unfolding events in Japan.

Chu also is scheduled to testify tomorrow before the House Energy and Water Development Appropriations Subcommittee, where lawmakers also are likely to press him for details about the situation in Japan before turning to budget questions (see related story).

NRC said this weekend it sent two officials to Japan with expertise in boiling water nuclear reactors as part of a US International Agency for International Development team. Yesterday NRC said no radiation at harmful levels would reach the United States from the damaged Japanese plants.

Containment efforts

Japanese officials are scrambling to prevent a meltdown at different nuclear reactors in the areas of the country hardest hit by the earthquake and tsunami and have begun evacuating residents in the vicinity of certain plants.

Over the weekend, an explosion rocked the Unit 1 reactor at the Fukushima Daiichi plant on the eastern coast of Japan, and the International Atomic Energy Agency (IAEA) said four workers were injured. The blast happened outside the primary containment vessel of the reactor, not inside, and plant operator Tokyo Electric Power Company (TEPCO) confirmed that the integrity of the primary containment vessel remains intact, IAEA said Saturday, citing Japanese officials.

The Fukushima Daiichi plant is a boiling water reactor, and coolant or water is needed to carry heat away from the reactor's core even after the plant has been shut down because the fuel continues to emit heat.

After receiving approval from Japan's nuclear safety agency, TEPCO began injecting sea water mixed with boron into the primary containment vessel, IAEA said. Japan's nuclear safety agency has confirmed the presence of caesium-137 and iodine-131 in the vicinity of Fukushima Daiichi Unit 1 and an initial increase in levels of radioactivity around the plant, IAEA said.

TEPCO yesterday said readings showed radiation doses measured at the site were increasing again after a previous reading that showed levels to be subsiding. The company said it was struggling to cool water in the spent nuclear fuel pool.

TEPCO is trying to reduce the pressure within the reactor containment vessels in the Unit 2 reactor and has begun venting that structure. TEPCO is conducting similar venting at the Unit 3 reactor at the Fukushima Daiichi plant through a controlled release of vapor. After a high-pressure injection system at Unit 3 failed, IAEA said officials began injecting water first and then sea water, and authorities have warned the "accumulation of hydrogen is possible."

Problems for TEPCO have surfaced elsewhere. The company is trying to reduce pressure in the containment vessel of its Fukushima Daini nuclear plant's Units 1, 2 and 3 and is venting the reactor containment vessels there, which could include "partial discharge of air containing radioactive materials," TEPCO said.

And the company reported the lowest state of emergency at its Onagawa nuclear plant in northern Japan, where three reactor units are "under control" although radioactivity readings are exceeding allowed levels in the area surrounding the plant, IAEA said. Authorities there are investigating the source of radiation, the agency said, and Reuters reported yesterday the company was attributing the high readings to radiation leakage at another plant in the neighboring prefecture.

Schedule: The hearing is Wednesday, March 16, at 9:30 a.m. in 2123 Rayburn House Office Building.

Witnesses: Energy Secretary Steven Chu, Nuclear Regulatory Commission Chairman Gregory Jaczko and additional witnesses TBA.

The Week Ahead: Nuclear Safety, EPA Climate Rules In Focus (HILL)

By Ben Geman

The Hill, March 15, 2011

The crisis at quake-damaged Japanese nuclear reactors will lead to questions about U.S nuclear safety on Capitol Hill this week.

Nuclear Regulatory Commission Chairman Gregory Jaczko and Energy Secretary Steven Chu will both appear before the House Energy and Commerce Committee on Wednesday.

The session was originally scheduled to examine the agencies' budget plans, but Committee Chairman Fred Upton (R-Mich.) signaled over the weekend that questions prompted by Japan's crisis will be a major focus as well.

Other big themes in Congress this week: House Republicans moving ahead with plans to block EPA climate change rules, and the GOP laying the groundwork for bills aimed at wider US oil-and-gas drilling and other forms of energy development.

The House Energy and Commerce Committee will mark up legislation that removes the Environmental Protection Agency's power to regulate greenhouse gas emissions from power plants, refineries and other sources.

The battle over Upton's bill began with a subcommittee vote last week. That was just a skirmish, as Democrats declined to offer amendments.

But Rep. Henry Waxman (Calif.) — the panel's top Democrat — said Democrats will offer amendments at this week's markup. Most of their amendments are unlikely to pass, but would provide a chance to force votes that highlight their criticisms of the bill.

Opening statements come Monday, but the real action won't happen until Tuesday.

Looking ahead, House Majority Leader Eric Cantor (R-Va.) said last Thursday that Upton's bill is expected to come before the full House "in the next couple of weeks."

Collisions over Obama administration oil-and-gas drilling policies will also continue in Congress, with several hearings planned.

Michael Bromwich, the Interior Department's top offshore drilling regulator, will appear Thursday before a House Appropriations Committee panel that crafts Interior's spending bills.

Bromwich heads the Bureau of Ocean Energy Management, Regulation and Enforcement, which has come under fire from Republicans and drill-state Democrats over the pace of permitting for offshore projects.

Bromwich's agency last month approved the first permit for the type of deepwater drilling project that was halted after the BP oil spill, and approved a second permit late Friday.

Interior officials say more deepwater permits are in the works, but critics have for months accused the agency of unnecessary restrictions on drilling.

Bromwich has his own cards to play: Look for him to argue that permitting will speed up if his agency gets the big spending boost it's seeking, which would be offset in part through higher fees on drillers Interior wants to impose.

The agency is applying much closer scrutiny to permit requests and requiring compliance with beefed-up safety rules.

On Wednesday, the Senate Environment and Public Works Committee will hold a hearing on the big January report issued by the presidential commission that probed the BP spill. The National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling called for a suite of federal and industry reforms.

Also Wednesday: The House Natural Resources Committee will hold a hearing with a title that highlights Republicans' attacks on the White House: "The Obama administration's de facto moratorium in the Gulf of Mexico: Community and economic impacts."

The hearing is part of a GOP effort to build a record in support of energy bills that Republicans want to begin moving through the chamber.

Top House Republicans on March 10 launched their "American Energy Initiative," aimed at knocking down what they call White House-imposed barriers to US energy production.

The effort will unfold in the Energy and Commerce Committee as well. On Thursday its subcommittee on Energy and Power will hold the first of several hearings on that initiative. "This first day in the hearing series will focus on the nation's oil supplies, gasoline prices and jobs in the Gulf of Mexico," an advisory states.

Not to be outdone, the House Natural Resources Committee will hold a Thursday hearing titled: "Harnessing American resources to create jobs and address rising gasoline prices: Domestic resources and economic impacts."

Elsewhere on Capitol Hill, the Obama administration's energy technology budget clash with Republicans will continue.

Energy Secretary Chu will testify Tuesday before the panel of the House Appropriations Committee that crafts energy spending bills. The White House is seeking to boost funding for green energy research and development, but Republicans are seeking to cut the agency's funding.

The Energy and Water Development subcommittee is holding another hearing Wednesday on the Energy Department's budget; Steven Koonin, the department's undersecretary for science, will testify.

Look for other budget-related hearings as well. On Wednesday, a panel of the Senate Appropriations Committee will host EPA Administrator Lisa Jackson for a hearing on the agency's fiscal 2012 budget plan.

It's an energy-heavy week across the board. The slate of hearings includes a Thursday session in the Senate Energy and Natural Resources Committee about "global investment trends in clean energy technologies and the impact of domestic policies on that investment."

OVERNIGHT ENERGY: House Dems Plan To Force Climate Science Vote (HILL)

By Andrew Restuccia And Ben Geman

The Hill, March 15, 2011

State of Play: House Democrats are planning to put Energy and Commerce Committee Republicans on the record about whether they believe in human-induced global warming.

The committee will consider a GOP-led bill Tuesday that would kill EPA's power to regulate greenhouse gases.

The lead House GOP sponsors of the plan have sought to focus on arguments that the rules will cost jobs (which Democrats dispute), rather than a scientific discussion.

But Rep. Henry Waxman (D-Calif.), the panel's top Democrat, has called the bill an affront to the consensus scientific view global warming is occurring and that human activities — notably burning fossil fuels — are a major reason why.

He strongly suggested that Democratic amendments at Tuesday's markup will include one about climate science. "I think it would be good to have people on record," Waxman said Monday evening, while noting that overall amendment planning remained ongoing.

Energy and Commerce Chairman Fred Upton (R-Mich.) is the lead sponsor of the bill, which is highly likely to clear the committee Tuesday. It currently has 46 co-sponsors, including a few Democrats.

Stay tuned: Check out tomorrow's print edition of The Hill for our piece about what Japan's nuclear reactor crisis means for US energy policy.

NEWS BITES:

Dems push Boehner to reconsider Styrofoam cups

A coalition of 115 House Democrats called on House Speaker John Boehner (R-Ohio) to reconsider a decision to use Styrofoam cups in House cafeterias.

"[T]here are significant health and environmental risks associated with Styrofoam, as well as additional costs associated with increased waste removal," a letter to Boehner Monday states. "These external costs should be considered in making the decision for cafeteria products; the desire to save a few pennies should never come at the expense of jeopardizing staff, members and visitors' health."

House Republicans did away with the compostable products used under former House Speaker Nancy Pelosi's (D-Calif.) "Green the Capitol" initiative last month.

Dems pounce on PolitiFact's Upton fact check

Democrats made sure Monday that reporters' inboxes filled up with an analysis by the group PolitiFact, which criticized House Energy and Commerce Committee Chairman Fred Upton's (R-Mich.) claim that his bill to kill EPA greenhouse gas rules will help stop rising gas prices.

The independent fact-checking group called the claim "false."

Upton and Rep. Ed Whitfield (R-Ky.) — a top lieutenant — have circulated a letter that calls the legislation a tonic for rising gasoline costs.

"While Upton and Whitfield's letter is carefully worded, it frames the argument for the bill in the context of today's trend of rising gasoline prices. Yet the impact of the bill — if there is an one — would be years away," PolitiFact states in an analysis Monday.

"And there's no proof that the law would actually stop gas prices from rising. The added regulations now being planned may hamper US refiners, but the international free market could just as easily end up keeping refining costs low. And it's hardly assured that any changes in refining costs — up or down — will influence gasoline prices, which are subject to a wide array of influences," the analysis said.

The Energy and Commerce Committee is slated to vote on the bill Tuesday and it is highly likely to clear the panel.

GOP to push regulator on streamlining nuclear licensing Wednesday

Republicans plan to push Nuclear Regulatory Commission Chairman Gregory Jaczko this week on speeding up the nuclear reactor licensing process even as the nuclear crisis continues in Japan.

Rep. Ed Whitfield (R-Ky.), the chairman of the House Energy and Commerce Committee's Energy and Power Subcommittee, said he will press Jaczko on the issue at a Wednesday hearing.

"All I know is that a lot of other countries, France for example, they do it in six years," Whitfield said in the Capitol Monday. "I'm not going to brow beat him. I just want to know why it takes 10 years in America."

Full committee Chairman Fred Upton (R-Mich.) has said he hopes to introduce legislation that would speed up the permitting process at the commission as part of a broader effort to expand nuclear energy.

Reid calls on oil industry to tap unused leases

Senate Majority Leader Harry Reid's (D-Nev.) office called on oil companies Monday to tap unused oil and gas leases and again criticized Republicans for opposing efforts to eliminate oil industry tax breaks.

"Oil and gas companies are currently sitting on approximately 60 million acres of oil and gas leases that are going unused," Reid's office said in a statement. "At the same time they are holding back on domestic production, these same oil companies are reaping record profits from high gas prices. And Republicans are protecting this shell game, at a high cost to consumers."

Obama, in a press conference Friday, called on the Interior Department to conduct a review of unused leases on public land within the next two weeks.

"So I directed the Interior Department to determine just how many of these leases are going undeveloped and report back to me within two weeks, so that we can encourage companies to develop the leases they hold and produce American energy," Obama said Friday.

Feinstein eyes ethanol talks with Coburn

Sen. Dianne Feinstein (D-Calif.) tells E2 that she's planning discussions with Sen. Tom Coburn (R-Okla.) about their competing plans to kill ethanol subsidies.

They both introduced overlapping bills last week to strip ethanol tax credits that also have key differences.

Markey gets poetic in criticizing GOP agenda

As always, Rep. Edward Markey (D-Mass.) gave a colorful speech at Monday's House Energy and Commerce Committee markup of legislation to block EPA climate rules and a resolution to repeal the Federal Communications Commission's net neutrality regulations.

"There's a method to the majority's legislative madness," Markey said. "The GOP's version of 'March Madness' this afternoon is designed to make both polluters and the broadband barons the big winners at the expense of our environment, our health, our economy and American consumers.

"In other words, today House Republicans will take up legislation that would destroy the World Wide Web and to also bring up a bill that would help destroy the whole wide world itself; they'll take aim at Google Earth and set their sites on Mother Earth; they'll slow down the blogosphere and pollute the atmosphere; they'll clog up the internet and smog up the air from smokestacks belching massive amounts of dangerous global-warming pollution."

Polls show support for drilling

A new Gallup poll released Monday shows that 60 percent of Americans favor offshore oil-and-gas drilling, up from 50 percent just after the Gulf of Mexico oil spill.

"News of that incident has faded, possibly lessening Americans' resistance to coastal area drilling. At the same time, recent turbulence in the Middle East has caused oil prices to rise and has sparked discussion about the stability of the United States' foreign oil supply," Gallup says in its analysis of the results.

The Hill conducted its own drilling poll, which was also released Monday. It shows support for expanded drilling and tapping the country's oil reserves.

ON TAP TUESDAY:

Obama's energy chief faces House

Energy Secretary Steven Chu will testify Tuesday before the panel of the House Appropriations Committee that crafts energy spending bills. The White House is seeking to boost funding for green energy research and development, but Republicans are seeking to cut the agency's funding.

Big emissions trading forum continues

The International Emissions Trading Association holds the second and final day of its big Washington conference.

The Carbon Forum North America brings together a suite of industry, federal and other experts.

Tuesday's speakers include Rep. Collin Peterson (D-Minn.), the top Democrat on the Agriculture Committee who is among the lawmakers trying to kill EPA greenhouse gas regulations.

IN CASE YOU MISSED IT...

Here's a quick roundup of E2's Monday stories:

- A poll conducted by The Hill showed support for expanded oil and gas drilling.
- House Energy and Commerce Committee Chairman Fred Upton (R-Mich.) said the country faces another energy crisis.
- After the administration approved its second Gulf deepwater drilling permit Friday, the oil industry said it's not enough.
- High gas prices mean more people will use public transportation.
- The Nuclear Regulatory Commission insisted that US reactors can withstand major natural disasters.
- Senators held briefings on the nuclear crisis in Japan.
- The White House underscored its support for nuclear power.
- House Democrats called for hearings on US nuclear safety.

Please send tips and comments to Ben Geman, This e-mail address is being protected from spambots. You need JavaScript enabled to view it , and Andrew Restuccia, This e-mail address is being protected from spambots. You need JavaScript enabled to view it .

Follow us on Twitter: @E2Wire, @AndrewRestuccia.

Nuclear Reactor Crisis: Is Radiation A Threat To US? (CSM)

Release of radioactivity from the nuclear-reactor equipment has been limited, so it does not constitute a dire threat to the US yet. But the meltdown situation could quickly change.

By Peter Grier, Staff Writer

Christian Science Monitor, March 15, 2011

Washington -- The nuclear situation in Japan certainly sounds harrowing. Authorities are struggling to prevent meltdowns at a number of reactors. Water levels dropped sharply Monday inside at least one nuclear reactor, twice leaving uranium fuel rods exposed to the air, raising the meltdown threat.

Meanwhile, the US Navy's Seventh Fleet has moved its ships and aircraft farther away from the stricken nuclear plants after onboard instruments detected low-level radioactive contamination.

Beyond concerns for people in the immediate area, does this mean that a radioactive cloud is now drifting toward the US mainland?

No, it does not. Release of radioactivity from the reactors has been limited so far, according to Japanese authorities. The steel containment vessels remain intact, keeping dangerous materials within.

"What has happened is melting of fuel in reactor cores, leading to release of a very modest amount of cesium and other fission products," noted Matthew Bunn, co-principal investigator of the Managing the Atom Project at Harvard's Belfer Center for Science and International Affairs, in a Monday analysis of the situation.

The crisis is far from over, of course. The situation, Mr. Bunn adds, could quickly change.

"There is a possibility of a larger release, if melted fuel falls to the bottom of the reactor and manages to burn through the containment, contacting water and creating radioactive steam," writes Bunn.

According to US officials, the amount of radioactive material released so far does not constitute a dire threat to the United States itself. All available indications are that prevailing easterly winds have blown the small radioactivity releases from the affected reactors out to sea.

"Given the thousands of miles between the two countries, Hawaii, Alaska, the US territories and the US West Coast are not expected to experience any harmful levels of radioactivity," said the Nuclear Regulatory Commission in a statement on Sunday.

But considering whether a cloud of dangerous radioactivity is or is not drifting over the Pacific to California may not be the best way to envision the dangers of the situation.

We're all exposed to a certain amount of radioactivity from natural background sources. Americans old enough to have lived during the era of atmospheric nuclear tests have some amount of radioactive residue from those tests. Today, tiny amounts of radioactivity from Chinese nuclear tests can still travel to the US on the wind.

"The question is not can it reach us. The question is, in what concentration," says Daniel Hirsch, a lecturer in nuclear policy at the University of California, Santa Cruz, and president of the Committee to Bridge the Gap, a nonprofit that works to expose what it says are the dangers of nuclear power.

Prevailing winds in Japan blow west to east, notes Mr. Hirsch. Radioactive materials released by the current crisis would take about four days to reach Alaska and another day or so to reach the continental US.

Official statements have indicated that releases of radioactivity have been modest, but it's not really known what has been going on inside the reactor containment vessels. It appears that the plants have suffered at least partial meltdowns. The fate of used reactor fuel stored in the containment buildings in cooling ponds is unknown, Hirsch says.

"Clearly there are significant radioactivity releases already," he says.

Any amount of radiation can have an effect, Hirsch says. Scientists say that higher levels of exposure lead to higher probabilities of disease in affected populations.

The 1986 Chernobyl nuclear disaster blew a plume of radioactivity around the world. Estimates of the additional cases of cancer this may have brought on range from 30,000 to 1 million.

Chernobyl had no containment vessel, however. Its nuclear fuel melted down and released vast amounts of contamination directly into the atmosphere. That is why the steel and concrete containment cases in Japan are so important – and why it is important that they are not breached by melting fuel rods.

• Material from the Associated Press was used in this report.

Nuclear Official: Little Chance Japan Radioactivity Will Drift To USA (USAT)

By David Jackson, USA Today

USA Today, March 15, 2011

There is little chance that harmful radiation from Japan's damaged nuclear plants will reach American land, said Nuclear Regulatory Commission Chairman Gregory Jaczko.

"Based on the type of reactor design and the nature of the accident, we see a very low likelihood – really, a very low probability – that there's any possibility of harmful radiation levels in the United States or in Hawaii or any other US territories," Jaczko said at the White House.

He said his office dispatched two NRC technical experts to Japan to help with the nuclear plant damage caused by last week's earthquake and tsunami.

The NRC chair said all US nuclear plants are "designed to withstand significant phenomena," such as earthquakes and tsunamis.

The Associated Press reports that the US Navy has had to move several ships away from the Fukushima Dai-Ichi nuclear power plant after officials learned that the ships and the 17 helicopter crewmembers had been exposed to low-levels of radiation. The plant has experienced two hydrogen explosions in three days.

White House spokesman Jay Carney said nuclear power remains a part of President Obama's overall energy plan and provides about 20% of US electricity. Carney said nuclear safety remains a priority

"Information is still coming in from Japan," Carney said.

Jaczko said the Nuclear Regulatory Commission will continue to monitor events in Japan.

"I would say it's a serious situation," Jaczko said.

Japan Radiation Threat To Atlanta? (WSB)

Mellish's Weather Commentary

By Kirk Mellish

WSB-AM Atlanta, GA, March 15, 2011

Could radiation from Japan make it to the US and even Atlanta? Yes, but could is a key word. It would not necessarily be a lot, nor necessarily make it to the surface as opposed to remaining aloft at jet stream level. If the release is small or fails to make it high enough in the atmosphere then it could be diluted or rained out before ever making it to the United States.

The rate and extent to which nuclear radiation spreads depends a great deal on how it is released into the atmosphere and at what altitude. Releasing such radiation with extreme heat--as in an explosion, which would propel radiation into higher altitude winds, such as the jet stream, would be the most alarming manner in which this could take place because this would hoist this

radiation into the faster winds which blow at those levels. There are very detailed forecast models, which are run to look at the dissemination of radiation, gases and other particulates in the atmosphere. At this point nobody knows even the extent of the condition of the nuclear plant facilities over there let alone the fallout and the effects on the US There is no need for undo alarm regarding a radiation threat to the US or Atlanta as of now, but events on the ground in Japan need to be monitored.

Whether it impacts us would depend on what radioactive isotopes were released, how long their half-lives are, how big the explosion was, and how high into the atmosphere the radioisotopes went -- but in some cases this is a process that can take years not just weeks.

Let's keep this in perspective, baring a worst-case senario in the ongoing situation in Japan. Remember, for years nations routinely set off nuclear test explosions in the Pacific, and there were nuclear below ground tests in Nevada up until 1970. All of these released radiation into the atmosphere. For much of the second half of the 20th century, countries were intentionally creating nuclear explosions in the Pacific. Radioactive isotopes from the hydrogen bomb tests reached high into the atmosphere and eventually settled around the globe.

The good news is that even though some radioactive particles will probably reach the jet stream air levels and be carried by it, the amount of radiation eventually reaching locations in the US will likely not be enough to cause major health concerns. The reactors affected in Japan are modern reactors with many safety features built in. Most of the radiation released from the failure of the plants from the catastrophic damage will be at or close to ground level. This may well become a devastating problem for areas around the reactor site but only a small amount of radiation will be released into the air and picked up by wind currents.

The US will be monitoring the air for increased levels of radiation particles, and if they should become high enough to warrant concern, citizens will be warned. Radiation "clouds" are easily tracked. Precipitation can bring radioactive particles to earth and over time they do settle out of the atmosphere. But the particles will be dispersed over thousands of miles and any one area is unlikely to get a damaging concentration.

In 1979, although the Three Mile Island 2 plant suffered a severe core meltdown, the most dangerous kind of nuclear power accident, it did not produce the worst-case consequences that reactor experts had long feared. In a worst-case accident, the melting of nuclear fuel would lead to a breach of the walls of the containment building and release massive quantities of radiation to the environment. But this did not occur as a result of the Three Mile Island accident.

The current situation in Japan should not be like Chernobyl which involved many factors not at play in Japan. Remember, there can be a meltdown but WITH containment depending on the nature and extent of the meltdown, whether there is or is not an explosion, and if the containment buildings remain in tact or are fully or partially damaged.

Two officials from the US Nuclear Regulatory Commission with expertise in boiling water nuclear reactors have deployed to Japan as part of a US International Agency for International Development (USAID) team. USAID is the federal government agency primarily responsible for providing assistance to countries recovering from disaster.

"We have some of the most expert people in this field in the world working for the NRC and we stand ready to assist in any way possible," said Chairman Gregory Jaczko.

The NRC has stood up its Maryland-based headquarters Operations Center since the beginning of the emergency in Japan, and is operating on a 24-hour basis.

The wind direction may impact where the radiation goes both at a local level and even across the globe. The wind direction at both of these locations is usually similar since the Onagawa power plant is located just to the northeast of Fukushima power plant.

The exact speed and direction of the wind will have to be known at the time of the release of a large amount of radiation to understand exactly where the radiation would go, along with information on any temperature inversion or precipitation in the region.

It is unknown when a large release of radiation will occur, if at all.

We can calculate how long the release of a radiation would take to cross the Pacific from Japan to the US by choosing different speeds that the radioactive particles might be moving in the jet stream and using the direct distance between given locations. However, that calculation may not reflect how long the particle would take to cross the Pacific, since it would not likely cross the ocean in a direct path because the wind flow is often complicated. Any storms moving across the Pacific would add kinks in the westerly flow that would make the path of a particle crossing the Pacific longer.

On Monday, the winds at the Fukushima power plant and the Onagawa power plant will generally be out of the north to northwest. So, the wind flow will still be directed offshore into the Pacific. This would be a protective wind for population centers that would blow most of the radiation out to sea.

But spring is the time of year where onshore winds occur most often in Japan. Bad news since an onshore direction would blow most of the radiation toward populated areas. In higher elevations just 4 miles inland from the power plants, if a temperature inversion sets up in the atmosphere, radiation could be trapped.

Calculated time for radioactive particles to cross the Pacific from the power plants in Japan to big West Coast cities if the particles take a direct path and move at a speed of 20 mph: (Assumes release is big enough and makes it up into jet stream)

Calculated time for radioactive particles to cross the Pacific from the power plants in Japan to big West Coast cities if the particles take a direct path and move at a speed of 20 mph: (Assumes release is big enough and makes it up into jet stream)

Cities
Approx. Distance (miles)
Approx. Time to Cross Pacific (days)
Anchorage
3,457
7.2
Honolulu
3,847
8.0
Seattle
4,792
10
Los Angeles
5,477
11.4
Atlanta: 7,654
15.9

The US Nuclear Commission statement:

In response to nuclear emergencies, the NRC works with other USagencies to monitor radioactive releases and predict their path. All the available information indicates weather conditions have taken the small releases from the Fukushimareactors out to sea away from the population. Given the thousands of miles between the two countries, Hawaii, Alaska, the USTerritories and the USWest Coast are not expected to experience any harmful levels of radioactivity.

A catastrophic meltdown in the spent fuel pool of a nuclear power plant could cause fatal, radiation-induced cancer in thousands of people as far as 500 miles from the site, according to a 2001 US Nuclear Regulatory Commission study.

The analysis of spent fuel pool meltdowns also states that millions of people within such a 500-mile zone might have to be evacuated for periods ranging from 30 days to one year and that people living within 10 miles of a nuclear plant might never be able to return to their homes.

It also cites the potential for "prompt fatalities" from radiation poisoning that would occur in areas close to a plant site, where many radioactive particles would be expected to fall.

The extent of possible radiation damage described in the NRC documents is far more severe than anything that federal officials have disclosed in public forums or written statements.

The agency's assessments are contained in a special report prepared by experts within the NRC and the Sandia National Laboratories in Albuquerque, in October 2000 that was designated as an official NRC planning regulation in February 2001.

The study has been criticized by nuclear industry representatives who say it reflects a worst-case scenario based on unrealistic assumptions and ignores the effectiveness of plant safety systems.

Sandia laboratories maintains a computer simulation system that enables the NRC to predict the possible spread of radiation from any of the nation's 103 nuclear plants based on their location, geography and area population densities and the prevailing or seasonal weather patterns within hundreds of miles of the sites.

Damage assessments – including the number of prompt fatalities, long-term cancers, affected population centers and the duration of evacuations for specific areas – can then be estimated for any region of the country.

Tom Hinton, a radiation ecologist at the University of Georgia's Savannah River Ecology Lab, said the extent of contamination from a meltdown depends on how high the contaminants are pushed into the atmosphere, local weather conditions and the type of radioactive isotopes involved.

"At Chernobyl," he said, "there was contamination spread around the world, though the majority of it was within 300 kilometers or so. Contamination depends on local weather conditions, specifically rain. If a (radiation) cloud passes over you and

it is not raining, you will not get as much contamination as if it were raining. Rain scavenges contaminants out of the air and deposits them locally. That is the reason for many hot spots that occurred around Europe after the Chernobyl accident."

Some radiological isotopes, such as plutonium, will stay where they land, Hinton said, while others travel through the environment contaminating plants and waterways.

Other sources of information include:

USAID -- www.usaid.gov

US Dept. of State -- www.state.gov

Nuclear Energy Institute -- www.nei.org

International Atomic Energy Agency -- www.iaea.org/press/

For background information on generic operations at a boiling-water reactor, including an animated graphic, visit the NRC's website at www.nrc.gov.

NRC Says Radiation No Isle Threat; Hawaii Judges' Have Worst Pay; Drivers Brake For $4 A Gallon (HIRPTR)

By Greg Wiles

Hawaii Reporter, March 15, 2011

The head of the Nuclear Regulatory Commission reiterated his agency's view that there's a low likelihood of harmful radiation from a damaged Japanese nuclear power plant will reach Hawaii or the West Coast.

NRC Chairman Gregory Jaczko, speaking at a White House press conference Monday, said there was a low likelihood the radiation from the plant located in Fukushima would reach US territories. The plant poses a serious concern for Japanese officials as they deal with the devastation from last week's earthquake and tsunami.

On Sunday the NRC released a statement saying it and other agencies monitor radioactive releases and predict their path. It said all available information indicates small releases from the Fukushima reactors have been taken out to sea and away from Japanese citizens.

"Given the thousands of miles between the two countries, Hawaii, Alaska, the US Territories and the US West Coast are not expected to experience any harmful levels of radioactivity," the agency said.

Understanding Risks Of Radiation Poisoning In Japan: Questions And Answers (BLOOM)

By Simeon Bennett

Bloomberg News, March 15, 2011

A potential meltdown at Tokyo Electric Power Co.'s Fukushima Dai-Ichi No. 3 nuclear reactor, which was destabilized by Japan's strongest earthquake, threatens to release dangerous radioactive materials.

A meltdown may occur should the reactor's fuel rods remain exposed, Managing Director Akio Komori said at a briefing in Tokyo today.

The vessel containing the reactor's radioactive core is intact after a blast at 11:01 a.m. local time today, Chief Cabinet Secretary Yukio Edano said. No large release of radiation was detected after the blast at the station, about 220 kilometers (135 miles) north of Tokyo. The possibility of a large radiation leak is very small, he said.

Radioactivity measured at a building that houses the No. 3 reactor containment was less than 2 percent of the level known to harm human health, Hidehiko Nishiyama, deputy director-general at Japan's Nuclear and Industrial Safety Agency said today.

Here are answers to some frequently asked questions about radiation poisoning. The information is drawn from the Science Media Centre of Japan, the World Health Organization in Geneva, the US Centers for Disease Control and Prevention in Atlanta, and the US Environmental Protection Agency in Washington. Authorities have evacuated people within a 20-kilometer radius.

Q: Should people in Tokyo avoid open air? A: There is no need because Tokyo is far enough away.

Q: What is the worst-case scenario? A: It depends on how much radiation leaks and the prevailing weather conditions. Radioactive iodine, or I-131, is heavier than air and won't spread far in mild wind. Iodine 131 has a half-life of eight days.

Q: Is there a risk of secondary radiation exposure from contaminated food? A: Based on reported radiation levels, there should be no cause for concern.

Q: How do radioactive materials contaminate food? A: Atomic bomb tests in Nevada during the 1950s and 60s released I-131 into the atmosphere, which was blown thousands of miles away. Animals grazing on I-131 contaminated pastures had the radioactive material in their milk, which poisoned some children who drank it. People exposed to I-131 may have an increased risk of thyroid cancer.

Q: What is ionizing radiation? A: Ionizing radiation is the energy or particles produced by unstable atoms of radioactive materials. Humans are exposed to low levels of radiation naturally from the earth and the sun.

Q: What are the health consequences of radiation? A: Exposure to high levels of radiation can cause acute radiation syndrome, or radiation poisoning, resulting in substantial damage to human body tissues, premature aging, and possibly death. Prolonged exposure to lower levels is also associated with increased risk of ill-health.

Q: What are the symptoms of radiation poisoning? A: The first symptoms of acute radiation syndrome are typically nausea, vomiting and diarrhea. These symptoms start within minutes to days after exposure, and last for minutes to days. A person with acute radiation syndrome may look and feel healthy for a short time, then become sick again with loss of appetite, fatigue, fever, and possibly seizures and coma. This stage may last a few hours or several months. Radiation poisoning also typically causes skin damage.

Q: What level of radiation is dangerous to human health? A: Radiation is measured in sieverts. Exposure to one sievert of radiation can cause hemorrhaging, four sieverts can cause death within two months, and 2,000 sieverts can cause loss of consciousness within minutes and death within hours.

Q: How is radiation poisoning treated? A: Potassium iodide can be used to block radioactive iodine from being taken into the thyroid gland, protecting it from injury. It cannot protect other parts of the body, or reverse damage to the thyroid once it has occurred. Prussian blue, a dye used by artists and manufacturers since 1704, can also be used to remove certain radioactive materials from the body. It should be used under medical supervision.

Radiation's Effect Depends On Amount (WSJ)

By Gautam Naik

Wall Street Journal, March 15, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

US Radiation Drug Manufacturers Swamped With Calls From Japan (CNN)

By Ben Smith

CNN, March 15, 2011

(CNN) – Alan Morris talked very fast about the dangers of thyroid gland radiation poisoning as his business line rang incessantly in the background.

"Look, I really have to go," said Morris, as he abruptly ended the telephone interview to fill another order.

Morris is president of Anbex Inc., one of only two FDA-approved US manufacturers of potassium iodide, a medication that can block the thyroid glands of human beings and animals from absorbing excessive amounts of radiation from a nuclear accident.

Experts believe many of the dangers posed by over-exposure to nuclear fallout, including cancer, can be diminished by blocking thyroid absorption of radiation.

Since Friday, when a massive earthquake triggered what is being called Japan's worst nuclear emergency since World War II, Morris said his Williamsburg, Virginia-based company has received hundreds, if not thousands, of calls from potential buyers in Asia as well as repeat US customers suddenly seeking to replenish their stockpiles of the drug.

So, too, has Fleming Pharmaceuticals in Missouri, which, according to the FDA, is the only US manufacturer of the anti-radiation medication in liquid form. Anbex is the only company in the United States that manufactures the tablet form of potassium iodide, according to the FDA.

Fleming's owner, Debbie Fleming-Wurdak, said her company is currently getting inundated by more calls than her 85 employees can handle. She and company president Phill Dritsas said they are looking to add temporary employees to help handle the flood of calls.

They also said they've added a second shift and are considering staying open around the clock until the current crisis is over.

Officials for both companies said the deluge of requests stemming from Japan's nuclear crisis comes as state and local governments, hospitals, schools and other institutions in the United States have expressed renewed interest in replenishing their supplies. That's party because the threat of nuclear fallout in Japan appears to have heightened demand in this country, they said.

It is also because some of those stockpiled medications are close to expiring. That includes the 6 million doses of liquid potassium iodide provided to the US government in 2006 by Fleming Pharmaceuticals. The expiration dates for those medications begin in April, Fleming-Wurdak said.

The federal government, she said, isn't currently planning to purchase more potassium iodide for national stockpile.

The Strategic National Stockpile is a repository of vaccines, antibiotics, antidotes and other drugs and supplies for use in natural disaster, pandemic or bioterrorist attack.

Fleming-Wurdak said she began alerting customers that their potassium iodide supplies were starting to expire two weeks ago. That prompted an uptick in orders, including one from New York State for "hundreds of thousands of bottles," she said.

"We don't have enough to meet the current demand," said Fleming-Wurdak.

Fleming-Wurdak said eyedroppers for the medication are particularly in short supply.

Dritsas said the US government should consider tapping into the Strategic National Stockpile for Japanese earthquake victims threatened by nuclear fallout from the Fukushima Daiichi plant.

"Help Japan now," Dritsas said. "In the meantime we would be definitely working towards filling those quantities that are being ordered now."

Dritsas said he made that request Monday to US Rep. Edward J. Markey, D-Massachusetts, senior member of the House Energy and Commerce Committee.

Markey has warned that Japan's nuclear accident highlights the vulnerabilities of reactors in the United States. On Monday, Markey called on the Obama administration to fully implement a provision in the Bioterrorism Preparedness and Response Act of 2002 to make potassium iodide available for anyone who lives within 20 miles of a nuclear power plant.

The federal government has never purchased enough to meet that standard. There is currently only enough of the medication available for populations living within 10 miles of nuclear reactors in the United States, according to US officials.

That's not nearly enough, Morris said. He cited the April 1986 incident at the Chernobyl Nuclear Power Plant in Ukraine, considered the worst nuclear reactor accident ever. Death tolls resulting from the accident have varied widely according to various studies, with totals ranging from the thousands to more than a million.

Several studies have found that the accident led to a rise in thyroid cancer cases in children as far as Poland.

"Even taking the most conservative numbers, it all says there is something wrong with this picture when we know there isn't more potassium iodide out there," Morris said as he talked on his personal telephone line.

In the background the other phone was ringing.

Despite Fears, Radiation Health Risk Remains Low, Experts Say (MSNBC Health)

By JoNel Aleccia

MSNBC Health, March 15, 2011

Amid dire reports of melting fuel rods and sickened workers at Japan's beleaguered Fukushima Dai-ichi nuclear reactor, the public health risk from radiation exposure remains very low in that country — or abroad, experts say.

"In general, right now, the citizens of Japan have far more other things to worry about than nuclear power," said Richard L. Morin, a professor of radiologic physics at the Mayo Clinic and chair of the safety committee of the American College of Radiology.

"There's not a significant risk to anybody in the United States, including Hawaii," he added.

Though talk of a nuclear "meltdown" raises specters of acute radiation sickness and long-term cancers, such as those seen after the 1986 Chernobyl accident in which the reactor blew up, the radiation levels detected outside the Japan plant remain within legal limits, Japanese officials told reporters.

Exposure lower than CT scans, air flight

American experts monitoring the situation agreed, saying that reported radiation exposure remains far lower than normal exposure from background radiation in the environment, from medical procedures such as CT scans, or even from transatlantic air flights.

"I haven't seen anything so far that seems to indicate that people are being exposed to levels of radiation that are acutely dangerous," said G. Donald Frey, a professor of radiology at the Medical University of South Carolina.

Experts measure exposure to ionizing radiation in several ways, but the most current and accepted is based on the sievert, a unit named after R.M. Sievert, a 20th century Swedish physicist. The average person in the United States is exposed to about 6.2 millisieverts annually, with about half from background radiation and about half from medical sources.

For comparison, some experts refer to rem and millirem as measures of radiation exposure, but they're generally considered to be outdated terms. 1 rem is equal to 10 millisievert.

Using the newer measure, a one-time CT scan can expose a person to between 5 and 10 millisieverts. An X-ray of the spine might expose a patient to an estimated 1.5 millisieverts. A long, cross-country air flight might expose someone to about .03

millisieverts. A person who smokes a pack of cigarettes a day is exposed to 53 millisieverts each year, according to the National Institutes of Health. Story: Japan PM: Radiation leaking from damaged plant

So far, Japanese officials have reported possible top exposures at the plant of .5 millisieverts per hour, a level that has dropped to perhaps .04 millisieverts per hour, Frey said. While that level is concerning to plant workers, residents who heeded a 12-mile evacuation zone would not be affected, said Dr. James H. Thrall, chief radiologist at Massachusetts General Hospital in Boston.

"That would only expose nuclear plant workers," he said. "If you're even 100 feet away, or 1,000 feet away, the exposure drops dramatically."

The Fukushima Dai-ichi plant, located off the Pacific Coast, is the most devastated of the four Japanese nuclear complexes damaged by Friday's earthquake and tsunami. A Japanese official said 22 people had suffered radiation contamination and 190 may have been exposed Saturday after an explosion at the plant's Unit 1.

Japanese officials ordered evacuation of an estimated 185,000 residents within about 12 miles of the plant. Officials have distributed 230,000 units of stable iodine to protect against thyroid cancer in case of radioactive exposure, but it's still just a precaution, experts noted.

The typical limit for radiation exposure beyond background radiation is about 1 millisievert a year, according to the Nuclear Regulatory Commision. Adults who work in places where nuclear radiation is expected, such as plant workers or uranium hospital workers, are limited to 50 millisieverts per year, the NRC says.

People exposed to 1,000 millisieverts per year are considered at risk for acute radiation sickness, but will likely survive, Thrall said.

"At 10,000 millisieverts, you die rapidly and with a high probability," he added.

Even if the workers at the nuclear plant in Japan were exposed continuously to .5 millisieverts per hour, it would take about 40 hours before them to reach the yearly limit for exposure. Now that the level has fallen, so has the risk, Thrall said.

Favorable winds

Prevailing westerly winds have helped the situation, blowing any contamination out to sea, experts said. But it's highly unlikely that contamination will reach the shores of the United States, they add.

Of course, the situation could change rapidly, noted Morin.

"The most serious situation to me would be if there were a core meltdown," he said. "That might cause a significant release of radiation to the environment and that would be one of the biggest things. It doesn't look like that's going to happen right now, but you can't be certain."

In the meantime, the US experts cautioned observers, especially those in the US, to keep the situation in perspective.

"There's very little likelihood of any concern," said Thrall. "Instead, I would advise people to look both ways before crossing the street."

Risks To US From Japanese Power Plant Seen As Low (MEDSC)

Medscape, March 14, 2011

The world watches anxiously as Japanese authorities try to prevent meltdowns at two nuclear power stations rocked by last week's earthquake and tsunami; many in the US are asking whether they may be in danger.

MedPage Today took a look at the risks that radiation leaks from the Japanese plants may pose to the US, whether plants here may be vulnerable to natural disasters, and what our level of medical preparedness is.

The general consensus among our sources: The risk is low.

Will Radiation from Japan Threaten the US?

Experts contacted by MedPage Today generally agreed that radioactive particles will eventually reach the US, but at levels too low to measurably affect people's health.

In an update today, the International Atomic Energy Agency said winds have been blowing eastward from the Japanese coast – toward the US and Canada – in a pattern expected to continue for the next three days.

But the US Nuclear Regulatory Commission (NRC) said it is unlikely that harmful levels of radiation leaking from Japanese reactors will reach any part of the US, including Hawaii, Alaska, and various territories in the Pacific, considering the vast distances between Japan and those areas.

Reports indicate that any release of radioactive materials has been largely confined, and that explosions at the Fukushima Daiichi nuclear power plant have not breached their outwardmost containment buildings.

James Thrall, MD, radiologist-in-chief at Massachusetts General Hospital in Boston and president of the American College of Radiology, told MedPage Today that the chances of a consequential radiation exposure from the Japanese disaster anywhere in the US is "essentially zero."

He noted, however, that radiation detectors are so sensitive that they will likely be able to measure even minute levels of radioactivity from Japan on US soil.

That's how the world knew about the 1986 Chernobyl disaster, which occurred in what is now Ukraine, before Soviet government officials admitted it had occurred, according to Eric Hall, director of the Center for Radiological Research at Columbia University in New York City.

At Chernobyl, the fuel rods melted through all layers of containment, accompanied by several explosions.

Hall said in an interview that an event like that is unlikely to repeat itself in Japan, as the reactors are more modern with better containment systems than those at Chernobyl. The reactor at Chernobyl was also of a different design -- one that left it more prone to violent explosions.

But, even in the hypothetical scenario of a Chernobyl-like event in Japan, it is highly unlikely there would be any health-related consequences in the US, both Thrall and Hall said.

Thrall pointed out that the US tested nuclear and hydrogen bombs in the Pacific Ocean for years, and dropped atomic bombs in Japan during World War II, "which released, in the aggregate, far more radiation than these [Japanese] power plants would ever come close to releasing, and it all dissipated in the atmosphere, at least from the standpoint of any health implications in the US"

According to Thrall, the average background radiation exposure in the US at sea level is 3.2 mSv.

Both Thrall and Hall said that any radiation release that would bring that up to about 6 mSv would be cause for alarm and would trigger actions to mitigate the health effects, including the use of potassium iodide tablets to address iodine-131 exposure and ferric hexacyanoferrate(II) (Radiogardase) capsules to mitigate cesium-137 exposure.

But both called that scenario highly unlikely.

Kirby Kemper, PhD, a physicist at Florida State University, told MedPage Today and ABC News in an e-mail that the health risk attributable to low levels of radiation remains controversial.

But, he noted by way of comparison, "people in Denver ... have about twice the background radiation level compared to people in Florida due to cosmic rays, but actually have a longer life span than people from Florida."

Jerrold Bushberg, MD, a radiation oncologist at the University of California Davis, said that even if there is a risk from radiation drifting over from Japan, it will be trivial relative to the overall risk of cancer.

In an e-mail to MedPage Today and ABC News, Bushberg said that an extra dose of radiation of 40 times the normal background radiation from cosmic rays and geologic sources still would be barely detectable.

"The increased cancer risk from that exposure would be less than 1%," he said.

US Nuclear Plants Should Be Safe

According to the NRC -- the US government's atomic energy watchdog -- nuclear plants must be designed to withstand "the most severe natural phenomena historically reported for the site and surrounding area. The NRC then adds a margin for error to account for the historical data's limited accuracy."

However, earthquake resistance specifications for two plants on California's coast are lower than some historic quakes in the state, and much less than the magnitude-9.0 temblor that struck Japan last week.

The Diablo Canyon station north of Santa Barbara is built to withstand a magnitude-7.5 quake, and a plant at San Onofre, north of San Diego, can tolerate a 7.0 magnitude shock.

Three earthquakes of magnitude 7.5 or more have been recorded near these facilities in the past 200 years, according to the Southern California Earthquake Data Center at Caltech.

Nevertheless, Marvin Fertel, president and CEO of the Nuclear Energy Institute declared on the television program Meet the Press on Sunday that these and all other US plants are "designed to withstand the maximum credible earthquake."

He added, "We've done things post-9/11 to make sure ... if you lost all power you could get water to the core and continue to cool it."

What appears to have been the critical factor leading to the Japanese reactors' problems was the tsunami.

The onrush of seawater knocked out the onsite generators that provided the power to water pumps for cooling the immensely hot reactors. Engineers have since been struggling to bring in and install replacement generators to resupply the reactors with cooling water.

Although both Diablo Canyon and San Onofre are on the Pacific coast, where they might be vulnerable to tsunamis, they are sited on headlands about 120 and 80 feet above sea level, respectively.

The tsunami that washed ashore in Japan last week was estimated at 20 to 30 feet.

On the other hand, some East Coast nuclear plants are virtually at sea level, such as Indian Point on the Hudson River north of New York City and Seabrook Station in New Hampshire.

Although tsunamis are much rarer in the Atlantic Ocean because of the different geology relative to the Pacific Rim, they are not unheard of. Lisbon and other towns along the Portuguese coast suffered major damage from a tsunami that followed an estimated magnitude-9.0 quake in 1755.

Also, according to the Maine Geological Survey, a tsunami struck eastern Canada in 1929, killing 25 to 50 people, with wave heights approaching 90 feet at the heads of some long, narrow bays that acted as funnels.

Medical Disaster Plans in Place

The NRC requires that nuclear facilities develop plans for dealing with radiation leaks into the surrounding environment, but gives them considerable latitude in determining the appropriate response to a given scenario.

Robert Rathie, an attorney involved with the independent committee monitoring safety at the Diablo Canyon Nuclear Power Plant, noted that every plant faces different risks based on the local geography.

Flexibility in the emergency plans makes sense, Rathie told MedPage Today in an interview.

Emergency practice sessions, overseen by the federal Nuclear Regulatory Commission, occur at least twice a year at the Diablo Canyon plant, he noted.

But state and local emergency services take on more of the safety planning for the community, with oversight by FEMA.

Key information, such as evacuation routes, for communities near a nuclear power plant can typically be found in the phone book, Rathie noted.

But "most people don't look for it until something like the Japanese nuclear emergency gets their attention," he said.

Indeed, many states may not have been giving nuclear disaster preparedness enough attention, according to a study released online today in the journal Disaster Medicine and Public Health Preparedness.

The survey of state departments of health indicated that those with a nuclear power plant were better prepared for a major nuclear emergency, but most still weren't prepared enough.

The 2010 survey predated the Japanese triple threat of earthquake, tsunami, and nuclear power plant equipment malfunction.

It reviewed written radiation response plans for the majority of states, most of which detailed communications issues during an emergency.

But the medical side of planning fell short.

Fewer than half of the states surveyed had written plans for radiation exposure assessment, environmental sampling, human specimen collection and analysis, and human health assessment.

These are all critical aspects of protecting people from the harmful effects of a radiation disaster, study author Sharon M. Watkins, PhD, of the Florida Department of Health, explained to MedPage Today.

State budget crunches have probably contributed to the problem, since many states said they just didn't have enough resources for those capabilities, she noted.

Ahead of an actual emergency, there's little physicians and other individuals can do to prepare, Watkins noted.

Rather, the group recommended action at the federal and state level.

Federal "best practices" for collaborations to get better-prepared states to share their knowledge with less-prepared states would be a good idea, Watkins suggested, noting that every state carries some risk of a nuclear disaster whether a transport accident, nuclear medicine problems, or a "dirty bomb" attack.

But medical staff at hospitals near the Diablo Canyon and San Onofre plants in California told MedPage Today that they believe they are prepared for the most likely radiation-related scenarios in their communities.

Medical centers in the vicinity of nuclear plants typically have a close working relationship with the emergency preparedness teams at those facilities, hospital managers said.

Staff from California's San Onofre nuclear facility do annual physician training and supply assessment at nearby Saddleback Memorial Medical Center in San Clemente, according to James Lenthall, director of safety services at the hospital.

Given the hospital's location within a 10-mile radius of the San Onofre plant, the NRC also requires that it conduct larger drills every three years in which the hospital practices receiving multiple victims of radiation exposure, Lenthall said.

In general, however, most training focuses on exposed plant workers, rather than a large-scale public health disaster, according to Julia Fogelson, MD, director of the emergency department of French Hospital Medical Center in San Luis Obispo, near the Diablo Canyon power plant.

Those workers would typically be decontaminated at the plant, although Fogelson said the hospital is prepared to prevent a radiated worker from posing a danger to other patients.

Like Lenthall, Fogelson emphasized that familiarity with the emergency managers at the nuclear facility is vital.

"We are all familiar with each other, and there's a comfort level and trust," she said. "There's a pretty well-oiled unit in place if anything were to happen."

People Have Unreasonable Fears Of Radiation, Physicist Says (LAT)

By Shari Roan

Los Angeles Times, March 15, 2011

The threat of a major nuclear accident – which is occurring now in Japan – is alarming to people because of our tendency to fear radiation in all of its degrees and forms, said Jerrold Bushberg, a medical physicist at UC Davis.

In an interview Saturday, Bushberg noted that Americans don't have a particularly good grasp of the science of radiation and tend to over-exaggerate the risks. Debates over the safety of exposure from radiofrequency waves emitted by cellphones and high-power lines is an example of how worried people are, he said.

"I think anything that has radiation associated with it conjures up in people's mind -- either consciously or subconsciously -- fears of everything from nuclear weapons and nuclear reactor accidents like Chernerbol," he said.

Movies and TV shows tend to portray radiation in a decidedly non-scientific way, which can shape attitudes about radiation. In cartoons, characters from Spider-Man to Ninja Turtles are transformed by radiation exposure.

"As children you get this message that radiation can do odd and mysterious things – most of it not good," he noted.

Experts Plan For How To Deal With Nuclear Terror Strike (USAT)

By Steve Sternberg

USA Today, March 15, 2011

A terrorist nuclear strike in a major US city would kill and injure so many people that disaster planners rewrote the rules for dealing with casualties.

Their analysis is part of a comprehensive effort to develop a medical response plan for dealing with a 10-kiloton nuclear bomb, which would pack roughly the explosive force of the Hiroshima blast or 5,000 Oklahoma City truck bombs.

Demand for medical care would be almost inconceivable. In Washington, a city with 38 ambulances, and neighboring communities, at least 930,000 people would seek medical care. More than 70,000 would need hospitalization, vastly overflowing the city's 3,600 hospital beds. There would be at least 1,000 severely injured trauma patients for every available operating room, says co-author David Weinstock, a radiation expert at the Dana Farber Cancer Institute. The reports were released Monday in the Journal Disaster Medicine and Public Health Preparedness.

"It's impossible to be fully prepared for this kind of event," Weinstock says. "It's too big."

A 10-kiloton blast would propel a 100-mph fireball 5 miles into the sky, according to a White House planning guide released in June. Heat, hyperexplosive pressures and 900-mph winds would flatten buildings for half a mile. Thousands of people would vanish in smoke and flame. Hundreds of thousands would be exposed to radiation or injured by collapsing buildings, flying glass and other debris. Radioactive fallout would rain down for hundreds of miles.

Any medical centers left standing for miles around ground zero would be overwhelmed by dazed and bleeding survivors, who would quickly drain stockpiles of supplies that might take days to replenish, the analysis finds.

"It's a spectacular and unthinkable situation," says Alexander Garza, chief medical officer of the Department of Homeland Security, who was not involved in the analysis. "But the time to prepare is now, and not wait until after the fact."

The research indicates that first responders who lack medical supplies can save more lives by focusing on victims with moderate injuries rather than on those whose injuries are severe — usually the top priority on the battlefield and in more common disasters. An ethical analysis concluded that it would be appropriate to use scarce medications to provide pain relief and comfort to those who may not make it.

"In a three-person disaster, you can throw everything at everybody," says Norman Coleman, a disaster response expert at the Department of Health and Human Services who helped coordinate the analysis. "When you have almost nothing, you throw resources at those with the best chance of making it."

About 12,000 "potentially salvageable" survivors with radiation sickness would probably be dispersed to 40 medical centers that participate in the Radiation Injury Treatment Network, funded by the Navy and the National Marrow Donor Program. Radiation wrecks the bone marrow, which produces blood cells. Each center has reported it could take at least 300 patients and provide treatment to replenish the bone marrow in cancer patients.

John Hick of Hennepin County Medical Center says there are ways for those outside the blast zone to avoid injury. "If you're living in a potential target area," he says," and you see a bright flash outside, duck and cover. If you go to the window to see what's happening, you'll get hit when the blast wave blows out the window glass. Then, go to shelter like you would in a tornado. That alone could save tens of thousands of lives."

Blast Strikes Japan Plant, Core Safe (Reu)

Reuters, March 14, 2011

Full-text stories from Reuters currently cannot be included in this document. You may, however, click the link above to access the story.

Kerry Urges Debate On Energy Policy (BOS)

By Theo Emery

Boston Globe, March 15, 2011

WASHINGTON — The emerging threat of nuclear meltdowns from damaged reactors in Japan should trigger an overdue discussion on energy security concerns as the nation tries to develop a comprehensive policy encompassing many forms of fuel, Senator John Kerry said yesterday.

"A lot of folks took a new hard look at nuclear because it's low-carbon energy," the Massachusetts Democrat said in a statement, describing ongoing efforts to shift the nation's energy policy away from fossil fuels, "but the safety questions about meltdowns and waste were always part of the discussion."

Kerry's comments follow reports detailing extensive damage to the Fukushima Daiichi Nuclear Power Station.

In his months-long effort to develop a consensus on energy and climate legislation in the Senate last year, Kerry had embraced nuclear power as a key element in reducing greenhouse gas emissions, which scientists say lead to global warming.

Those efforts failed.

Senator Joseph Lieberman, independent of Connecticut and a longtime supporter of nuclear energy who helped Kerry develop his climate change legislation, has called for the United States to "put the brakes on" nuclear power until events unfolding in Japan are understood.

Kerry's statement did not call for any such slowdown. Instead it offered reminders of why skeptics came to support nuclear power as a flawed but necessary part of the nation's energy policy.

"In recent years, environmentalists and policy makers in both parties started taking a fresh look at nuclear power because none of our current energy options are without a downside," he said.

"We have to get our energy from somewhere, and right now none of our options are entirely attractive."

Also yesterday, Representative Edward J. Markey, a Democrat from Malden, called on the Obama administration to distribute potassium iodide, which is ingested to counteract radiation, to state and local governments for residents within 20 miles of nuclear plants.

Congress approved the requirement in legislation in 2002, but the federal government never instituted the bill, which was proposed by Markey.

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Nuclear Plants In Europe Are Delayed (NYT)

By Judy Dempsey

New York Times, March 15, 2011

BERLIN – With the crisis in Japan raising fears about nuclear power, Germany and Switzerland said on Monday that they would reassess the safety of their own reactors and possibly reduce their reliance on them.

Doris Leuthard, the Swiss energy minister, said Switzerland would suspend plans to build and replace nuclear plants. She said no new ones would be permitted until experts had reviewed safety standards and reported back. Their conclusions will apply to existing plants as well as planned sites, she added. Swiss authorities recently approved three sites for new nuclear power stations.

Germany will suspend "the recently decided extension of the running times of German nuclear power plants," Chancellor Angela Merkel told reporters in Berlin. "This is a moratorium and this moratorium will run for three months." She said the suspension would allow for a thorough examination of the safety standards of the county's 17 nuclear power plants.

"There will be no taboos," Mrs. Merkel said.

Even when the three months is over, Mrs. Merkel warned, there would be no going back to the situation before the moratorium.

Across Europe, officials worried about the Continent's use of nuclear power as cooling systems failed at a third nuclear reactor in Japan and officials in that country struggled to regain control.

The European Union called for a meeting on Tuesday of nuclear safety authorities and operators to assess Europe's preparedness. Austria's environment minister, Nikolaus Berlakovich, called for a European Union-wide stress test "to see if our nuclear power stations are earthquake-proof."

In Germany, with Mrs. Merkel's center-right coalition facing important regional elections this month, the move was apparently in part an effort to placate the influential antinuclear lobby and give her coalition some breathing space before making a final decision about nuclear energy.

The foreign minister, Guido Westerwelle, called for a new risk analysis of the country's nuclear plants, particularly regarding their cooling systems. He is the leader of the pro-business Free Democratic Party, which strongly supports nuclear power.

A previous government, led by the Social Democrats and Greens, pushed through legislation in 2001 to close all of the country's nuclear plants by 2021. But Mrs. Merkel's center-right government reversed that decision last year and voted to extend the lives of the plants by an average of 12 years.

Nuclear energy provides about 11 percent of Germany's energy supply but its contribution to electricity output is about 26 percent.

In Switzerland, the suspension of plans to build and replace plants will affect all "blanket authorization for nuclear replacement until safety standards have been carefully reviewed and if necessary adapted," Ms. Leuthard, the energy minister, said in a statement.

Switzerland has five nuclear reactors, which produce about 40 percent of the country's energy needs.

Ms. Leuthard said she had already asked the Federal Nuclear Safety Inspectorate to analyze the exact cause of the problems in Japan and draw up new or tougher safety standards "particularly in terms of seismic safety and cooling."

In Russia, Prime Minister Vladimir V. Putin said his government would not revise its ambitious program of building nuclear reactors but would "draw conclusions from what's going on in Japan," Russian news agencies reported. Nuclear power currently accounts for 16 percent of Russia's electricity generation.

Japan Nuclear Crisis Sends Ripples Across Europe, Causes Rethink In Germany (CSM)

The Japan nuclear crisis has 'consequences for the whole world,' German Chancellor Angela Merkel said today ahead of an emergency EU meeting on nuclear power.

By Isabelle De Pommereau, Correspondent

Christian Science Monitor, March 15, 2011

Frankfurt

Japan's nuclear crisis is sending ripples of unease across Europe, with the European Union convening an emergency meeting Tuesday to discuss safety measures for its nuclear power plants and Germany announcing a total rethink of its use of nuclear energy.

Chancellor Angela Merkel today suspended a plan to prolong the lifespan of Germany's 17 nuclear power plants, which are among 195 across a continent still haunted by the Chernobyl nuclear disaster 25 years ago. Britain, Switzerland, and Finland also announced reassessments of their nuclear programs.

"Everything will be reviewed," Ms. Merkel said at a press conference in Berlin. "If a highly developed country like Japan, with high safety standards and norms, cannot prevent the consequences for nuclear power of an earthquake and a tsunami, then this has consequences for the whole world."

IN PICTURES: Japan's 8.9 earthquake

This nation's wariness of nuclear power is exemplified in the small village of Biblis on the Rhine River, home to Germany's oldest nuclear reactor. While the plant is the village's biggest employer, many here were still incensed last fall when Merkel pledged to extend the life of the nation's nuclear power plants by 12 years beyond their original shutdown date in 2021 – breaking a popular deal forged by her predecessor, Gerhard Schröder, to bring a "comprehensive and irreversible" end to nuclear power here.

Resident Erhard Renz felt betrayed, angry, and ready to protest.

And now with the unfolding nuclear crisis in Japan, Mr. Renz has done just that, joining upwards of 50,000 Germans on Saturday in a 25-mile-long human chain from Stuttgart to Neckarwestheim nuclear plant to call for their nation to shutter its nuclear facilities.

"Japan shows that it will never ever be possible to run a nuclear plant that's problem-free," says Renz. "The question is when the next catastrophe strikes."Merkel faces political dilemma

Merkel said she would invite all 16 state premiers to Berlin – likely tomorrow – to coordinate federal- and state-level discussions on nuclear safety. She said the three-month suspension and review could lead to the country's oldest nuclear plants, such as in Biblis, to be closed permanently.

"This changes the situation, including in Germany," Merkel said. "We have a new situation, and this situation must be thoroughly analyzed."

Her announcement is also seen as a political move at a time when polls show most Germans oppose nuclear power. It has become a hot button issue in the March 27 election in Baden-Württemberg state, a conservative stronghold that Merkel's party is in danger of losing for the first time in almost six decades. The timing of the Japanese crisis could further hurt the Christian Democrats at the poll.

"They know they are trapped in a dilemma. They know they cannot reverse what they said earlier, that all power plants are safe," says Marcel Viëtor, who is in charge of energy and climate issues at the German Council on Foreign Relations, a Berlin-based think tank. "The best solution they've found is to pull the break and buy time."Politicians shift stance

Already, Japan's unfolding crisis has prompted prominent Christian Democrats to depart from the party stance on nuclear power.

"If we take it seriously and say the incident has changed the world – and much that we as an industrial society have regarded as safe and manageable is now in question – then we can't exclude anything," said EU Energy Commissioner Günther Oettinger, a member of Merkel's party.

Environment Minister Norbert Röttgen, another Christian Democrat, called on his party to discuss the nuclear energy anew. "The Christian Democrats cannot come up with answers from yesterday when the world today has changed."

Germany's Foreign Minister Guido Westerwelle, who leads the coalition partner Free Democrats, said he could see Germany abandoning the lifespan extension of nuclear power plants as a consequence of the Japan disaster.

"We need a new safety analysis," Mr. Westerwelle said Monday at a party meeting in Berlin. "We will also discuss the consequences [of nuclear energy] in Germany, and we will negotiate and decide quickly."

IN PICTURES: Japan survivors

Emerging Economies Move Ahead With Nuclear Plans (NYT)

By Heather Timmons and Vikas Bajaj

New York Times, March 15, 2011

NEW DELHI -- Despite Japan's crisis, India and China and some other energy-ravenous countries say they plan to keep using their nuclear power plants and building new ones.

The Japanese disaster has led some energy officials in the United States and in industrialized European nations to think twice about nuclear expansion. And if a huge release of radiation worsens the crisis, even big developing nations might reconsider their ambitious plans. But for now, while acknowledging the need for safety, they say their unmet energy needs give them little choice but to continue investing in nuclear power.

"Ours is a very power-hungry country," Srikumar Banerjee, the chairman of India's Atomic Energy Commission, said during a news conference Monday in Mumbai. Nearly 40 percent of India's 1.2 billion people do not have regular access to electricity, Mr. Banerjee said. "It is essential for us to have further electricity generation."

And in China, which has the world's most ambitious nuclear expansion plans, a vice minister of environment, Zhang Lijun, said on Saturday that Japan's difficulties would not deter his nation's nuclear rollout.

With those two countries driving the expansion – and countries from elsewhere in Asia, Eastern Europe and the Middle East also embracing nuclear power in response to high fossil fuel prices and concerns about global warming -- the world's stock of 443 nuclear reactors could more than double in the next 15 years, according to the World Nuclear Association, an industry trade group.

Not that Indian and Chinese officials are heedless of the risks of nuclear energy. India's prime minister, Manmohan Singh, said Monday that his country's Department of Atomic Energy would review all safety systems at India's nuclear plants, "particularly with a view to ensuring that they would be able to withstand the impact of large natural disasters such as tsunamis and earthquakes."

During a political conference in Beijing on Sunday, Xie Zhenhua, vice chairman of the National Development and Reform Commission, said, "Evaluation of nuclear safety and the monitoring of plants will be definitely strengthened."

China's nuclear power industry has 11 reactors operating and plans to start construction on as many 10 new ones a year during the next decade. China's electricity consumption continues to climb 12 percent a year, even as usage stagnates in the West.

India, with 20 nuclear reactors already in operation, plans to spend an estimated $150 billion adding dozens of new ones around the country. Its forecast calls for nuclear power to supply about a quarter of the country's electricity needs by 2050, a tenfold increase from now.

One company that could benefit from the continued global push for nuclear energy is General Electric, a maker of reactors. Other big players include Areva of France and Toshiba's Westinghouse unit.

But on Monday, at least, G.E.'s chairman and chief executive, Jeffrey R. Immelt, found himself on the nuclear defensive. G.E. was the designer of the reactors at the 40-year-old Fukushima Daiichi plant in Okuma, Japan, that was damaged by last Friday's tsunami and has had a series of explosions since then.

Mr. Immelt, who happened to be in New Delhi on a previously planned promotional tour for his company's products and services, said at a news conference Monday that it was too early to predict what effect, if any, the events in Japan could have on the nuclear energy industry. G.E.'s stock closed down more than 2 percent on Monday, to $19.92.

"We just have to let discovery take place, and let countries reach their own conclusions," he said. "There has been an almost 50-year track record from nuclear power that people can look back on and make their own judgments on."

Asked whether the Fukushima Daiichi plant's oceanfront location had contributed to its vulnerability, Mr. Immelt replied, "On location and all that other stuff – let's just let it take its course."

So far, G.E. has not sold any nuclear plants to India. Most of the country's existing reactors have been built locally with some Russian help, and contracts have been awarded for more Russian-backed plants. India also signed a nuclear reactor deal with Areva in December for $9.3 billion.

The United States has lobbied extensively to open India's nuclear power market to American industry. Indian and American officials spent more than five years negotiating a nuclear energy agreement that was blessed by both governments and international nuclear agencies.

That deal, completed last August, is considered one of Mr. Singh's major foreign policy successes and a cornerstone of his Congress Party's pledge to help India's economic growth.

But the pact included an unusual liability clause that makes nuclear power plant suppliers, not just operators, liable if accidents occur.

Despite American pressure to change that provision, the Japan disaster could encourage Indian legislators to keep it in place.

G.E. and Westinghouse have said they will stay out of the Indian nuclear market unless the country changes its liability law to conform with international standards.

Walt Patterson, an associate fellow at Chatham House in London, predicted that the problems at Japan's nuclear plants would refocus attention on safety and away from the economic viability of atomic energy.

"The question mark about safety was really way down the agenda," Mr. Patterson said. "This will bring it right back to the top of the agenda."

Chancellor Angela Merkel of Germany on Monday said her country's plan to prolong the life of the country's nuclear power stations would be tabled while the German government reassessed the situation.

Switzerland on Monday suspended plans to build new plants and replace existing ones. The Swiss energy minister, Doris Leuthard, said in a statement that the "safety and well-being of the population have the highest priority."

But at the same time, Italy, Russia and the Czech Republic all said they would stick to their energy policies.

Across the Middle East, countries have been racing to build up nuclear power, as a growth and population boom has created unprecedented demand for energy, and as Iran forges ahead with the Bushehr nuclear facility.

The United Arab Emirates has taken the lead with a plan to build four plants in the city of Braka, on the Persian Gulf, by 2017 to generate about a quarter of the country's power by 2020.

The Emirates Nuclear Energy Corporation, the project's developer, is "closely monitoring the situation in Japan," a spokesman said Monday, although no reassessment of the effort is under way.

The emirates plan to use pressurized water reactors bought from Korea Electric Power Company of South Korea in a $20 billion deal, passing over French and American bids for the project.

One of the emirates, Abu Dhabi, chose Braka because it is near the water and an existing power grid, far from populated areas, and lies on a seismically stable landmass.

Because the Persian Gulf is an enclosed sea, planners say there is little threat of a tsunami in the event of an earthquake.

By contrast, Iran's Bushehr nuclear plant, also on the Persian Gulf, is much less seismically stable, which worries environmentalists. Any nuclear leak there would quickly reach the wealthy emirates of Dubai, Abu Dhabi and others because the gulf's currents run clockwise.

The Iranian plant unloaded nuclear fuel in February after a computer worm infected the reactor.

Jordan, Kuwait, Qatar, Bahrain and Egypt are all also studying nuclear energy, and even oil-rich Saudi Arabia is considering a nuclear-powered city.

Most plants would be placed in seismically stable areas, although one planned by Jordan at the Red Sea port of Aqaba is on a major faultline.

Turkey on Monday said it would move ahead with plans for two nuclear plants, including one that may use Japanese nuclear technology from the Tokyo Electric Power Company and Toshiba. Numerous geological faultlines cross the country.

India's nuclear energy establishment has faced stiff opposition to its ambitious plans from environmentalists and villagers at plant sites.

Many of the questions posed to energy officials at Monday's news conference addressed a controversial nuclear project on the western coast of the country, north of Goa, a tourist destination.

As currently envisioned, it would be the world's largest nuclear energy complex.

But analysts in India said the Japan crisis was unlikely to stir up significantly more public protest against nuclear plants here, given the pressing demand for more electricity.

"If 1 percent of the population was against nuclear power, you might now get 2 percent," said G. Balachandran, a consulting fellow at the Institute for Defense Studies and Analysis, a policy research organization in New Delhi. "I am really not concerned about the opposition that may develop around this."

Vikas Bajaj reported from Mumbai, India. Reporting was contributed by Keith Bradsher from Hong Kong, Liz Alderman from Paris and Judy Dempsey from Frankfurt.

Amid Lawmakers' Concerns, Officials Say US Nuclear Plants Are Safe (CNN)

By The Cnn Wire Staff

CNN, March 15, 2011

Washington (CNN) -- Any plans to build a nuclear power plant in an area of the United States prone to earthquakes should be reconsidered in light of the damage to Japanese reactors by last week's earthquake and tsunami, Democratic Rep. Ed Markey of Massachusetts told CNN on Monday.

"We just have to call a time out and examine whether or not those safety features necessary in the future are built into new nuclear power plants in our country," said Markey, who sits on the House committee overseeing nuclear power.

In response, the chairman of the independent Nuclear Regulatory Commission, which regulates US reactors, said the plants were built to withstand earthquakes and other natural disasters.

"All our plants are designed to withstand significant natural phenomena, like earthquakes, tornadoes, and tsunamis," NRC Chairman Gregory Jaczko said at the White House.

Jaczko was invited to brief reporters by White House Press Secretary Jay Carney. He also said there is little chance of radiation from the troubled Japanese reactors affecting the United States.

The design of the Japanese reactors and the nature of the problems there made it "a very low probability that there's any possibility of harmful radiation levels in the United States or in Hawaii or any other US territories" from Japan, he said.

The leaking of radiation from Japan's damaged reactors raised questions about the safety of the 104 non-military US nuclear reactors, which provide 20 percent of the nation's power supply.

On Sunday, a Senate proponent of nuclear energy also called for a temporary halt in building nuclear power plants in the United States until the situation in Japan can be examined.

Sen. Joseph Lieberman, an independent from Connecticut who sits with the Democratic caucus, said on the CBS program "Face the Nation" that the United States should "put the brakes on right now until we understand the ramifications of what's happening in Japan."

Markey sounded a similar call Monday, saying, "Any plant that is being considered for a seismically vulnerable area in the United States should be reconsidered right now."

He also called for ensuring that backup systems for US nuclear plants include sufficient cooling fluids for shutting down reactors and for the government to distribute radiation-blocking potassium iodide to people living within a 20-mile radius of a nuclear plant, as was called for in a 2002 bill he authored.

According to Markey, the Bush administration refused to comply with the law, and now he wants the Obama administration to ensure that "any family within a 20-mile radius of a nuclear power plant in the United States has access to the potassium iodide, especially to protect their children." So far, he said, the administration has declined to take that step.

At the White House briefing, Deputy Energy Secretary Daniel Poneman made clear that nuclear power remains part of US energy policy.

"Seventy percent of the carbon-free electricity in this country comes from nuclear power," said Poneman, who also appeared at Carney's request. "So we do see nuclear power as continuing to play an important role in building a low-carbon future, but be assured that we will take the safety aspect of that as of our paramount concern."

House Majority Leader Eric Cantor of Virginia also said the situation in Japan should not affect the role of nuclear power in US energy policy, noting that he agrees with President Barack Obama on that point.

"This is the result of a tsunami, and the shutdown and what is going on over there with the reactor has a direct causal link with the tsunami, so I do believe that we certainly do want to get to the bottom of it, and if we can learn any lessons from Japan's experience for sure," said Cantor, who has a facility in his district applying for a nuclear power plant license. "But nuclear power is an essential part of the energy mix in this country."

Also Monday, Tony Pietrangelo of the Nuclear Energy Institute, the policy organization of the nuclear energy and technology industry, said US plants are "designed to withstand the most severe seismic events or earthquakes, as well as tsunamis where applicable, and flooding."

"We have rules to deal with station blackout, which is what they are experiencing in Japan," Pietrangelo said, referring to the power loss at the Japanese nuclear plants that affected the function of backup response systems. It was the "one-two" punch of the earthquake and tsunami that caused the problem, as the Japanese reactors withstood the shaking without significant problem, he said.

US plants, Pietrangelo said, "are designed for the seismic events in their area."

"The West Coast plants are designed to higher standards than the Central and Eastern United States," he said. "It is based on a historical look at what has happened in those areas, what soil or rock they sit in. They are very robust. I think, as we have seen in Japan, despite the magnitude of that earthquake, they hold up quite well."

To Markey, though, the problem is that "it's impossible to totally predict all of the different kinds of events which can unfold in these types of circumstances."

"Let's be honest," he added, "none of the experts can be 100% certain what magnitude of an earthquake that can hit."

The United States nuclear reactors operate at 65 plants across the country. In addition, there are dozens of reactors, weapons labs and other nuclear facilities associated with national defense. Most of the civilian plants are located near major population centers.

A new nuclear plant has not been commissioned since the Three Mile Island meltdown in Pennsylvania in 1979, although dozens that were under construction at the time have come on line.

More recently, increased electricity use, a desire to generate homegrown energy and concern over global warming have made carbon-free nuclear power more attractive.

The government has set aside $18 billion for new nuclear plants, and Obama wants to spend an additional $36 billion.

Federal regulators are reviewing 20 applications to build nuclear plants, and several existing facilities have applied to extend their operating licenses.

Perhaps the most vulnerable US plants are the two built on California's Pacific coast near the San Andreas Fault.

Those plants were built to withstand a magnitude-7.5 earthquake, said Robert Alvarez, a nuclear expert at the Institute for Policy Studies and a former senior official at the US Department of Energy.

The San Francisco quake of 1906 measured 8.3, said Alvarez, and Friday's Japanese quake was a massive 8.9.

"I don't think we should renew those operating licenses," he said.

Spokesmen for the utilities that own the California plants, Pacific Gas & Electric and Southern California Edison, said Sunday that the plants are designed to meet the maximum quake projected for their immediate vicinity, which is not thought to exceed a magnitude of 6.5.

According to Pietrangelo of the Nuclear Energy Institute, every two years, US nuclear plants undergo emergency planning exercises run by the Nuclear Regulatory Commission and the Federal Emergency Management Agency.

"We are the gold standard of emergency planning, and other industries have learned from what we do on our stations," Pietrangelo said.

CNNMoney's Steve Hargreaves and CNN's Tom Cohen, Deirdre Walsh and Dana Bash contributed to this story.

US Says Still Committed To Nuclear Energy (REU)

By Jeff Mason And Timothy Gardner

Reuters, March 15, 2011

Full-text stories from Reuters currently cannot be included in this document. You may, however, click the link above to access the story.

Japan's nuclear problems pose little danger to US, Nuclear Regulatory Commission chief says (LAT)

By Michael A. Memoli

Los Angeles Times, March 15, 2011

The threat to the United States of a meltdown at a Japanese nuclear plant is minimal, the chairman of the US Nuclear Regulatory Commission said Monday.

Speaking at the White House, Gregory Jaczko said there is "a very low probability" of harmful radiation levels affecting any US territories, and that the government is providing technical assistance to Japanese officials in response to the crisis at Fukushima No. 1 (Daiichi) nuclear power plant.

"Right now, based on the information we have, we believe that the steps that the Japanese are taking to respond to this crisis are consistent with the approach that we would use here in the United States," Jaczko said. "We advise Americans in Japan to listen to and to follow the instructions of the Japanese government with regard to the nuclear facilities."

White House spokesman Jay Carney said that President Obama has been briefed multiple times since Friday's earthquake and tsunami. The White House counter-terrorism advisor, John Brennan, is coordinating the administration's response.

Officials also told reporters that the US is well-equipped to respond to events like the one in Japan. The government reviewed its readiness to deal with natural disasters in the wake of the 2004 Indian Ocean tsunami.

"We believe we have a very solid and strong regulatory infrastructure in place right now," Jaczko said.

Amid calls for a moratorium on construction of any new domestic plants, Deputy Secretary of Energy Daniel Poneman said nuclear power must be considered as part of any energy strategy. He said 20% of all US energy comes from nuclear power, and it accounts for 70% of all carbon-free energy.

"We do see nuclear power as continuing to play an important role in building a low-carbon future. But be assured that we will take the safety aspect of that as our paramount concern," he said.

Two experts from the NRC are on the ground in Japan, primarily working with the US Embassy there and also keeping in contact with their Japanese counterparts. The United States stands prepared to offer additional support as requested, the officials said.

Monday brought not only continued concern over loss of life and the threat of a nuclear meltdown, but questions over whether the Japanese economy can withstand the devastating blow of multiple disasters. Carney said Obama has "full confidence in the capacity of Japan to address the economic challenges."

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Nuclear will remain part of US energy policy: DOE official (PLATTS)

By Derek Sands

Platts.com, March 15, 2011

The US will continue to make use of nuclear power as part of its energy policy going forward, despite the release of radiation from a Japanese reactor in the wake of a massive earthquake and tsunami in that country, a senior US Department of Energy official said Monday.

"We view nuclear energy as a very important component to the overall portfolio we are trying to build for our clean-energy future," said Daniel Poneman, DOE deputy secretary. "But, be assured that we will take the safety of that as our paramount concern."

Poneman made the comments during a White House news conference.

The earthquake off Japan's coast Friday, which has been upgraded to a magnitude of 9.0, led to at least two explosions at, and a release of radiation from, the Fukushimi Daiichi nuclear power plant.

An expansion of nuclear power in the US has gotten wide, bipartisan support from President Barack Obama and lawmakers in Congress, but in the disaster's wake, some in Congress have called for a slowing of new nuclear construction.

Representative Edward Markey, the senior Democrat on the House Natural Resources Committee, has called for a moratorium on new nuclear construction in seismically active areas until a "top to bottom" review can be done of reactor designs and emergency response plans.

"I am also struck by the fact that the tragic events now unfolding in Japan could very easily occur in the United States. What is happening in Japan right now shows that a severe accident at a nuclear power plant can happen here," Markey said.

At the White House news conference, NRC Chairman Gregory Jaczko told reporters that while his agency will look what led to the problems at the Japanese reactor, he is assured that US reactors are currently operating safely.

"Right now, we continue to believe that nuclear power plants in this country operate safely and securely," he said. "So we believe we have a very solid and strong regulatory infrastructure in place right now. But of course, as we always do, as an independent regulatory agency, we will continue to -- to take new information and see if there are changes that we need to make with our -- with our program."

Jaczko also said that the agency had sent two experts to Japan, with three others from DOE, to work with a US Agency for International Development-led team in Tokyo to assist the Japanese government. The agencies are also preparing to send more personnel, he said.

Jaczko said that there is a "low probability" of harmful radiation exposure in the US or its territories from the Japan release.

Can The US Handle A Nuclear Disaster? (BOS)

Boston Globe, March 15, 2011

FIRST THE EARTHQUAKE, then the tsunami, and now the radiation. Given the devastation and horror in Japan, it does not take much of an imagination to wonder whether locusts are next.

Unit No. 3 at Japan's stricken Fukushima Daiichi nuclear plant continues to explode and release radiation, causing health and safety concerns in the immediate area and unleashing a debate about nuclear energy and safety around the world. The Obama administration, which had based its energy and climate policy on clean coal development, expanded offshore oil drilling, and nuclear power, has now seen these basic pillars all questioned by disaster in the form of the Upper Big Branch coal explosion in West Virginia, the BP oil spill in the Gulf of Mexico, and now the earthquake in Japan.

I have worked in homeland security for several years, and spent most of last summer responding to the BP oil spill. I have seen how disaster can force us to ask the right questions (Wasn't the blow-out preventer 100 percent guaranteed to stop any leaking from an accident?) and the unanswerable ones (Isn't this solid proof that all offshore drilling is too dangerous?). With events in Japan, the natural tendency will be to assume that nuclear power is unsafe at any speed, and that Obama's hopes to expand nuclear energy technology and build 20 new nuclear plants are all but doomed.

The important policy debate, however, risks merging two separate issues. First, can US nuclear power plants handle a major natural disaster? That question, pushed by Representative Ed Markey of Massachusetts, may be a terrifying no. In the past, hurricanes and tornadoes have damaged nuclear plants in Ohio, Florida, and Louisiana. The Nuclear Regulatory Commission requires that every plant be built to survive an earthquake larger than the strongest ever recorded in the area. But that standard means that we've failed to anticipate the Big One. Nuclear construction and engineering must study and adapt to what is happening at Daiichi in order to ensure that the buildings and construction serve as the first line of defense against any leakage.

The second issue is just as essential: What would we do if radiation started to leak? "Run fast" is not the only answer. In fact, the American public's lack of basic knowledge about radiation and preparedness must be one of the scariest consequences of a nation still struggling about how to encourage preparedness on the part of ordinary citizens without terrifying them. The legacy of former Homeland Security Secretary Tom Ridge's "duct tape and plastic sheeting" has made us, at best, skeptical and, at worst, smug about taking responsibility for our own safety.

Residents near the Pilgrim nuclear plant in Massachusetts, and those within the 10-mile radiation zone of Vermont Yankee and Seabrook, N.H., are used to preparing themselves and seeking assistance from the government with training and drills, access to medication, and evacuation plans. They may not be completely confident in the government's planning, but they aren't completely dependent on it, either.

Last summer, the Obama administration began the difficult challenge of making plans to educate citizens about radiation in the event of a nuclear attack, detonation, or release. The advice — stay put, a variation of my elementary school days "duck and cover" technique — was based on extensive study of radiation fallout; if you are indoors, you would receive a 10th the radiation you'd receive outdoors, fleeing.

The White House planning document for a nuclear event essentially admits that the public would be foolish to rely too heavily on the government. Sheltering in place (for any contingency) requires a few minutes to prepare your home with basic

essentials, including water and food, and to ensure that your loved ones know where to go in the event that all communications are disrupted. It is that simple; no drama, no duct tape.

I couldn't help noting the irony that on the day of Representative Peter King's controversial hearings on the fear of Islamic radicalism in our midst, Mother Nature reminded us that we live among threats every day. We don't have to create them. If there is any good news about the events in Japan, it is that the Japanese government's preparedness philosophy — not based on terrorism, but on Mother Nature — and the public's personal acceptance of responsibility for being prepared helped save many lives.

There is no doubt that nuclear safety will be the subject of a heated debate in the months to come. And that debate may serve as an important opportunity to challenge not only the nuclear industry's assumptions about plant safety, but also our own assumptions about empowering ourselves to protect our well-being.

Juliette Kayyem, a guest columnist, is former homeland security adviser for Massachusetts and most recently served as assistant secretary at the US Department of Homeland Security.

State Health Departments Unprepared For Radiation Emergency, Survey Finds (MODHLT)

By Paul Barr

Modern Healthcare, March 15, 2011

State health departments display substantial gaps in preparedness for a major radiation emergency, including acts of terrorism and unintentional releases of radiation, according to survey results published in the journal Disaster Medicine and Public Health Preparedness.

The survey responses by 38 state health departments indicated that 45% of states do not do the "most fundamental step of preparedness," which is the development of a response plan, other than for nuclear power plant emergencies, according to the article. "Without a comprehensive plan, states in which a radiation emergency occur are likely to mount inefficient, ineffective, inappropriate or tardy responses that could result in (preventable) loss of life," wrote the authors. "A large portion of the US population is at increased risk should a radiological event occur within the country's borders," they wrote.

The survey also found that for some measures, as much as 85% of responding states reported "insufficient capability to respond to a radiation incident."

The survey was conducted by the Council of State and Territorial Epidemiologists with financial support from the Association of State and Territorial Health Officials and the Centers for Disease Control and Prevention.

BioLabs Ready If Radiation A Problem (BBF)

By Tracey Drury

Buffalo Business First, March 15, 2011

With reports from Japan indicating that US Navy officials and crew have been exposed to low levels of radiation, a Buffalo firm is waiting — and ready — should the government call with a request for help.

Cleveland BioLabs Inc. (NASDAQ: CBLI) already holds more than $45 million in contracts with the US Department of Defense and other federal agencies to develop a countermeasure for exposure to total body irradiation, for which there is currently no FDA-approved countermeasure.

The company's CBLB502 radiation treatment drug is still going through clinical trials and has not yet received full approval from the Food & Drug Administration, but that doesn't mean it can't be used in an emergency situation, says Dr. Michael Fonstein, CEO and president at CBLI.

"There is, in principle, emergency use permitted where certain agencies can authorize use of the drug even without full approval by the FDA," he says. "For our drugs, there is a specific avenue to handle this problem."

The preferred outcome, however, would be to see rapid containment of radiation, with no exposure to either US soldiers or the Japanese public, Fonstein says.

Several US ships involved in the relief effort in Japan following this weekend's earthquake and tsunami have been moved away from the Fukushima Dai-Ichi nuclear power plant. New agencies reported that officials found the ships and 17 helicopter crew members had been exposed to low-levels of radiation as cooling systems have begun to fail from lack of power.

The company has not yet been contacted by either the government in either Japan or here in the US But it stands ready to deliver thousands of doses should the need arise, Fonstein says.

"I know that the US offered to help Japan," he says. "I assume that it may lead somewhere."

CBLI's contract with the DoD's Chemical Biological and Medical Systems Medical Identification and Treatment Systems (MITS) program calls for the company to develop and stockpile its as a medical radiation countermeasure. The contract, awarded

last year, included initial funding of $14.8 million, with options, from the Food and Drug Administration. Upon licensing from the federal agency, the contract provides options for the purchase of $30 million worth of doses to be stockpiled in case of emergency.

Just last month, CBLI received a $1.58 million contract from the DoD's Defense Threat Reduction Agency (DTRA) to fund additional research into the pharmacodynamic profile of CBLB502. The FDA awarded the drug fast-track and orphan drug designation - a special status intended to hasten the development and review of new drugs to treat serious or life-threatening conditions for unmet medical needs.

Fonstein says protocols exist that allow such drugs to be made available for potential emergency use in case of health and security issues. Whether Japanese officials have similar protocols in place is another story, however.

"We are dealing with authorities who handle these things. They're aware we have the drug, which could be made available for potential emergency use," he says. "It's a decision of the regulatory agencies. What makes the situation more complicated is Japan; we don't know their mechanisms, how they make the drugs available."

Japan's Multiple Calamities (NYT)

New York Times, March 15, 2011

Any comment on the disaster in Japan must begin with the stunning scale of human loss. Thousands dead or missing from the devastating earthquake and a huge tsunami surge. Hundreds of thousands homeless. Whole villages wiped out. And now there is the threat of further harm from badly damaged nuclear reactors. The worst-case accident would be enormous releases of radioactivity.

The unfolding Japanese tragedy also should prompt Americans to closely study our own plans for coping with natural disasters and with potential nuclear plant accidents to make sure they are, indeed, strong enough. We've already seen how poor defenses left New Orleans vulnerable to Hurricane Katrina and how industrial folly and hubris led to a devastating blowout and oil spill in the Gulf of Mexico.

It is sobering that such calamities could so badly hurt Japan, a technologically advanced nation that puts great emphasis on disaster mitigation. Japan's protective seawalls proved no match for the high waves that swept over them and knocked out the safety systems that were supposed to protect nearby nuclear reactors from overheating and melting down.

It is much too early to understand the magnitude of what has happened. As of now, this four-day crisis in Japan amounts to the worst nuclear accident since Chernobyl in 1986. Although radioactive steam is being vented in as controlled a manner as possible to reduce internal pressures, the releases to date are not deemed a major hazard to the public.

From early reports, it appears that the troubled reactors survived the earthquake. Control rods shut down the nuclear fission reactions that generate power. But even after shutdown, there is residual heat that needs to be drawn off by cooling water pumped through the reactor core, and that's where the trouble came.

The nuclear plant lost its main source of electric power to drive the pumps, and the tsunami knocked out the backup diesel generators that were supposed to drive the pumps in an emergency. That left only short-term battery power that is able to provide cooling water on a small scale but can't drive the large pumps required for full-scale cooling. Early Tuesday morning, the frightening news came that Japan was facing the full meltdown of one reactor, with unknown and potentially catastrophic consequences.

With the United States poised to expand nuclear power after decades of stagnation, it will be important to reassess safety standards. Some 30 American reactors have designs similar to the crippled reactors in Japan. Various reactors in this country are situated near geologic faults, in coastal areas reachable by tsunamis or in areas potentially vulnerable to flooding. Regulators will need to evaluate how well operators would cope if they lost both primary power and backup diesel generators for an extended period.

This page has endorsed nuclear power as one tool to head off global warming. We suspect that, when all the evidence is in from Japan, it will remain a valuable tool. But the public needs to know that it is a safe one.

Nuclear Fails The Test (LAT)

As Japan's crisis shows, the risks these power plants pose are far greater than the benefits.

Los Angeles Times, March 15, 2011

Pity President Obama: Every time he tries to compromise with Republicans on energy reform by backing dirty or dangerous forms of power generation, a disaster occurs to demonstrate why pursuing such strategies is a bad idea. It happened a year ago when a BP oil rig exploded in the Gulf of Mexico after Obama had been talking up the advantages of expanded offshore drilling, and it's happening again this week with the nuclear crisis following Japan's massive earthquake and tsunami. over a year ago,

Obama called the construction of new nuclear plants in the United States a "necessity," but the political fallout from the Japanese disaster now renders it unlikely.

That's not a bad thing, at least for now; sometimes disasters lead to wisdom.

This page takes the threat of climate change very seriously, and would be delighted if a safe, cost-effective way of producing carbon-emissions-free nuclear power were developed. Sadly, we're not there yet. Nuclear power plants are so expensive, and their risks so extreme, that private investors are reluctant to fund them even with huge government subsidies and loan guarantees. Plans to build a national repository for nuclear waste in Nevada have been shelved, meaning radioactive waste is being stockpiled at individual plants in a way that is unsustainable. And then there's the threat of a Japan-type disaster.

California has two nuclear power plants, Diablo Canyon near San Luis Obispo and San Onofre in San Diego County. Like all US and Japanese nuclear plants, they're built to withstand the largest earthquake considered likely in their regions, based on fault analyses. Of course, the analyses could be wrong — neither is designed to withstand an earthquake anywhere nearly as strong as the one that struck Japan last week. But the cost of building them to such exacting standards is viewed as prohibitive. An earthquake that big would be expected to kill far more people than a nuclear meltdown, so it's considered wiser to spend the money on community preparedness rather than plant safety. Even wiser would be not having nuclear plants in seismically active states like California at all.

The US gets 20% of its electricity from nuclear plants, and many are nearing the end of their useful lives, so limited construction of new plants in inland states where the risk of natural disaster is low might be acceptable — at least if Washington ever gets a handle on the waste-storage problem. But there are more cost-effective ways of weaning the country off climate-warming fossil fuels, namely improved energy efficiency and more renewable power. In the cost-benefit analysis, nuclear doesn't add up.

Japan's Nuclear Crisis Might Not Be The Last (WP)

By Eugene Robinson

Washington Post, March 15, 2011

Nuclear power was beginning to look like a panacea — a way to lessen our dependence on oil, make our energy supply more self-sufficient and significantly mitigate global warming, all at the same time. Now it looks more like a bargain with the devil.

I wish this were not so. In recent years, some of the nation's most respected environmentalists — including Stewart Brand, founder of the Whole Earth Catalog — have come to champion nuclear power. But as Japanese engineers struggle frantically to keep calamity from escalating into catastrophe, we cannot ignore the fact that nuclear fission is an inherently and uniquely toxic technology.

The cascading sequence of system failures, partial meltdowns and hydrogen explosions at the Fukushima Daiichi nuclear power plant was touched off by a once-in-a-lifetime event: the most powerful earthquake in Japan's recorded history, which triggered a tsunami of unimaginable destructive force. It is also true that the Fukushima reactors are of an older design, and that it is possible to engineer nuclear plants that would never suffer similar breakdowns.

But it is also true that there is no such thing as a fail-safe system. Stuff happens.

The Earth is alive with tectonic movement, volcanism, violent weather. We try to predict these phenomena, but our best calculations are probabilistic and thus imprecise. We have computers that are as close to infallible as we can imagine, but the data they produce must ultimately be interpreted by human intelligence. When a crisis does occur, experts must make quick decisions under enormous pressure; usually they're right, sometimes they're wrong.

The problem with nuclear fission is that the stakes are unimaginably high. We can engineer nuclear power plants so that the chance of a Chernobyl-style disaster is almost nil. But we can't eliminate it completely — nor can we envision every other kind of potential disaster. And where fission reactors are concerned, the worst-case scenario is so dreadful as to be unthinkable.

Engineers at the Fukushima plant are struggling to avert a wholesale release of deadly radiation, which is the inherent risk of any fission reactor. In the Chernobyl incident, a cloud of radioactive smoke and steam spread contamination across hundreds of square miles; even after 25 years, a 20-mile radius around the ruined plant remains off-limits and uninhabitable. Studies have estimated that the release of radioactivity from Chernobyl has caused at least 6,000 excess cases of thyroid cancer, and scientists expect more cancers to develop in the years to come.

It seems unlikely that the Fukushima crisis will turn into another Chernobyl, if only because there is a good chance that prevailing winds would blow any radioactive cloud out to sea. Japanese authorities seem to be making all the right decisions. Yet even in a nation with safety standards and technological acumen that are second to none, look at what they're up against — and how little margin for error they have to work with.

At first, the focus was on the Unit 1 reactor and the struggle to keep the nuclear fuel rods immersed in water — which is necessary, at all times, to avoid a full meltdown and a catastrophic release of radiation. Pumping sea water into the reactor vessel seemed to stabilize the situation, despite a hydrogen explosion — indicating a partial meltdown — that blew the roof off the reactor's outer containment building.

But then, attention shifted to Unit 3, which may have had a worse partial meltdown; it, too, experienced a hydrogen explosion. Officials said they believed they were stabilizing that reactor but acknowledged that it was hard to be sure. Meanwhile, what could be the most crucial failure of all was happening in Unit 2, which suffered an explosion Tuesday after its fuel rods were twice fully exposed. Scientists had no immediate way of knowing how much of that reactor's fuel had melted — or what the consequences might be.

The best-case scenario is that Japanese engineers will eventually get the plant under control. Then, I suppose, it will be possible to conclude that the system worked. As President Obama and Congress move forward with a new generation of nuclear plants, designs will be vetted and perhaps altered. We will be confident that we have taken the lessons of Fukushima into account.

And we will be fooling ourselves, because the one inescapable lesson of Fukushima is that improbable does not mean impossible. Unlikely failures can combine to bring any nuclear fission reactor to the brink of disaster. It can happen here.

Eugene Robinson will be online to chat with readers at 1 p.m. Eastern time Tuesday. Submit your questions or comments before or during the discussion.

If The Japanese Can't Build A Safe Reactor, Who Can? (WP)

By Anne Applebaum

Washington Post, March 15, 2011

In the aftermath of a disaster, the strengths of any society become immediately visible. The cohesiveness, resilience, technological brilliance and extraordinary competence of the Japanese are on full display. One report from Rikuzentakata — a town of 25,000, annihilated by the tsunami that followed Friday's massive earthquake — describes volunteer firefighters working to clear rubble and search for survivors; troops and police efficiently directing traffic and supplies; survivors are not only "calm and pragmatic" but also coping "with politeness and sometimes amazingly good cheer."

Thanks to these strengths, Japan will eventually recover. But at least one Japanese nuclear power complex will not. As I write, three reactors at the Fukushima Daiichi nuclear power station appear to have lost their cooling capacity. Engineers are flooding the plant with seawater — effectively destroying it — and then letting off radioactive steam. There have been two explosions. The situation may worsen in the coming hours.

Yet Japan's nuclear power stations were designed with the same care and precision as everything else in the country. More to the point, as the only country in the world to have experienced true nuclear catastrophe, Japan had an incentive to build well, as well as the capability, laws and regulations to do so. Which leads to an unavoidable question: If the competent and technologically brilliant Japanese can't build a completely safe reactor, who can?

It can — and will — be argued that the Japanese situation is extraordinary. Few countries are as vulnerable to natural catastrophe as Japan, and the scale of this earthquake is unprecedented. But there are other kinds of extraordinary situations and unprecedented circumstances. In an attempt to counter the latest worst-possible scenarios, a Franco-German company began constructing a super-safe, "next-generation" nuclear reactor in Finland several years ago. The plant was designed to withstand the impact of an airplane — a post-Sept. 11 concern — and includes a chamber allegedly able to contain a core meltdown. But it was also meant to cost $4 billion and to be completed in 2009. Instead, after numerous setbacks, it is still unfinished — and may now cost $6 billion or more.

Ironically, the Finnish plant was meant to launch the renaissance of the nuclear power industry in Europe — an industry that has, of late, enjoyed a renaissance around the world, thanks almost entirely to fears of climate change. Nuclear plants emit no carbon. As a result, nuclear plants, after a long, post-Chernobyl lull, have became fashionable again. Some 62 nuclear reactors are under construction at the moment, according to the World Nuclear Association; a further 158 are being planned and 324 others have been proposed.

Increasingly, nuclear power is also promoted because it safe. Which it is — except, of course, when it is not. Chances of a major disaster are tiny, one in a hundred million. But in the event of a statistically improbable major disaster, the damage could include, say, the destruction of a city or the poisoning of a country. The cost of such a potential catastrophe is partly reflected in the price of plant construction, and it partly explains the cost overruns in Finland: Nobody can risk the tiniest flaw in the concrete or the most minimal reduction in the quality of the steel.

But as we are about to learn in Japan, the true costs of nuclear power are never reflected even in the very high price of plant construction. Inevitably, the enormous costs of nuclear waste disposal fall to taxpayers, not the nuclear industry. The costs of cleanup, even in the wake of a relatively small accident, are eventually borne by government, too. Health-care costs will also be paid by society at large, one way or another. If there is true nuclear catastrophe in Japan, the entire world will pay the price.

I hope that this will never, ever happen. I feel nothing but admiration for the Japanese nuclear engineers who have been battling catastrophe for several days. If anyone can prevent a disaster, the Japanese can do it. But I also hope that a near-miss prompts people around the world to think twice about the true "price" of nuclear energy, and that it stops the nuclear renaissance dead in its tracks.

Diablo Canyon Not As Vulnerable To Tsunamis As Japan's Nuclear Plants, PG&E Says (SLOT)

By David Sneed

San Luis Obispo Tribune, March 15, 2011

Diablo Canyon nuclear power plant has several design features that are intended to prevent the kind of crisis facing nuclear power plants in Japan following Friday's devastating earthquake and tsunamis.

In one reactor at the Fukushima Daiichi plant, cooling water was lost, forcing workers to use fire hoses to pump seawater into the reactor to prevent a core meltdown. Meltdowns like what took place at Chernobyl in the former Soviet Union have the potential to release large amounts of radiation into the environment.

A main priority is keeping large pumps operating that circulate cooling water within the reactor. If power is lost, Diablo Canyon, which is owned by Pacific Gas and Electric Co., is equipped with diesel generators that can run the pumps. These are maintained and tested on a regular basis, said Kory Raftery, Diablo Canyon spokesman.

Diablo Canyon also has several sources of fresh water that can be used to replenish cooling water in the reactors, if it is lost. Using seawater as cooling water is a last resort because it is corrosive to the reactor core.

The main source of freshwater at Diablo Canyon is a desalination plant that turns ocean water into fresh water. Water is stored in pools on a hill behind the plant that could inject water into the reactor using gravity.

The property surrounding Diablo Canyon also has several wells that could supply water in an emergency, Raftery said. These sources of water can also be used to replenish water in the plant's two spent-fuel storage pools, if needed.

Diablo Canyon is considered much less vulnerable to a tsunami than reactors in Japan that sit on low-lying coastal plains. Diablo Canyon sits atop a coastal bluff, 85 feet above sea level.

The cooling water intake structures that draw ocean water into the plant to condense steam after it has passed through the electrical turbines are surrounded by breakwater that are designed to provide protection from large waves.

Although earthquakes are Diablo Canyon's main safety concern, seismologists do not believe that faults around the plant are capable of producing the kind of massive magnitude-9.0 quake that struck Japan.

Diablo Canyon is designed to withstand a magnitude-7.5 quake. Extensive studies done by seismologists with plant owners Pacific Gas and Electric, the Nuclear Regulatory Commission and the US Geological Survey show that four earthquake faults in the vicinity of the plant could produce quakes of no more than magnitude 6.5.

The main difference is that faults around Diablo Canyon are strike/slip faults in which tectonic plates slide horizontally past one another. The faults along Japan's coastline are subduction faults, in which one plate slides beneath another, Raftery said.

Seismologists say subduction faults are capable of delivering more powerful jolts than strike/slip faults and are more likely to displace ocean water, causing tsunamis.

As required by the federal Nuclear Regulatory Commission, emergency response drills are conducted regularly at the Diablo Canyon to practice dealing with the effects of earthquakes and tsunamis. Numerous state and local agencies participate in these drills.

Reach David Sneed at 781-7930.

Calif. Nuke Plant Questions After Japan Quake (CBS News)

By John Blackstone

CBS News, March 15, 2011

The US gets about 20 percent of its electricity from nuclear power plants. Most are over 30 years old.

CBS News correspondent John Blackstone reports that the disaster in Japan disaster raises new questions about the safety of two plants in California that were built in earthquake zones.

One nuclear plant raising questions is in San Diego County. Farther up the coast, there's a plant that sits near several fault lines.

Avila Beach is a laid-back resort town on the central California coast that for more than 25 years has lived next door to a giant: the Diablo Canyon Nuclear Power Plant.

Its two nuclear reactors have been operating here in earthquake country since 1985 without any major problems. Some residents say the nuclear plant is just something they have to live with.

However, the scenes of damaged nuclear facilities in Japan are giving others here second thoughts.

"It's kind of like, you want to get out of here a little sooner," said resident Ashley Johnson.

Diablo Canyon is within about 60 miles of the San Andreas Fault and much closer to at least three smaller faults. One of them, the Shoreline, is less than a mile away and was discovered just three years ago.

Pacific Gas and Electric, which owns the plant, says it was built to withstand a 7.5 earthquake, and none of the faults in the region are expected to produce anything bigger.

However, the Japanese also assumed their nuclear plants would hold up, says Victor Gilinksy, a former member of the Nuclear Regulatory Commission.

"It does tell you that your assumptions about safety may be wrong," Gilinsky said. "I think we really need to go back and take a look at our systems and make sure that our assumptions are still valid."

California isn't the only part of the country than can have earthquakes. What geologists call "seismic hotspots" are scattered across the country. There are 104 commercial nuclear reactors in the US, including those operating in earthquake zones.

There are also other natural hazards. In 1992 Hurricane Andrew knocked out power to the Turkey Point plant south of Miami for 5 days, but the plant survived. Nuclear power supporters point out that even the accident at Three Mile Island in 1979 didn't result in the disaster first feared. The newest nuclear plants are built to an even higher standard.

With Diablo Canyon here sitting right on the coast there is also now concern about a tsunami, but geologists say a tsunami as big as the one that hit Japan is unlikely in this part of California.

California Nuclear Plants Face Scrutiny After Japan Crisis (WSJ/DOW)

By Cassandra Sweet, Dow Jones Newswires

Wall Street Journal/Dow Jones Newswires, March 15, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Diablo Canyon Safety Conerns (KEYT)

By KEYT Assignment Desk

KEYT-TV Santa Barbara, CA, March 15, 2011

In wake of the deadly quake and tsunami that ravaged northeastern Japan, many local residents are concerned over the safety and stability of the Diablo Canyon Nuclear Power Plant in Avila Beach. Residents are worried the plant is not strong enough to handle an earthquake and/or a tidal wave.

There are two units at the Diablo Canyon site, with the second reactor turning 25-years-old this week.

The Diablo Canyon Nuclear Power Plant provides 20-percent of all the power supplied to customers by Pacific Gas & Electric.

If it were to shut down – it would have a significant impact on customers in the district from the Santa Ynez Valley to Northern California.

PG&E officials says not only is the plant on an 85-foot bluff to protect it from a large tsunami, it is often inspected by the Nuclear Regulatory Commission.

PG&E says the plant has been built to handle a quake larger than recent predictions.

Emergency plans for the plant include a large siren system and an evacuation plan, which calls for fleeing residents to seek shelter at the Santa Maria Fairgrounds, UC Santa Barbara and the Earl Warren Showgrounds in Santa Barbara.

A locally-based watchdog group Mothers for Peace strongly doubts the safety report for Diablo Canyon, and says there are many unknown earthquake faults that could cause a quake much stronger than anyone has predicted.

Fla. Governor Has State's Nuclear Reactors Checked (AP)

Associated Press, March 15, 2011

TALLAHASSEE, Fla.

Gov. Rick Scott says the state is prepared to meet any catastrophic challenges that might threaten any of the five nuclear reactors housed in Florida.

Following the events in Japan in recent days in the aftermath of a massive earthquake and ensuing tsunami that has led to possible nuclear meltdowns in that Pacific island-nation, Scott asked his emergency management director to review Florida's emergency action plan.

Meanwhile, Democratic state Rep. Michelle Rehwinkel Vasilinda of Tallahassee has filed a bill to repeal a Florida law that allows utility companies to recover costs for siting, designing, licensing and building nuclear and integrated gasification combined cycle power plants.

Vasilinda said Monday that nuclear energy is too expensive and too dangerous -- as evidenced by the recent events in Japan -- for Florida citizens.

Japan's Nuclear Tragedy Turns Eyes To Florida's Industry (TBONLINE)

By Sasso

Tampa Bay (FL) Online, March 15, 2011

Old fears about nuclear energy leapt back to the surface this week, giving a leg up to atomic energy foes in this country and prompting Germany and Switzerland to halt power plants abroad.

Progress Energy could have a lot to lose from the public fear. The company hopes to build a new nuclear plant in Levy County, just north of its existing Crystal River plant, and it may restart the Crystal River plant as early as next month.

The latter facility has been under repair and hasn't operated in a year and a half.

Foes of nuclear energy hope the Japanese crisis opens people's eyes in this country. People have been warming to atomic energy in recent years because it's considered cleaner than coal and other fuel sources.

"What I hope it will do is be a wake-up call for younger people, who weren't around for Chernobyl and Three Mile Island," said Cara Campbell, chair of a small political party called the Ecology Party of Florida, which opposes the proposed Levy County plant, a little more than 100 miles north of Tampa.

While Japanese energy companies scrambled to prevent reactor meltdowns Monday, Progress Energy spokespeople sought to reassure Floridians that such a problem is extremely unlikely here.

The company owns an 838-megawatt nuclear plant near Crystal River, but it hasn't operated since September 2009. That's when the company discovered a crack in a 42-inch-thick containment wall. Company spokeswoman Suzanne Grant said the crack formed while Progress Energy was cutting a hole in the wall to do routine maintenance, not beforehand.

The federal Nuclear Regulatory Commission will hold a public meeting on Tuesday, March 22, in the nuclear plant's training center to discuss the plant's potential restart.

Theoretically, a massive hurricane could slam into the Crystal River plant and bring floodwaters from storm surge.

In fact, it was water from the tsunami that really caused the crisis at the Japanese nuclear plants. The tsunami waters caused backup diesel generators at Japan's nuclear plants to stop functioning and disabled the plants' cooling systems.

Jessica Lambert, a spokeswoman for Progress Energy, said the Crystal River plant also uses backup diesel generators. But, she downplayed the risks of a Japanese-style crisis. The Crystal River plant is built on a berm that's more than 30 feet high.

And, the threat from a tsunami wave is different from a hurricane, because tsunami waves tend to go up and over, where storm surge tends to flood more gradually. The Crystal River plant also was built to withstand hurricane-force winds, although Lambert didn't immediately know what strength storm it could withstand Monday.

In Florida and worldwide, at least some politicians have started rethinking their nuclear policies.

State Rep. Michelle Rehwinkel Vasilinda (D-Tallahassee), has introduced a bill that would eliminate utility companies' ability to charge customers upfront for the cost of building nuclear power plants. She has been a longtime opponent of nuclear power and actually drew up her bill before the recent Japanese crisis.

Countries that use nuclear power have to find somewhere to store the spent nuclear fuel and have to find huge sums of money to build the plants, she said.

"Then, you couple it with the fact that it is not the safest thing in the entire world, which the Japanese crisis has just demonstrated," Rehwinkel Vasilinda said.

This weekend, US Sen. Joseph Lieberman appeared on CBS' "Face the Nation" program and called for a temporary moratorium on new nuclear plants until the country studies the Japanese crisis. Overseas, Germany and Switzerland each enacted temporary moratoriums on building new nuclear plants or extending the life of existing ones.

So far, the Nuclear Regulatory Commission has no such plans. Roger Hannah, a spokesman for the federal agency, said the government will study the Japanese crisis. If the NRC discovers some safety risks to American nuclear plants after the study, it could play into future requests for nuclear power plant licenses.

However, the agency is going forward next week with the hearing on restarting the Crystal River nuclear plant. The agency also continues to review Progress Energy's application for a new nuclear plant in Levy County, Hannah said.

If the company gets the OK, it would build a nuclear power plant with two reactors in southern Levy County, about eight miles north of its Crystal River plant. Grant, the Progress Energy spokeswoman, said the company expects to learn from the Japanese crisis, but she didn't expect it to tie up their future plans.

"I don't see it having an impact on what we're planning in Levy County," she said.

Most likely, what's happening in Japan won't change people's opinions about nuclear energy here, said Stephen Ansolabehere, a government professor at Harvard University who has done surveys about people's attitudes toward atomic energy.

Only a third of the American public supported expanding nuclear energy in the years after the Three Mile Island nuclear accident, which caused a near-catastrophe in Pennsylvania in 1979.

But people began warming to it more recently, especially as people began worrying about global warming. Today, somewhere around half of the public support expanding nuclear energy, Ansolabehere said.

Geography seems to play a big role in people's opinions. After the Chernobyl disaster in 1986, Europeans' support for nuclear energy declined, but it didn't seem to affect Americans' support. Similarly, Europeans weren't swayed by Three Mile Island, Ansolabehere said.

Ultimately, the energy industry will be impacted most by the Japanese crisis.

"My guess is that the industry will actually learn a lot from this," he said.

Are Florida's Nuclear Plants Safe? (WTSP)

By Glasser

WTSP-TV, March 15, 2011

Are Florida's nuclear plants safe?

Written Eric Glasser

CRYSTAL RIVER, FL -- The threat of a nuclear meltdown in Japan has some in the US calling for a full review of the nation's 104 nuclear reactors.

Three facilities with a total of 5 reactors operate in the sunshine state. One is located in Turkey Point south of Miami. Another is in St. Lucie County on the state's east coast, and the other is the Crystal River Nuclear Power Plant north of Homosassa.

Florida gets about 15% of its energy from nuclear power.

"Our plant is designed to withstand what we consider to be the worst case scenario for the Florida area," says Suzanne Grant, a spokesperson for Progress Energy, which operates the Crystal River nuclear plant.

Progress and other energy producers are working to reassure people who live nearby such facilities that they are built to withstand conditions beyond even the most fierce natural disasters - even terrorist attacks similar to 9/11. In Florida, that includes withstanding a category 5 hurricane and any associated storm surge.

"We're very confident in safe operations," says Grant.

Neighbors who live near the plant, like Jean Lowe, say they don't lose any sleep over it. "Well, it is a concern," she says, "but they know what they're doing."

Jean and her husband, Richard, live close enough to the Crystal River plant that their neighborhood is equiped with an emergency warning system.

Richard says even with the best of intentions and planning, Japan shows us unforseen disasters can occur. Again, is he worried? "Normally no," he says, "but it could happen."

In 2009, the Crystal River plant closed for repairs, and in the course of that work a 25-foot crack was found in the containment wall. The nuclear reactor has been offline since then, but next month, following millions of dollars in repairs, Progress Energy plans to bring it back online with approval from the Nuclear Regulatory Commission.

"I think it's natural for people to have concerns," says Grant, but she says the facility in Florida is built very differently from the reactor in Japan and has several levels of redundancy to deal with potential issues.

There's also been enough concern generated to get Tallahassee's attention as well. Gov. Rick Scott ordered a full review of Florida's nuclear reactors this week after the issues in Japan became evident.

Today, the governor issued a statement saying he's satisfied the state is "prepared for an effective and rapid emergency response."

Later this month, the Nuclear Regulatory Commission will meet with the public to discuss any questions or concerns about the Crystal River facility. That meeting is scheduled for 1:00 p.m. on March 22nd at the plant's training center. The address is 8200

West Venable Street in Crystal River.

No More Nukes For Florida? (PALMBEACHP)

Palm Beach Post (FL), March 15, 2011

No more nukes for Florida?

As Japan races to contain tsunami-related damage at four nuclear plants, there's a nuclear power debate looming for Florida.

Florida Power & Light already has four nuclear generators on the east coast — two in St. Lucie County, on Hutchinson Island, and two south of Miami. FPL is contemplating another two nuclear generators at that Dade facility, known as Turkey Point. The company is going through the steps that precede a formal application to the Nuclear Regulatory Commission.

Obviously, the first issue now will be safety. The Turkey Point reactors came through Hurricane Andrew without incident, but there's the new issue of rising seas from climate change. Also, there's the old issue of waste; nuclear plants generate spent fuel rods, which must be protected.

But also, there's the issue of cost. The estimate for the two new nukes is $18 billion, and customers would pay some of that cost. State law allows that. FPL believes that customers would pay less once the plants start operating, and there's the added potential benefit of an energy source that doesn't emit greenhouse gases and doesn't rely on fossil fuels from the Middle East.

Nationally, some lawmakers are pushing for massive nuclear program. Others caution that we might have to build 20 plants a year for 50 years to make a dent. As with all energy issues, there's no easy answer. What do you think? Do you like the idea of two more nuclear plants in this area? Take our poll.

Future Of Iowa Nuclear Energy Bill Uncertain (AP)

Associated Press

Associated Press, March 15, 2011

Expanding nuclear power in Iowa came under intensified scrutiny amid the threat of a nuclear meltdown in Japan on Monday, with some lawmakers softening their support and others predicting tough questioning when a utility boss testifies about his plans this week.

Legislators are considering bills that would make it easier for energy companies to build new nuclear plants in Iowa. Supporters say nuclear power is the only option amid increasing regulation of coal and natural gas plants.

Sen. Matt McCoy voted for the bill when it was approved by the Senate Commerce Committee 13-2 this month, but now he's undecided. A subcommittee is set to debate the legislation again Thursday and hear from the president of MidAmerican Energy, which is considering building a nuclear power plant in Iowa. The state currently has one nuclear plant.

"I think they have an extreme burden now to resell this," said McCoy, a Democrat from Des Moines. "I think the question is what assurances can you give us that this is safe."

The committee's chairwoman, Sen. Swati Dandekar, expects lawmakers will have a lot of questions for MidAmerican CEO William Fehrman.

MidAmerican spokeswoman Ann Thelen said the company hopes to learn lessons from the events in Japan as it continues its study on building a nuclear facility in Iowa.

"We believe nuclear is a viable energy source and is the only proven carbon-free source of base load power," Thelen said. "Advances in nuclear technology have dramatically changed the prospects for adding nuclear generation to the state's energy portfolio."

MidAmerican is interested in a small, modular reactor design that Thelen said is safer than the plant design used in Japan.

Still, McCoy doubts the legislation will move forward this year as the world watches Japan try to stabilize its nuclear reactors after last week's devastating earthquake and tsunami. McCoy, a Senate assistant minority leader, said he's been deluged with e-mails from his constituents on the nuclear issue in the past several days.

"I don't see a bill this year," the lawmaker said. "I may be wrong on that. But it's been dealt a significant blow by what happened in Japan."

Water levels dropped precipitously Monday inside a Japanese nuclear reactor, twice leaving the uranium fuel rods completely exposed -- raising the threat of a meltdown and increasing the risk of the spread of radiation. The levels dropped just hours after a hydrogen explosion tore through the building housing a different reactor.

Rep. Chuck Soderberg, a Le Mars Republican, said he's watching to see what happens in Japan and he's not sure how those events will impact efforts in Iowa. Soderberg is chairman of the House Commerce Committee, which unanimously approved a slightly different bill.

"I guess it's unclear what direction the bill will go," Soderberg said.

Soderberg noted a decision to build a nuclear power plant in Iowa would ultimately be up to utilities and federal regulators. But he said nuclear power is now one of the only options for base load electricity generation as coal and natural gas plants come under more regulation.

"As we look to grow the economy we have to have more capacity," Soderberg said.

Other leaders, including Lt. Gov. Kim Reynolds, said the events in Japan shouldn't deter expansion of the industry in Iowa and elsewhere in the US Reynolds said technology has changed, attitudes are different and the country should continue to expand nuclear power options.

"I think we need to look at all forms of alternative energy," Reynolds said. "We continue to move forward with it."

Iowa's only nuclear power plant, the Duane Arnold Energy Center near Cedar Rapids, was granted a license in 1974 that was set to expire in 2014, but it received a 20-year extension in December. The plant produces about 592 million watts of electricity a year, enough to power 600,000 homes, according to its website.

Last year, then-Gov. Chet Culver signed a bill allowing MidAmerican Energy to study building a nuclear power plant in Iowa. The law allows the utility to charge its Iowa customers $15 million for the three-year study examining the feasibility of building a plant.

Howard Learner, executive director of the Environmental Law and Policy Center, said the reactor design is unproven and the legislative proposals would force consumers to pay in advance for a potential nuclear plant.

Jane Magers, who leads a coalition of eight groups opposed to nuclear power, said the events in Japan should change people's attitudes about what she calls a terrible and risky energy source. Magers said 18 states have rejected nuclear power and many plants are no longer being relicensed.

"It's so tragic that we have to have this kind of an accident to change people's minds," Magers said. "I told them way before what happened in Japan that I can't understand why you're so enamored with nuclear power. It's happening around the world that there's a rejection of nuclear power. And yet you are determined that nuclear power will lead our future and I don't know why."

AP-WF-03-14-11 2305GMT

Japan Crisis Should Not Deter Iowa Nuclear Plants-official (CHIT/REU)

Reuters

Chicago Tribune, March 15, 2011

Full-text stories from Reuters currently cannot be included in this document. You may, however, click the link above to access the story.

Entergy Says Indian Point Can Withstand Earthquakes Around Here (MIDHUD)

Mid-Hudson News, March 15, 2011

The owner of the Indian Point nuclear power plant in Buchanan said the facility has many layers of protection and could survive the kind of earthquakes that happen occasionally in the northeast.

"There are many layers of protection at nuclear power plants like Indian Point, including concrete walls around key components that are more than six feet thick, steel-lined fuel pools, two sets of diesel backup generators, a natural gas generator and equipment that is designed to safely shut down the plants after an earthquake," Indian Point spokesman Jerry Nappi said.

Nothing comparable to the magnitude 8.9 quake that ravaged northern Japan and has raise concerns of meltdown at at least two Nuclear plants in the area of the quake, has ever happened on the east coast.

The strongest earthquake in recent years to be felt in the area was a 4.0 quake, epicentered near Ardsley, in 1985. Historically, an earthquake estimated at 5.5 struck the region in 1884.

"In regard to the magnitude of earthquakes, in testimony before the NRC, Charles F. Richter, who developed the Richter scale, stated that the earthquakes in this region are 'of minor magnitude and relatively trivial'," Nappi said.

According to an August 2008 paper in the Bulletin of the Seismological Society of America, there are concerns. "A study by a group of prominent seismologists suggests that a pattern of subtle but active faults makes the risk of earthquakes to the New York City area substantially greater than formerly believed," the US Geological Survey reported. "Among other things, they say

that the controversial Indian Point nuclear power plants, 24 miles north of the city, sit astride the previously unidentified intersection of two active seismic zones."

Well-known is the nearby 'Ramapo Fault'. Indian Point is several miles north of the northern terminus of the fault.

The report said lead author Lynn Sykes noted the data "show that large quakes are infrequent around New York compared to more active areas like California and Japan, but that the risk is high, because of the overwhelming concentration of people and infrastructure."

Residents Near NY Nuclear Plant Confident On Safety (REU)

By Bernd Debusmann

Reuters, March 15, 2011

Full-text stories from Reuters currently cannot be included in this document. You may, however, click the link above to access the story.

Indian Point Nuclear Plant Can Withstand Seismic Activity, Officials Say (WNYC)

By Abbie Fentress Swanson

WNYC-FM New York City, March 15, 2011

The aftermath of Japan's 8.9-magnitude earthquake continued to worsen this weekend after power shut down a cooling system at a nuclear power plant close to Onahama.

Radiation levels inside the Fukushima Daiichi facility surged to 1,000 times more than normal, and some radiation escaped from the plant.

Japan's nuclear plant leak has moved many to consider what would happen in New York should seismic activity occur near the Indian Point nuclear plant in Buchanan, which is about 45 miles from Times Square. The company that owns it, Entergy, said its facility is secure in the face of seismic motion.

"The reactor itself is an incredibly strong vessel," said the plant's spokesman, Jerry Nappi. "It's a tank that's 10 feet-by-10 feet-by-40 feet. And that reactor vessel sits inside the containment dome. That containment dome is one of the strongest structures built by men."

The containment dome is made of concrete that's four-to-six-feet thick and reinforced by steel rebar.

"That's about as thick as my forearm," Nappi said. "It's intended to keep any sort of steam inside."

Indian Point is also built to include a safe shut-down mechanism in the event of earth shifting that stops nuclear reaction in seconds. Control rods stop the nuclear fission process and core cooling mechanisms turn on to keep the plant from heating up. Should electricity go out in the area, sets of diesel generators and batteries kick in to power running water.

There are also mechanisms in place to prevent Uranium from leaking. "The Uranium pellets are about the size of a pencil eraser," Nappi said. "The pellets are clad with a ceramic coating to keep the Uranium from being in contact with the water."

Nappi said New York tends to be a practically non-seismic region.

"The worst postulated earthquake for this region is many times smaller than what occurred in Japan. And of course, there's no threat of a tsunami in our region," he said.

All commercially owned nuclear plants in the US are regulated by the Nuclear Regulatory Commission (N.R.C.).

"The plants need to be able to withstand the most severe natural phenomena historically for the area in which they would exist," said Diane Screnci, commission spokesperson for the Northeast region.

"The Nuclear Regulatory Commission reexamined the role of preparedness first after the accident in 1979 in Three Mile Island," Screnci said. "And we have enhanced our focus on that area since then. Also, the events of 9/11 prompted a new focus on the events of emergency preparedness."

The commission said it was constantly fine-tuning its emergency preparedness procedures.

"It's another area that we look at continuously," Screnci said. "If there's no new information to evaluate, we'll look at it and decide whether we need to have additional requirements."

The two units running at Indian Point were built in 1974 and 1976. The facility provides 1,000 megawatts of electricity. That's enough power for 2 million households, or 25 percent of the houses in New York City.

The last time New York felt a major disturbance was New Year's Day of 1966, according to the US Geological Survey. The quake damage, which was felt in a 46,500-square-kilometer area, caused plaster to fall at the Attica State Prison and the main smokestack to be damaged.

A 3.9-magnitude earthquake occurred in the Atlantic Ocean last November, about 80 miles off the coast of Southhampton on Long Island.

Progress Energy: Evaluating Brunswick Co. Nuclear Reactors In Light Of Tsunami (WNCN)

In light of Friday's earthquake and tsunami in Japan thousands fear a possible nuclear meltdown. The quake shook a nuclear plant in Fukushima and there are concerns of a radiation leak. Those concerns are hitting home for Progress Energy. Two of the compa

By Jackie Faye

WNCN-TV Raleigh, NC, March 15, 2011

RALEIGH, N.C. –

In light of Friday's earthquake and tsunami in Japan thousands fear a possible nuclear meltdown. The quake shook a nuclear plant in Fukushima and there are concerns of a radiation leak.

Those concerns are hitting home for Progress Energy. Two of the company's reactors on North Carolina's coast were built with the same design as the reactors facing a meltdown in Japan.

"This is a significant event in Japan with these reactors at Fukushima and that is why the US industry and Progress Energy particularly are involved with them in monitoring the situation and trying to understand what happened, said Jeff Lyash, the Executive Vice President of Energy Supply at Progress Energy.

Lyash says Progress Energy will reevaluate its safety measures and emergency procedures in Brunswick County.

"Nothing about the event in Japan causes us immediate concern with respect to safety or reliability of our plants or designs, but I'm sure in the long term we are going to learn lessons there that we are going to apply here," said Lyash.

Lyash also noted the Brunswick plant is built to withstand Mother Nature. He said the reactors could withstand an earthquake, a category 5 hurricane, and 20 to 30 feet of flooding.

Progress Energy Officials Say NC Plants Built To Sustain Disasters (WRAL)

WRAL-TV Raleigh, NC, March 15, 2011

Raleigh, N.C. — With the threat of a possible meltdown looming at a Japanese nuclear plant, Progress Energy officials say that North Carolina's nuclear plants are built to sustain terrorist attacks and natural disasters.

"Although earthquakes aren't prevalent in the southeast US, our nuclear plants are designed to tolerate them," Progress Energy Executive Vice President Jeff Lyash said Monday. "As a matter of fact, our Brunswick station on the coast has roughly the same seismic design criteria. The plant is built to withstand substantially the same earthquake movement as the Fukushima plant."

Waters levels dropped precipitously Monday inside a Japanese nuclear reactor at the Fukushima Dai-ichi plant, twice leaving the uranium fuel rods completely exposed and raising the threat of a meltdown, hours after a hydrogen explosion tore through the building housing a different reactor.

Water levels were restored after the first decrease, but the rods remained partially exposed late Monday night, increasing the risk of the spread of radiation and the potential for an eventual meltdown.

Lyash says Progress will look for lessons from the Japanese nuclear failures, but he says the company remains committed to nuclear energy.

Duke Energy is in the midst of a merger with Progress. The problems in Japan will likely add new scrutiny to the combined company's plans to build new and improved nuclear facilities.

Can Shearon Harris Withstand A Disaster? (WTVD)

WTVD-TV Raleigh, NC, March 15, 2011

RALEIGH (WTVD) – Earthquakes and tsunamis aren't major threats in North Carolina, but there are other threats to the Shearon Harris Nuclear Plant that have some people asking could a major disaster happen here?

The plant is in southern Wake County and the ten mile emergency planning zone includes Apex, parts of Cary, Fuquay Varina, most of Jordan Lake and areas north of Sanford.

Progress Energy says Shearon Harris is built to withstand acts of nature and manmade disasters.

Some critics aren't so sure.

"We test these systems on almost a daily basis so day in and day out we're inspecting, maintaining, we're testing all of our emergency backup systems to ensure that they're available when needed," said Jeff Lyash, VP for Energy Supply.

While there may be several backup systems in place for natural disasters, Progress Energy admits it has not completed the final post 9/11 security upgrades to help prevent a terrorist attack.

"These are the latest upgrades, we are in the process of executing them," Lyash said. "They are largely complete but the remaining items we'll complete over the coming months."

Jim Warren with the nuclear watchdog group NC Warn says he has other safety concerns about Harris.

"I think it's reckless for the nuclear power industry in this country to have taken 10 years already in upgrading defenses at these plants," he said. "They were over 20 years in non-compliance with fire protection, the leading risk for a nuclear meltdown."

By practice, Progress Energy says it's constantly monitoring its equipment and making improvements.

Despite critics, the company says the public has nothing to fear.

"I'm confident that these plants are safe and that particularly Shearson Harris is safe," Lyash said.

Nearby resident Johanna Bachman says if there is ever a real emergency, she will be listening to her weather radio with the Emergency Alert System.

She lives three miles from Shearson Harris and says she's prepared.

"We have a 72 hour emergency kit which is pretty much backpacks that you prepare with water, change of clothes and a blanket," Bachman explained.

She keeps her pantry fully stocked with extras and says if the supermarket shelves are empty, her family will be in good shape.

Seeing the images in Japan made her double check her supplies. There's one potassium iodide pill for each family member and the pills are kept in an easy to find location.

"Hopefully we'll never have to use them," Bachman said.

And hopefully we'll never see what happened in Japan happens here.

"I'm confident that these plants are safe and that particularly Shearon Harris is safe," Lyash said.

NC Warn is concerned the plant is considering adding two more reactors to the its site and that Duke Energy is meeting with the state utility commission Tuesday to discuss building another plant south of Charlotte.

Another plant would be at the customers' expense.

"This Japan incident shows that you can turn a billion dollar investment into a multi-billion dollar liability overnight," Warren said.

Bachman's not concerned about the economics but more about the impact should things go wrong.

"God forbid it should," Bachman said. "I feel very bad for the people in Japan, it's extremely sad and I hope that it stays where it's at and doesn't get any worse."

Residents in the Shearon Harris area have to sign a statement that they understand they are in the zone.

Upstate Nuclear Plant Prepared For Any Disaster (WYFF)

WYFF-TV Greenville (SC), March 15, 2011

OCONEE COUNTY, S.C. --

The crisis at nuclear stations in Japan has some people asking: Could it happen in the Upstate?

According to officials at the Oconee Nuclear Station at Lake Keowee, a plan is in place to keep the site safe during an earthquake.

Duke Energy officials said Oconee Station was built to withstand at least a 7.3 earthquake like the one that hit Charleston back in the 1800s.

There is a replica of the Oconee control room where employees train for any type of emergency.

Duke Energy spokesperson Addie Bradshaw said, "One of the things we are learning from Japan is that Mother Nature is unpredictable – whether it be earthquakes, floods, hurricanes, tornadoes. That's why no matter how unlikely the scenario may be, our operators and plant employees as a whole regularly practice detailed emergency drills."

"We take the operating experience from nuclear power plants around the world, and apply what they've learned in their situations to how we operate on a daily basis."

Bradshaw said the station monitors even the slightest ground movements. She said if even the smaller tremor is detected, the station shuts down.

"We have very detailed procedures that tell us when the plant needs to be shut down based on how much ground movement there is and what other situations we are seeing. While certainly it's too soon to draw any conclusions about what happened in Japan, there will be lessons learned from this."

Duke Energy Says Local Nuclear Plants Can Withstand Disaster (WCNC)

By Michelle Boudin

WCNC-TV, March 15, 2011

The earthquake, tsunami and resulting explosions at nuclear plants in Japan have local residents concerned about two facilities in the Charlotte area.

"It does bring it to mind, definitely," said Nancy Halberson, who lives just a few miles from Duke Energy's McGuire nuclear station on Lake Norman. "We're thinking if anything happens we'll get on a boat and head north."

Halberson remembers in 2003 when the health department passed out so-called "nuke pills" just in case of a terrorist attack.

"I thought it was something that was a good insurance policy," Halberson said. "There were directions -- what you should do, not do – but frankly I never gave it much thought after that."

Officials in Japan are closely watching water levels inside the Fukushima Dai-ichi nuclear reactor. Levels dropped twice Monday, leaving the uranium fuel rods completely exposed and raising the threat of a meltdown, hours after a hydrogen explosion tore through the building housing a different reactor.

Could something similar happen here?

"Our plants are well designed to withstand all kinds of natural phenomenon, including earthquakes," said Steve Nesbitt, Duke Energy's director of nuclear policy.

Nesbitt says McGuire and the Catawba nuclear station on Lake Wylie are constantly put to the test.

"In addition to earthquakes we also have the plants well designed to withstand other natural phenomenon – hazards like tornadoes, floods, etc.," he said.

Still, Nesbitt says Japan's disaster will serve as a learning experience.

"We're going to be working with the Japanese and others over the next weeks and months to figure out what did go wrong and how we can make sure the same problems don't arise for our own plants," he said.

Hearing On Spending For Duke Energy's Lee Nuclear Plant Starts Tuesday (CBJ)

By John Downey

Charlotte Business Journal, March 15, 2011

Welcome to Power Weekend, catching up on stuff we've learned since Friday.

With the world transfixed on the potential of nuclear power plant disaster in Japan, Duke Energy goes to N.C. regulators Tuesday for authorization to spend $267 million more on planning for the proposed Lee Nuclear Station.

Peter Bradford, a former member of the US Nuclear Regulatory Commission who has figured prominently in US coverage of a potential nuclear meltdown in Japan, will be one of the witnesses for Lee opponents at the N.C. Utilities Commission.

Bradford did not mention potential safety problems in his testimony filed in advance at the end of February. He concentrated instead on the potential high cost of nuclear power and the financial risk of allowing Duke to spend more than customers may have to repay even if the plant is never built.

But Japan's problems following the earthquake and tsunami Friday — raising the specter of a nuclear meltdown at three reactors in northeast Japan — is almost certain to figure in his testimony now. If for no other reason than the growing feeling that the problems in Japan make it more likely that nuclear construction in the US will be delayed or abandoned.

"This is obviously a significant setback for the so-called nuclear renaissance," Bradford told the Bloomberg news service over the weekend. "The image of a nuclear power plant blowing up before your eyes on a television screen is a first."

The Wall Street Journal also quoted Bradford in an assessment of the possible impact of the Japanese crisis on US nuclear development. That story also quoted industry advocates who say the issue should not derail new US construction.

Members of Congress from Sen. Joe Lieberman to Rep. Edward Markey of Massachusetts have called for holding off on nuclear development in the United States until more is known about the situation in Japan. Some have called for adopting a national moratorium on nuclear construction.

The hearing in Raleigh on Lee, expected to ultimately coast about $11 billion, will go ahead.

Duke filed rebuttal testimony with the commission on Friday. That testimony includes several witnesses, including Chief Executive Jim Rogers, disputing Bradford's contentions that Duke is creating a financial risk for customers. Rogers argues Duke needs the Lee plant to meet future demand increases in a economically sound way. Progress Energy taps IBM for smart grid

Progress Energy has named IBM as the lead systems integrator for its $520 million smart-grid program in the Carolinas and Florida, GreenTech Media reports.

"This is a real exciting one for us," said Michael Valocchi, Energy & Utilities Industry lead for IBM's Global Business Services unit.

"The reason that this is so exciting is that this is an end-to-end look from a smart grid perspective," he said. "Whereas we've seen a lot of metering-centric implementation (in the past), this is really focused on the operational efficiencies."

Progress Energy won a $200 million federal grant to help pay for the smart-grid program. Progress and Duke Energy propose to merge their two companies in a $13.7 billion stock deal that is expected to close by the end of the year. John Downey covers the energy industry for the Charlotte Business Journal. Click here to read more recent postings on Power City. To get an RSS feed for Power City click here.

Georgians Concerned About Nuclear Plants (WAGA)

WAGA-TV Atlanta (GA), March 15, 2011

ATLANTA - Georgia is a major player when it comes to nuclear energy. For the first time in 30 years, Plant Vogtle is about to begin an historic expansion and add two new nuclear power units.

The plant is located in Waynesboro, Georgia. In light of a catastrophic earthquake that hit Japan and caused explosions at a nuclear plant there, some Georgians are concerned about their safety.

Georgia Power officials say the company monitors ground motion at all of its power facilities and that motion has never been detected at those plants.

Georgia Power Says Nuclear Plants Built For Disaster (WRBL)

By Sarah Panko

WRBL-TV, March 15, 2011

A spokesperson for Georgia Power says employees at their nuclear facilities go through extensive training to deal with a disaster like an earthquake.

There are two nuclear facilities in the state of Georgia.

Plant Hatch is located in southeast Georgia near the town of Baxley.

Plant Votgle is located near Waynesboro, 40 miles from Augusta.

Georgia Power also has another nuclear power plant in Alabama.

Plant Farley is located near Dothan.

Georgia Power says their plants provide about 18% of your household's power.

A spokesperson for Georgia Power says they are building two more nuclear reactors at plant Vogtle.

Georgia Power says the plants are safe and they do not foresee changing any construction plans or their budget.

"Both of these facilities are designed, constructed built and operated to withstand a natural disaster like the one in Japan," says Todd Terrell a spokesperson for Georgia Power.

Terrell says each and every nuclear plant employee goes through a drill to prepare for disaster situations.

He says the drill happens once a year and lasts all day.

The new nuclear reactors are slated to be open in Georgia in 2016.

Farley Built To Withstand 5.0 Earthquake (DOTHEGL)

By Lance Griffin

Dothan (AL) Eagle, March 15, 2011

The likelihood of a catastrophic earthquake, similar to the one which occurred in Japan, happening in Houston County and impacting Farley Nuclear Plant is so remote the United States Geological Survey doesn't even place a percentage on its probability.

Probability charts generated by the USGS conclude there is no chance of an earthquake with a magnitude of 7.6 or higher occurring in the county.

Historically, there appears to be no record of a major earthquake happening in Houston County. The closest significant earthquake happened in 1997 when a magnitude 4.9 quake occurred more than 100 miles away near Brewton.

A spokesperson for Farley Nuclear Plant said Monday that the plant was built to withstand an earthquake of up to 5.0 on the Richter scale, with the quake occurring at or near the plant itself.

"Every US nuclear power plant is licensed and built to endure environmental hazards and disasters," said Alyson Fuqua, spokesperson for Southern Company, owner of Farley Nuclear Plant in Houston County.

Fuqua said Farley was built to a standard equal to the plant's "maximum projected seismic event," a standard determined by reviewing the seismic history of the area as well as potential events based on the geology of the area.

"Even on top of that, that takes into account going above the maximum event in history and still leaves room for margin there," Fuqua said.

Southeast Alabama is considered to be within a very rare area for seismic activity. The USGS's probability chart estimates a .3 percent chance of a 5.0 earthquake occurring in Houston County over the next 50 years.

While major earthquakes are rare in Alabama, smaller ones occur occasionally. The last recorded earthquake in Alabama happened Feb. 9 near Gadsden in the northeastern part of the state, where a magnitude 2.2 quake was recorded.

Fuqua said US nuclear plants are built with safety systems to make sure the plants are shut down safely in the event of an event similar to the Japan earthquake.

Fuqua said Southern Company officials are watching the events in Japan closely as the country deals with multiple nuclear emergencies resulting from the magnitude 9.0 earthquake Friday.

"The situation is still changing so much it is hard to say right now what the best practices coming out of Japan are going to be. There could be some takeaways from Japan that we could use. At this point, we don't see any obvious changes to what we are already doing, but that does not mean we are not willing to learn from events as they unfold," Fuqua said.

Entergy: Grand Gulf Prepared If Disaster Should Strike (WAPT)

WAPT-TV Jackson, MS, March 14, 2011

Concerns about a possible nuclear meltdown in Japan have raised new questions about the safety of nuclear power plants here in the US

The nation's fifth largest nuclear reactor is in Port Gibson. Entergy officials said Monday that the company is prepared for any disaster that may strike the Grand Gulf Nuclear Station.

The Grand Gulf plant supplies about 25 percent of Mississippians with power and electricity. Employees train every few weeks with local organizations to make sure backup plans are secure, Entergy officials said.

WAPT's Erin Kelly spoke to a physics professor who said the disaster in Japan could make it harder to build nuclear plants in the US But Suzanne Anderson, of Entergy, said the disaster is something Mississippi can learn from.

"Well as a learning organization, Entergy is always keeping an eye toward situations from which we could glean any type of information to help us be better prepared," Anderson said.

The Emergency Operations Center of Claiborne County regularly mails preparedness information to anyone living in the 10-mile emergency planning zone.

Wolf Creek Nuclear Power Plant Officials Monitoring Situation In Japan (LJW)

By Scott Rothschild

Lawrence (KS) Journal World, March 15, 2011

Wolf Creek nuclear power plant officials said Monday that they are watching developments in Japan closely to see whether lessons can be learned from the plant disasters occurring there.

"We are closely monitoring it as an industry," said Jenny Hageman, spokeswoman for the Wolf Creek plant, a 1,200-megawatt facility 52 miles south of Lawrence.

Japanese officials are dealing with crises at several nuclear plants in the wake of the country's earthquake and tsunami that have left at least 10,000 dead.

Hageman said US nuclear power officials are offering to help Japan.

She said the chance of an earthquake affecting Wolf Creek is much smaller than in Japan. Tornadoes would be the more likely disaster to hit the plant, and Hageman said Wolf Creek's containment structure can withstand winds of 300 mph.

Wolf Creek is running at 100 percent capacity, but will be shut down on Saturday for about seven weeks for scheduled maintenance, which will include the replacement of four giant rotors and turbines. This operation constitutes the largest modification of the plant since it started operating in 1985, she said.

Michael Murray, a nuclear physicist at Kansas University, said Japanese officials are trying their hardest to address the problems, but they face great obstacles.

"The crucial thing at the moment is that the fuel rods be kept under water," Murray said. "The problem they are having is that the general level of devastation from the tsunami" has hindered their efforts.

Murray said there is no evidence of a rupture in the containment cases at these units.

"What needs to happen now is make sure there is not enough buildup of steam or hydrogen to crack the containment vessel," he said.

NUCLEAR POWER: New Concerns About Proposed Utah Nuclear Plant (KSTU)

KSTU-TV, March 15, 2011

As Japan's nuclear power plants approach meltdown in the aftermath of the devastating earthquakes and tsunamis, new questions are being raised about the safety of American nuclear power plants.

"We think it would be absolutely irresponsible to move ahead with new nuclear power development without fully considering what happened in Japan," said Christopher Thomas with the Healthy Environmental Alliance (HEAL) of Utah.

Environmentalists fear that what happened in Japan could happen here. In response to the Japan quake, some members of Congress have contemplated a moratorium on new nuclear plants being built in the United States.

That could potentially include a nuclear power plant being proposed near Green River, Utah.

"The earthquake and the tsunami situation don't apply to our project in this situation," said Aaron Tilton, the CEO of the Provo-based Blue Castle Holdings, which is pushing to build a nuclear power plant in an industrial park outside Green River.

The 2,400-acre site would hold side-by-side nuclear reactors. Currently, authoriites are waiting on approval from the Utah State Engineer on whether it can divert water from the Green River to cool the nuclear reactors.

Backers of the proposed nuclear power plant insist the site is seismically sound. Tsunamis are not a threat in landlocked Utah, but environmentalists point out other risks.

"We think Utah has its own unique threats like the risk of severe drought," said Thomas. "We think those need to be fully considered before there are any thoughts about moving forward with a nuclear power plant."

Blue Castle said the water is not an issue because the area had previously been considered for a coal fired plant. Even if the state were to approve the Green River diversion, Blue Castle Holdings said licensing with the Nuclear Regulatory Commission would still take another five to seven years.

"We expect there to be lots of debate, information, discussion, certainly related to what happened to Japan," Tilton said. "Which we welcome because people will find out those considerations have been taken into account."

Emery County officials are hoping Congress does not make a knee-jerk reaction. The county's office of economic development said the project could bring a lot of jobs -- about 4,000 to build the nuclear power plant and another 1,700 to run it once it's constructed.

"For our county, that's monsterous!" said Emery County Economic Development Director Mike McCandless. "Right now, Emery County generates the majority of the electrical power for the state of Utah. We have five separate coal-fired generators already in Emery County. We are the backbone for power generators in Utah."

Virginia Nuclear Power Stations Are Not Threatened By Tsunamis (NWPRTNWZ)

Tsunamis don't scare Surry nuclear plant operators Hampton Roads Daily Press

By Cory Nealon

Newport News (VA) Daily Press, March 15, 2011

Located on the James River across from Williamsburg and other tourist attractions, the Surry Power Station is not likely to be struck by a tsunami.

Yet its two nuclear reactors could be susceptible to coastal flooding, earthquakes, tornadoes, and terrorist attacks.

These are events, however unlikely, that officials from Dominion Virginia Power, the plant's owner, say they're ready for.

"We prepare our people to respond to these sort of things," said Richard Zuercher, a Dominion spokesman.

One of two commercial nuclear plants in Virginia — the other, North Anna Power Station, is roughly 45 miles northwest of Richmond — the Surry nuclear reactors began operating in 1972 and 1973.

They are roughly the same age as those at the Fukushima Dai-ichi nuclear plant in Japan, where explosions associated with last week's deadly tsunami have prompted fears of widespread radiation poisoning.

The similarities end there.

The Japanese reactors, designed by General Electric, are boiling water reactors. There are 35 such GE-designed reactors in the US, according to the Nuclear Regulatory Commission. The closest one to Hampton Roads is in Southport, N.C.

The Surry and North Anna reactors are pressurized water reactors designed by Westinghouse Electric Co.

The commission last decade extended the 40-year operating licenses for Surry and North Anna. Surry's two reactors are allowed to run until 2032 and 2033, respectively, and North Anna's two can operate until 2038 and 2040, respectively.

The Surry reactors are adjacent to Hog Island Wildlife Management Area, a 3,900-acre wilderness that is susceptible to flooding during Category 1 hurricanes, according to Virginia Department of Emergency Management records.

The commission in the early 1990s ordered Dominion to build concrete barriers to prevent too much water from entering the plant during storm surges and damaging electrical equipment on the ground floor, Zuercher said.

It takes roughly 1.5 million gallons per minute from the James River to cool the reactors.

The region's last major flooding, which occurred during a nor'easter in November 2009, did not affect plant operations, he said.

The plant was shuttered for three days during Hurricane Isabel in 2003, which wreaked havoc on low-lying areas across the region. The reactors were never in danger of melting, Zuercher said.

Larry Atkinson, an oceanographer at Old Dominion University in Norfolk, said most of Hampton Roads, including the Surry plant, is at risk for flooding as a result of hurricanes and other storms.

Virginia is not known for earthquakes but the state has endured tremors, mostly in the Charlottesville area. The strongest on record was a 5.9 magnitude quake in 1897 in Giles County.

Jim Norvelle, another Dominion spokesman, said Surry and North Anna are built to withstand 5.9- to 6.2-magnitude shocks.

"We're not in the Ring of Fire," he said, alluding to Japan, where plate tectonics historically have caused greater earthquakes.

The comission faulted Dominion in 2006 for not properly responding to a "seismic event" that was deemed low to moderate in safety significance.

Both plants are also at risk for tornadoes. The most recent to strike Hampton Roads occurred in 2008 in nearby Suffolk, which included home-destroying 160 mph winds.

Had it moved closer to the plant, the reactors are shielded by steel-reinforced concrete that is 2.5-feet to 4-feet thick. The 5.2 million gallons of nuclear waste at Surry and North Anna are stored in similar-built casks.

All are designed to withstand high winds and terrorist attacks. For example, Dominion cites a study ordered by the industry group, Nuclear Energy Institute, that containment buildings can protect reactors against most commercial aircraft.

If radiation ever were to leak from Surry's reactors, there are six localities — Surry, Isle of Wight, York and James City counties, and Newport News and Williamsburg — within 10 miles of the plant.

The state Department of Health last year decided not to issue new tablets of sodium iodide, a pill that protects people in the 10-mile zone against airborne radiation.

Elizabeth Singer, a health department spokeswoman, said most pills issued in 2002 had expired. If the product is ever needed, the department will hand it out at evacuation areas, she said.

The disaster in Japan has not altered the department's plan, she said, adding that the "policy will remain the same."

Lake Anna Residents React To Nuclear Scare In Japan (WCAV)

By Frankie Jupiter

WCAV-TV Charlottesville (VA), March 15, 2011

Only a few miles down the road from several homes and lakefront communities is the North Anna Nuclear Generating Station. The nuclear plant and its reactors sit on more than 1,000 acres of land in Louisa County.

The recent earthquake and tsunami disasters in Japan have raised concerns all over the world as the Fukishima Nuclear Complex experienced explosions that left thousands at risk. The situation is so bad in the country, nuclear experts warned the problems could lead to a disaster worse than Chernobyl.

Dominion Virginia Power spokesman Richard Zuercher says the company has many safety procedures in place in the event of a crisis.

"We have thought through virtually any scenario that we can think of that could potentially happen at the station, and we have measures in place to address those issues," he said.

Earthquakes in Virginia are rare, but not unheard of. In December of 2003, a 4.5 magnitude earthquake hit Central Virginia.

Some residents who spoke with CBS19 say though there is some concern, they're not overly worried about the plant melting down.

"I think this is a relatively very secured area," said Ronnie Beaudway.

"We provide people with in the ten mile radius of the station with a calendar every year. That gives the dates of our siren test, and it provides emergency information people would follow," said Zuercher.

Dominion Still Seeks Reactor License (RICHTD)

By Peter Bacqué

Richmond (VA) Times-Dispatch, March 15, 2011

Dominion Virginia Power said Monday that it intends to move forward with plans for a third reactor at its North Anna Power Station as the international nuclear energy industry reels from the disaster at the Dai-ichi nuclear plant in Japan.

"We're going to continue seeking the combined operating license," said Thomas F. Farrell II, chairman, president and CEO of Dominion Resources Inc., the parent company of Dominion Virginia Power.

He noted that the utility has not actually made a decision to build the unit. The company wants to keep the option open to meet projected demand for electricity.

Fears about nuclear safety that took a generation to overcome after the accidents at Chernobyl and Three Mile Island are resurfacing around the globe. They are casting new doubt on a controversial energy source that has seen a resurgence.

Germany temporarily halted plans Monday to extend the life of its nuclear power plants, and Switzerland has suspended its plans to build and replace nuclear plants.

In the US, Rep. Edward J. Markey, D-Mass., is calling for a moratorium on any new construction of nuclear power plants.

But Atlanta-based Southern Co. said Monday that it does not expect delays as it attempts to break ground on the nation's first nuclear reactors in a generation.

Virginia Gov. Bob McDonnell and House Majority Leader Eric Cantor, R-7th, expressed support for the development of nuclear power.

The US Nuclear Regulatory Commission is reviewing Dominion's application to build and operate North Anna Unit 3, with a decision expected in 2013. Dominion Virginia Power operates four commercial nuclear power reactors in Virginia, two at North Anna in Louisa County and two at Surry Power Station in Surry County.

The damage at the Fukushima plant stemmed more from the tsunami that hit Japan than the earthquake that caused it, said David A. Christian, CEO of Dominion Generation, which handles the company's electric generating operations.

Dominion Virginia Power's four nuclear reactors are different in design from the Fukushima plant's, Christian said.

However, Dominion Resources owns a reactor that is shut down at its Millstone station in Connecticut similar to the Fukushima reactor, Christian said, and the Virginia utility has offered to make equipment from that plant available to the Japanese for whatever use might be helpful.

Dominion Virginia Power's nuclear power plants were designed to be able to withstand catastrophic events like earthquakes, hurricanes and flooding, officials said. And, Christian said, "we've done nothing but make them safer over the years."

Larry P. Atkinson, an Old Dominion University oceanographer, said he's aware of no tsunami in this part of the country in human history.

The Surry plant, which is about 40 miles up the James River from the Atlantic Ocean, is protected from a hypothetical tsunami by the measures that safeguard it from hurricanes, Christian said. The North Anna plant is more than 100 miles from sea but is located in a seismically active area.

"We've had moderate earthquakes out there in central Virginia ever since the state was settled," said Martin Chapman, who does seismic research for the Nuclear Regulatory Commission and the US Geological Survey and is director of the Virginia Tech Seismological Observatory.

"I'm confident the (state's nuclear power) plants would perform very well if we have repeats of the earthquakes we have had in the past."

Virginia has had more than 160 earthquakes since 1977, 16 percent of which were strong enough to be felt, according to Tech's Seismological Observatory. Virginia's largest recorded earthquake — with a magnitude estimated at 5.5 to 5.8 — hit Giles County in 1897. It is the third-largest in the eastern US in the past 200 years.

McDonnell said the state should continue to push for more nuclear power. "All energy development is inherently dangerous," the governor said.

And he said Lynchburg, where nuclear energy companies Areva and Babcock & Wilcox are located, could be the US nuclear energy capital.

Said Cantor: "We certainly want to get to the bottom of it and ... learn any lessons from Japan's experience. But nuclear power is an essential part of the energy mix of this country. And the president has said so, and I share that position."

Dominion Virginia Power should do more to pursue renewable energy and energy efficiency instead of planning for another reactor at the North Anna nuclear power plant, said Glen Besa, director of the Virginia chapter of the Sierra Club. "Both are cheaper than new nukes." He added that tornadoes and hurricane events "could challenge North Anna safeguards."

Local Nuclear Plant Makes Comparisons To Japan (WVEC)

By Velma Scaife

WVEC-TV Hampton Roads (VA), March 15, 2011

A local nuclear power plant said Monday that it was prepared for natural disasters after comparing themselves to the three plants damanged in the earthquake and tsunami disaster in Japan.

The nuclear plant in Surry County houses two nuclear reactors.

The power plant in Japan was designed by G.E. The plant here in Surry County is a Westinghouse design.

Dominion Virginia Power spokesman Richard Zuercher said that the differences are slight.

The Surry nuclear power station was built to withstand hurricanes, tornados, and the earthquake standards for this region.

Zuercher said the quake in Japan was a thousand times more powerful than any earthquake that has happened near Surry.

Although it has been a long time since an earthquake happened in Surry, some people are giving it more thought after the natural disasters in Japan.

"I thought about that when I saw that on the news. I'm not moving, I think it's fine. I think it's safe," said Keith Bunch, who lives near the plant.

Unlike some of his neighbors, Ray Lane said he has always been a little worried having the plant as a neighbor.

"Ain't no telling what might happen," said Lane.

Still, he doesn't plan to move.

"I don't think there's any need to worry," said Bunch.

Both men agree that having the plant in the county has done a lot for the area.

North Anna Nuclear Power Plant Considered Safe (WTVR)

By Wayne Covil

WTVR-TV, March 15, 2011

They live with it every single day but most say it's just not something they think about.

We're talking about people who live and work near North Anna Nuclear Power Plant in Louisa County.

After the earthquake and tsunami in Japan last week, many in the small town of Mineral have paid close attention to what's happened with the damaged nuclear power plant.

Most say, it's un-likely to happen here in the commonwealth and they have faith in the safeguards implemented at the facility.

In Japan, the nuclear plant with stood the 8.9 earthquake, though it did cause problems.

Then the site was hit with a wall of water from the tsunami.

North Anna, though often rumored to sit on a fault line, does not.

And experts and former employee's say the safe guards are in place to make sure if there is a problem, a meltdown won't occur.

In fact, many who live or work within a few miles of North Anna agree, they think the site is safe.

Congress Weighs Nuclear Safety As 2nd Explosion Rocks Japan Nuclear Plant (AP)

Associated Press, March 15, 2011

A Japanese official says fuel rods at a troubled nuclear reactor were fully exposed Monday during a second hydrogen explosion in three days.

The explosion at Unit 2 sent a massive column of smoke into the air and injuring 11 workers.

The exposure happened at Unit 2 of the Fukushima Dai-ichi plant – the latest reactor to lose its ability to cool down. The other two reactors at the plant are facing a meltdown and authorities are racing to cool them with sea water.

Fukushima government spokesman Masato Abe said Monday authorities were working to cool the rods with sea water channeled into the reactor,

Their exposure raises the risk of the reactor overheating, which can lead to meltdown.

Hours later, the US said it had shifted its offshore forces away from the plant after detecting low-level radioactive contamination.

The aircraft carrier USS Ronald Reagan was about 100 miles (160 kilometers) offshore when it detected the radiation, which US officials said was about the same as one month's normal exposure to natural background radiation in the environment.

It was not clear if the radiation had leaked during Monday's explosion. That blast was felt 25 miles (40 kilometers) away, but the plant's operator said radiation levels at the reactor were still within legal limits.

The explosion at the plant's Unit 3, which authorities have been frantically trying to cool after a system failure in the wake of Friday's massive earthquake and tsunami, triggered an order for hundreds of people to stay indoors, said Chief Cabinet Secretary Yukio Edano. The two disasters left at least 10,000 people dead.

Operators knew an explosion was a possibility as they struggled to reduce pressure inside the reactor containment vessel, but apparently felt they had no choice if they wanted to avoid a complete meltdown. In the end, the hydrogen in the released steam mixed with oxygen in the atmosphere and set off the blast.

Meantime, in Washington, Congress will talk about nuclear power and safety this week.

Sen. Joe Lieberman of Connecticut, who's been a supporter of nuclear power, said this weekend that America needs a temporary moratorium on new nuclear plants until it's clear exactly what happened in Japan.

There are 104 nuclear power plants operating in the US, including Dominion Power's plant in Surry County.

Opponents of nuclear energy are talking about a ban on plants in earthquake-prone areas and retrofitting plants already operating with stronger containment systems.

Nuclear Power Plant Safety Concerns (WAVY)

WAVY-TV, March 15, 2011

The nuclear power plant crisis is promoting safety concerns worldwide.

There are two in Virginia - one in Louisa County and another nearby in Surry County.

All nuclear power plants in the US are regulated by the federal government and graded every two years on emergency drills.

Surry's last graded exercise was in 2009.

WAVY.com pulled the report and found one notable problem, or what the feds call an "area requiring corrective action."

The power station sits along the James River, where Norfolk Naval Station, the shipyard, and the Jamestown Ferry run boats through the area.

In the report, FEMA noted there was no evidence of communication with those sites to control the boats in an emergency.

That responsibility lies with the city and state, not Dominion Power.

The feds report the issue has been corrected.

As for Dominion Power, the feds found no identifiable issues.

A Dominion spokesman said upgrades were made in the 1990's after the nuclear regulatory commission ordered all sites to analyze against worst case scenarios.

"Surry at the time was deemed prone to flooding," Richard Zuercher with Dominion Power said. "So we built barriers to make sure those electrical systems would be protected from any flooding."

The spokesman also said the plants in Surry and Japan are designed differently and therefore, he could not say how they would respond in a similar incident.

Surry's next emergency drill is scheduled for July 19.

EVENTS IN JAPAN SPUR NUCLEAR DEBATE IN US (FLS)

By Rusty Dennen

Free Lance-Star, March 15, 2011

As federal regulators, utilities and environmentalists keep a wary eye on the unfolding nuclear disaster in Japan, it remains to be seen what effect it will have on plans for dozens of new reactors in the United States.

One of those new reactors is on the drawing board at North Anna Power Station on Lake Anna in Louisa County.

The Nuclear Regulatory Commission said yesterday that it is monitoring the events in Japan and considering a request for technical assistance.

"We're focused on assisting our Japanese counterparts right now. As detailed scientific information becomes available from Japan, we'll fully review that information to determine any implications for operating reactors in the United States," said Scott Burnell, a spokesman for the NRC.

Meanwhile, three operational reactors at the Fukushima Dai-ichi power plant were at risk of a meltdown as operators pumped in seawater to cool the radioactive cores, The Associated Press reported. So far, about 180,000 people have been evacuated, and as many as 190 may have been exposed to radiation.

The scene is reminiscent of the Three Mile Island disaster near Middletown, Pa., in March 1978. An electrical or mechanical failure shut down pumps that fed cooling water to Unit 2. The reactor had a severe core meltdown, though there were no deaths or injuries.

Richard Zuercher, a spokesman for Dominion power's nuclear operations, said yesterday that the company has directed management teams at its nuclear plants to review systems and responses, in light of what's happening in Japan.

"We wanted to take a fresh look to see if there's something to be gained," he said. Along with North Anna, Dominion owns and operates Surry Power Station on the James River, Millstone Power Station in Connecticut, and Kewaunee Power Station in Wisconsin.

All those are pressurized water reactors, a different design than the boiling water reactors used at Fukushima.

There's one similarity: North Anna Power Station was built in one of Virginia's earthquake zones in the 1970s.

Iodide Pill Available Locally (FLS)

By Jim Hall

Fredericksburg Free Lance Star, March 15, 2011

Those who live within 10 miles of the North Anna Power Station can obtain free potassium iodide pills from the Health Department.

Dr. Brooke Rossheim, director of the Rappahannock Area Health District, said last night that several people called yesterday about the pills, in the aftermath of the accident this weekend at the Fukushima nuclear plant in Japan.

"We've not had a lot, but we've had a few people call about it," Rossheim said.

The 10-mile zone around the Lake Anna plant includes thousands of residents of Spotsylvania, Caroline, Louisa, Orange and Hanover counties.

The Health Department office in Spotsylvania, for example, has a fresh supply of 500 pills, Rossheim said. In addition, potassium iodide can be purchased over the counter.

Those who live within the 10-mile boundary can visit that office and obtain a one-day dose--a 130 mg pill--for each person in their household, he said.

Potassium iodide pills are used to used to protect the thyroid in case of the release of radioactive iodine-131.

Japanese officials have detected iodine-131 and cesium-137 around their stricken plant. They have evacuated those who live nearby, and they've handed out potassium iodide pills.

Rossheim said local health officials will ask those who pick up pills to await instructions from the Health Department before actually taking them.

The state's emergency plan calls for the state health commissioner to recommend that residents take the pills if unacceptable levels of radioactive material have been released from the North Anna plant.

"Obviously we can't control what people do," Rossheim said. "Once they have the potassium iodide, it's theirs. But we hope that they follow our recommendation."

Rossheim said the pill can have side effects. In addition, it does not protect other areas of body, and it does not protect against other radioactive materials.

Japan Scenario Unlikely At Millstone (NLDAY)

By Patricia Daddona

New London (CT) Day, March 15, 2011

The Millstone nuclear complex has equipment in place to prevent power loss and partial meltdowns like those occurring at reactors in Japan, plant owner Dominion said Monday.

Friday's earthquake and tsunami knocked out power that caused cooling systems to fail at three separate reactors at the Fukushima Daiichi Nuclear Power Station. The threat to the public includes the continued melting of the core, the part of the reactor where fission occurs, radiation sickness and contamination.

"This is a very extraordinary situation Japan is in - it's unprecedented," said Ken Holt, a spokesman for Dominion. "We're trying to learn as many lessons as we can about this event."

The Millstone complex sits on the edge of Long Island Sound. Its older Unit 2, which began operating in 1975 and generates 884 megawatts of electricity, is licensed through 2035. The site's Unit 3, built in 1986, generates 1,227 megawatts of electricity and has been relicensed through 2045. Millstone 1 is permanently shut down.

David Lochbaum, a nuclear engineer and director of the Nuclear Safety Program with the Union of Concerned Scientists, said in a media conference call Monday that many of the United States' 104 reactors could be similarly vulnerable.

"Any reactor design currently operating today that had been faced with an earthquake followed by a tsunami would likely be in similar situation," he said.

But here in Connecticut, US Geologic Surveys show a low risk of earthquakes, though the state and southeastern Connecticut are prone to hurricanes. Millstone's two operating reactors have a few things going for them - should what Lochbaum calls "the bad day" ever occur.

Both Units 2 and 3 have two backup diesel generators each. Unlike some of the generators reportedly flooded in basements at the Japan sites, Millstone's generators are protected from possible floodwaters. Flood barriers in a concrete bunker protect the Unit 3 generators, while concrete structures with flood barriers inside are in the Unit 2 turbine building, according to Holt, the Dominion spokesman.

In addition, Units 2 and 3 are not on a list of 27 reactors that the US Nuclear Regulatory Commission is reviewing for risk to seismic activity, said NRC Spokesman Neil Sheehan. Despite that, Holt said the company is reviewing its earthquake preparations and "watching for news coming out that we could apply to our own operations here."

Unlike some other reactors in the United States, Millstone Units 2 and 3 have pressurized water designs. The Japanese reactors are boiling water reactors.

The pressurized water reactors have cooling water not only in the reactor core, but in a secondary water system in the steam generator, which creates steam that spins the turbine to make electricity. The reactors also have steam-driven auxiliary feedwater pumps, which can help cool the reactor.

The pumps circulate cooling water as long as the reactor is hot enough to generate steam, so electrical power is not essential, though it is normally in use, said Holt.

Millstone also has extra battery-powered backup that can be charged while in use with an additional generator reserved for serious blackouts. The batteries would "bridge the gap" if power goes out, Holt said. Unit 2 has two eight-hour safety batteries and Unit 3 has four two-hour batteries, he said.

Japan's reactors had eight-hour batteries but they ran out, the Union of Concerned Scientists' Lochbaum said.

When the Millstone complex was built, then-owner Northeast Utilities assessed the plants for earthquake risk and flood risks and the possible loss of offsite power, said the NRC's Sheehan.

"So we'll see whether any revisions are warranted" as Japan's situation plays out, Sheehan said, as well as evaluate the lessons learned and plan accordingly.

Is Millstone Prepared For Natural Disasters? (LDPTCH)

By Paul Petrone

Ledyard (CT) Patch, March 15, 2011

The devastation of the recent tsunami in Japan was made worse when a nuclear power plant fell victim to the mammoth waves. As local residents watch horrific scenes on television, the question lingers: What would happen if something like this happened at Millstone Power Station?

The answer is that a tsunami is highly unlikely at Millstone, as there are no major fault lines and Long Island Sound provides a buffer, assured Dominion spokesman Ken Holt. "Eastern Connecticut is not a very seismic area," he said.

That said, flooding is very possible, either through hurricanes or just heavy rains, and even a tornado, and Dominion is prepared for such events, Holt said.

"When the plants were first built ... they looked at the worst historical storms and built the plants to withstand that, plus some," he said.

Flood barriers and massive concrete walls surround any place the water shouldn't be, he said. To ensure energy is always coming into the plant, backup generators are placed in other locations with buried lines, he said.

Dominion is also looking at Japan to see what it can learn to avoid similar problems, Holt said. The company has offered support to Japan, although so far it has refused, he said.

Government's side

The Nuclear Regulatory Commission is also looking at the Japan disaster to see how to improve Connecticut plants, NRC Resident Inspector Brian Haagensen said.

Haagensen reiterated Holt's point that a tsunami was highly unlikely to hit Waterford. A hurricane is very likely, but that scenario, as opposed to a tsunami, isn't as dire.

"With a hurricane, you have plenty of advance notice, usually 24 hours," Haagensen said. "In a tsunami you may have a couple of seconds' notice."

If the NRC had major concerns about an impending storm, it would shut down the reactor, Haagensen said. Such a move, according to Holt, has never done before, and would hopefully be avoided in the future.

Even if Millstone Point were completely flooded or hit by a tornado, it would be unlikely that the radioactive material would get out, Haagensen said. The nuclear reaction occurs 45 feet below the water table, in a fully enclosed structure that has walls of concrete five feet thick, he said.

"We don't believe there are vulnerabilities like they had in Japan," he said.

Waterford's take

After the tsunami, Dominion did an extensive review of Millstone, Waterford First Selectman Dan Steward said. That was the right step, he said.

"Is Dominion looking into this? It is," said Steward, who was formerly a Millstone employee. "It is important for Dominion to be able to handle a wave of this magnitude."

Neighbors Feel Safe Around Millstone (WVIT)

By Ryan Hanrahan

WVIT-TV New Haven (CT), March 15, 2011

Video of explosions at a nuclear power plant north of Tokyo and news of a partial meltdown in the wake of last week's earthquake bring back memories of Chernobyl across the world.

Connecticut's only operating nuclear power plant, Millstone in Waterford, generates 2,000 megawatts of power from two operating units at the entrance to Niantic Bay. Residents there say they are okay with having a nuclear power plant in their backyard.

Millstone Power Station communications manager Kenneth Holt says, "When the stations were first designed they were designed with all phenomena in mind, earthquakes, hurricanes, and flooding."

Waterford First Selectman Daniel Steward says Millstone is a good neighbor, and that though the partial meltdown in Japan gives him pause, he doesn't think it's changed anyone's mind.

Emily Spathakis of East Lyme isn't worried, "We have no fear. I don't think we should be concerned. It's a good source of energy and I think we'll be fine."

"I know there are a lot of safety precautions put in place so it doesn't worry me," Andrea Seitz of East Lyme said.

In the unlikely event of an emergency, Steward says his town is ready, "we utilize the sirens and we have zones where we can choose to go to different areas. We've got the ability of figure out who needs to be evacuated based on wind direction."

Towns like Waterford also have a supply of Potassium Iodine tablets ready for citizens to protect against radiation poisoning. First Published: Mar 14, 2011 5:36 PM EDT

State's Nuke Plants Deemed Secure (MJS)

By Thomas Content, Journal Sentinel

Milwaukee Journal Sentinel, March 15, 2011

With the world focused on the nuclear disaster in Japan, regulators and power plant operators issued assurances that Wisconsin's nuclear reactors are safe.

All nuclear plants, including Kewaunee and Point Beach in Wisconsin, were designed so that their safety systems would survive the worst natural disaster on record - with a safety margin built in as a cushion, said Viktoria Mitlyng, spokeswoman for the Nuclear Regulatory Commission's regional office near Chicago.

Wisconsin's worst earthquake occurred in 1947 but was not measured. According to the US Geological Survey, it was centered just south of Milwaukee near the shore of Lake Michigan but caused only minor damage. There were no reports of injuries.

"Our designs and ongoing maintenance programs are specifically based on a number of factors including the likely worst-case seismic scenario for the location of the plant," said Sara Cassidy, a spokeswoman for the two-reactor Point Beach nuclear plant.

The Japanese reactors that are releasing radiation after the tsunami are similar in age but have a different design from the 1970s-era reactors that operate in Wisconsin.

The Wisconsin reactors are pressurized water reactors, while the plants in Japan are boiling water reactors.

Industry officials say new reactor designs are much safer than current reactors, in part because these plants have safety systems that don't require an external power source. So in the event of a plant power outage - and the loss of backup power such as happened in Japan - the safety systems on new reactors would keep operating.

Critics of nuclear power are not swayed.

"My thoughts are not focused on the new designs, but on the operating reactors that are . . . in seismically active zones in the US," said Arjun Makhijani, president of the Institute for Energy and Environmental Research in Takoma Park, Md. "We have to take a hard look at that and put the brakes on any efforts to extend their operating license."

Last month, the Kewaunee nuclear plant received approval from the Nuclear Regulatory Commission to keep running into the 2030s. Similar approval was granted several years ago for Point Beach.

At the Kewaunee Power Station east of Green Bay, plant spokesman Mark Kanz said plant owner Dominion Resources Inc. will review all of its safety systems such as flood barriers, emergency warning systems and safety-related equipment to ensure that "they are as they should be."

Nuclear power accounts for 19% of the electricity supplied in Wisconsin.

During a conference call with reporters on Monday, critics of nuclear power said they are most concerned about plans to extend by 20 years the licenses of boiling water reactors that share the same design as the Japanese reactors.

Boiling water reactors operating in the Upper Midwest include Duane Arnold in Iowa, Quad Cities reactors in Illinois, and the Monticello nuclear plant in Minnesota.

The disaster in Japan comes as the nuclear industry has tried to rebuild its public image in the more than 30 years since the Three Mile Island partial meltdown. Amid forecasts of surging global demand for energy and concern about global warming, proponents of nuclear have touted it as a low-carbon alternative to burning fossil fuels to make electricity.

Plans to build new nuclear plants and extend the life of certain older US reactors will receive heavier scrutiny as policymakers respond to a growing nuclear crisis in Japan, days after a massive earthquake and tsunami.

US lawmakers, including nuclear power supporter Joe Lieberman (I-Conn.), are calling for a reassessment of nuclear. Similar concerns were raised around the world Monday, with leaders in Switzerland and Germany hitting the brakes on nuclear power development and European nuclear regulators planning to meet Tuesday to discuss next steps.

"What actually happens in Japan over the coming days as the triage continues on the Fukushima Daiichi reactors may not matter," said Christine Tezak of Robert W. Baird & Co. in a research note Monday. "The debate over a nuclear renaissance has already been altered. The question now posed: Can nuclear plants ever be safe enough?"

US regulators can be expected to review industry regulations and standards, with a focus on coastal states in light of the tsunami, analysts said.

The Obama administration has supported nuclear power, and proposed in the fiscal 2012 budget to include $36 billion in loan guarantees for new reactors. "It remains a part of the president's overall energy plan," White House spokesman Jay Carney said. "When we talk about reaching a clean energy standard, it is a vital part of that."

The Nuclear Energy Institute said Monday it's premature to draw conclusions about the incident and what it means for nuclear power. The Japanese plants survived the earthquake but were overwhelmed by a tsunami that was much larger than the plant's design had been prepared to withstand.

Regulators can be expected to reassess safety, said Michael Corradini, professor of engineering physics at the University of Wisconsin-Madison, but he noted that the reactor containment vessel at the Japan plants were intact, having withstood the earthquake.

"Look at everything around the plant that was destroyed," he said. "The plant survived."

The Associated Press contributed to this report

Kewaunee, Point Beach Nuclear Plants Say They're Prepared For Emergencies (WLUKTV)

Area nuclear plants say they're prepared

By Beth Jones

WLUK-TV Green Bay, WI, March 15, 2011

LAKESHORE - With the state's two nuclear power plants right here in Northeast Wisconsin, should we be worried about a nuclear catastrophe here? Are the plants prepared?

Both the Kewaunee Power Station and the Point Beach Nuclear Plant say they're prepared for the worst.

But after what happened in Japan, they'll be taking another look at all safety measures.

"When something occurs within the industry, we all take a look at it and we've gone already today and taken a look at the number of our different safety systems and we'll re-evaluate everything that we have in place here, to learn lessons from what happened and improve it so we're able to best mitigate it here," explained Kewaunee Power Station Local Affairs Manager, Mark Kanz.

While Point Beach Nuclear Plant officials declined an interview, they did release a statement saying...

"Each plant has been specially designed to withstand a variety of natural events. Even though an event of this nature is unlikely given the plants' locations, all NextEra/ FPL plants have had additional safety margin added to the "worst case" scenario factors to ensure they fully meet our commitment to protect public health and safety."

Officials say both plants use pressurized water reactors. The facilities in Japan use boiling water reactors.

However, both types can run into the same cooling issues in an event of a disaster.

So officials say meltdown is possible, but they have plans in place to try to make sure that doesn't happen.

"We have a number of redundant systems that would be available to come in and support our safety systems, needed to cool things down," Kanz said.

The Kewaunee Power Station has one nuclear reactor; however it is currently offline for a routine re-fueling outage.

When is up and running, it produces enough electricity to power 300,000 homes.

Point Beach has 2 reactors; one is currently offline due to maintenance.

However, both produce enough electricity to power 900,000 homes or a sixth of Wisconsin's electricity needs.

In an event of a disaster, both plants say they work closely with the surrounding communities to make sure everyone is up to date with any type of emergency plan, whether it is an evacuation or response to a terrorist threat.

The Kewaunee County Sheriff says it's a never-ending process.

"It's year round. It's ongoing. We are in constant communication with them. We do a lot of training scenarios with them," said Kewaunee County Sheriff, Matt Joski.

The Kewaunee Power Station is licensed to 2033. Point Beach is licensed to 2030 and 2033.

Kewaunee Safety Will Learn From Japan Disaster (WBAY)

By Emily Matesic

WBAY-TV Green Bay, WI, March 15, 2011

Two nuclear power plants similar to the one in Japan call Northeast Wisconsin home. Both sit on the Lake Michigan shoreline -- one in Kewaunee, the other in Two Rivers.

Plans are in place to protect residents if radiation would ever escape.

Chances of what's happening in Japan happening at either local nuclear power plant are very slim, but that doesn't mean local officials don't always plan for the worst.

"We have quarterly drills that our people work through our emergency preparedness group, and similarly we work with not only our people but we work with outside agencies," Mark Kranz of Dominion Energy Kewaunee Inc. said.

The Kewaunee County Sheriff's Department is one of those outside agencies.

Sheriff Matt Joski says while his department has plans in place, they act only on the orders of the power plant personnel.

"If they tell us based on the information that they have they're advising us to take these precautions, we just kick in with those precautions," Sheriff Joski said.

Those precautions range from security at the facility to evacuations if needed -- all moves that have been tested and tested over time.

"Redundant systems are a big part of the safety at a nuclear power station, and the same is true here in Kewaunee," Kranz said.

Even though officials locally are well prepared to handle potential emergency situations we're told they're all keeping a close eye on what's unfolding in Japan and are using it as a learning experience.

"After this is done, what's going on over there will be lessons learned, protocols changes, and we're going to of course bring those to our local level and say what worked, what didn't work," Sheriff Joski said.

Area Nuclear Power Plants Stay Prepared (WFRV)

WFRV-TV Green Bay, WI, March 15, 2011

KEWAUNEE COUNTY, Wis. (WFRV) -- The recent earthquake and tsunami disaster that hit Japan last week has caused problems with their nuclear reactors at one plant, causing concerns over a potential nuclear catastrophe.

With Wisconsin's two nuclear plants right in our area, some wonder if that could ever happen here at home.

The Kewaunee Power Station generates enough electricity to power 300,000 homes in Northeastern Wisconsin using nuclear energy.

According to Local Affairs Manager Mark Kanz, working with hazardous materials also means working with local agencies to prepare for the worst.

"We drill with them on a regular basis and also do graded exercises every other year to make sure that we're prepared for any type of emergency that could potentially occur," Kanz said.

In light of the events in Japan, Kanz says they'll be monitoring all safety measures even closer.

It's the same story at the Point Beach Nuclear Facility located in Two Rivers. Officials say safety is a top priority.

While Point Beach officials declined to go on camera, they did release a statement saying:

"Even though an event of this nature is unlikely given our plants' locations, all Nextera/ FPL plants have had additional safety margin added to the 'worst case' scenario factors to ensure we fully meet our commitment to protect public health and safety."

Both plants use pressurized water reactors, while facilities in Japan use boiling water reactors. Both types use the same cooling practices, so officials say a meltdown is possible but highly unlikely.

"If something were to happen to interrupt our power source, within 10 seconds our emergency diesel generators would kick in," Kanz said. "If something were to happen them, we also have battery back-up that could help us run for an extended period of time."

Operations and emergency management crews at the facilities train multiple times a year.

Heather Sawaski reports.

Wisconsin Nuclear Power Community Watches Japan Closely (WISN)

By Shelby Croft

WISN-TV Milwaukee, WI, March 15, 2011

The Kewaunee Nuclear Power Plant sets on the shore of Lake Michigan in a fairly desolate area about two hours north of Milwaukee.

Public Affairs Manager Mark Kanz says, "Each of the nuclear stations in the United States are built according to what is considered to be the seismic basis for that area."

Kanz doesn't think a damaging quake is a concern here and says the plant has an extensive emergency preparedness plan.

"All of our safety-related systems are supplied by power from off-site so if our station were to be shut down, we would still be getting power from off-site to supply our safety related equipment," said Kanz.

The nuclear power community thinks it appears Japan's plant is keeping the nuclear release at a minimum.

"That's the main concern to maintain the integrity of the reactor buildings and to keep all the radioactivity on the site as opposed to letting it get off-site," said Kanz.

Neighbors around Kewaunee don't think a similar disaster could happen here. Medical College Of Wisconsin's Director Of Radiation says there are a lot of unknowns when dealing with nuclear power plants.

"While I think we're well prepared on the engineering side if an event like this happens, if there's widespread contamination and widespread exposure of people, we are totally unprepared for dealing with that," said John Moulder.

Moulder says the medical community still can't test well for radiation exposure or treat mass cases so the situation in Japan could get even worse if more radiation is released.

Calvert Cliffs In Spotlight After Japan's Earthquake & Tsunami (AP)

Associated Press, March 15, 2011

BALTIMORE (AP) — The disaster in Japan is raising some ugly questions about what is usually billed as a clean power source — nuclear power. Some question if Calvert Cliffs in Maryland is safe.

Andrea Fujii reports officials at nuclear facilities insist they've taken precautions.

Explosions have been reported in Japan's nuclear facilities. The latest happened overnight. New before and after pictures have been released of the Fukushima Daiichi Plant.

An American engineer who helped the Japanese build some plants fears what could happen next.

"They need power, that the whole control room is powered up. I don't know whether they've lost power to the whole control room or not," said Ron Karzmar, physicist/engineer. "I mean, we never anticipated the tsunami."

The ongoing disaster is turning the spotlight on the two nuclear reactors at Calvert Cliffs in Lusby.

Calvert Cliffs say the reactors are safe and are designed to withstand any seismic activity.

Senator Joe Lieberman, who chairs the Senate Homeland Security Committee, says he still supports nuclear energy.

"I don't want to stop the building of nuclear power plants, but I think we've got to quickly put the brakes on until we can absorb what has happened," said Senator Joe Lieberman, (I) Connecticut.

Some Maryland families are still trying to absorb what has happened, because they have loved ones still in Japan.

"Hey, it's me. I'm just calling to let you know that I arrived safely to Japan and promptly had a 8.8 earthquake," said Oliver Jones.

Mount Vernon resident Oliver Jones was finally able to call home to let his family know he's OK.

"He said it was so scary, it was crazy. Lights were falling out of the ceiling and coming down and they were evacuated immediately outside of the airport," said Lola Jones, mother.

Others are still waiting to hear news.

"We have brother, sister, I can't contact. Wife too, she have no one to talk to," said Shunji Watanabe, Japan Karate and Judo Center.

Some two million homes are without power in Japan. People that have power are subject to rolling blackouts to conserve energy.

Constellation Says Calvert Cliffs Facility Is Safe (WBAL)

WBAL-TV Baltimore, March 15, 2011

The operator of two nuclear reactors in southern Maryland said the facility remains safe amid news of partial meltdowns at reactors in Japan triggered by an earthquake and tsunami.

Baltimore-based Constellation Energy Nuclear Group operates the reactors at Calvert Cliffs in Lusby. Spokesman Mark Sullivan said the company's plants are designed to withstand any events indicated by the seismic history of the places where they're located.

More than 180,000 people have evacuated the area around Japan's Fukushima Dai-ichi nuclear complex, and up to 160 may have been exposed to radiation.

Md. Expert: Crisis To Start Nuclear Conversation

The force of the tsunami caused the cooling system and the backup generators in one of the reactors to fail.

"They're just getting too hot, and if they get too hot, the fuel can melt. If it does, it can release into the environment," said Dr. Nathan Hultman, a nuclear expert with the University of Maryland, College Park. "If it runs out of coolant or if the coolant gets too low, the reactor will essentially seize up, and then we'll have radioactive problems."

In the event of a meltdown, he said he fears easterly winds could waft the flames to the western US and Canada within 10 days or so.

Hultman predicted the crisis will cause nuclear policy aftershocks across the globe.

"In the end, a lot of what we do with nuclear power depends on our choices as a country -- what kind of energy we want to use, how much we are will to pay for it, and what risks do we want to take. It's not always obvious how to trade off one element for another. That's the discussion that I think we need to have," he said.

Hultman said he expects politicians and nuclear stakeholders to release their views and positions on what to do next with nuclear power in the coming days.

The Nuclear Regulatory Commission said all US nuclear power plants are built to withstand earthquakes and tsunamis.

Life Near A Nuclear Power Plant (WUSA)

By Andrea McCarren

WUSA-TV Washington (DC), March 15, 2011

LUSBY, Md. (WUSA)-- As the drama unfolds at Japan's nuclear facilities, 9NEWS NOW wondered what it would be like to live right near a power plant in this country. We traveled to the Calvert Cliffs Power Plant in Maryland and spoke with neighbors there.

Sirens dot the landscape near the power plant, ready to alert the community in the event of an emergency. That's something the locals rarely considered, until the disaster in Japan.

"I have never seen such devastation anywhere, and I've been in the Navy, and I've traveled all over the world, and I've never seen devastation like Japan," said Danny Chapman, an employee of Calvert Cliffs.

Chapman has a unique perspective. He's worked at Calvert Cliffs for 30 years. The plant sits right in his backyard.

"That's because I know how safe it is," he said.

In the town of Lusby, Maryland, about 60 miles southeast of DC, Calvert Cliffs is one of the area's largest employers -- online since 1975.

"It's been here for years. You kind of get used to it. You hope nothing drastic happens," said Thomas Mitchell of Lusby.

"We don't really think about it too much. It's just a part of life,' said Crystal Bixby of St. Leonard.

The drama in Japan has made what could happen hit home.

"You always think that it can never happen to you, but there's always that chance. Looking at Japan, you do really wonder," said Jenna Ash of Broom's Island.

'It wasn't the fault of the plant. This was a natural disaster that caused this to happen,' said Terri Tresp, a Lusby resident.

Added her husband, Craig Titus, "There's hazards involved with all energy sources. You weigh your options. And frankly, I'm good with it.'

The Nuclear Regulatory Commission says there are 104 reactors located at 68 sites in this country. All were built to withstand earthquakes, tornadoes and other potential disasters. Emergency plans are tested at every facility, including Calvert Cliffs, every year.

Written by Andrea McCarren

9NEWS NOW & WUSA9.COM

Japan Nuclear Crisis: Could It Happen Here? (NBC4DC)

WRC-TV Washington, March 15, 2011

The nuclear crisis in Japan begs the question: could American nuclear power plants withstand a similar natural disaster?

According to the Nuclear Regulatory Commission, that depends.

According to the Baltimore Sun, NRC officials say all US nuclear power plants are built to endure earthquakes and tsunamis. But when you look at facilities in the Washington, D.C., region, experts are putting natural disasters into perspective.

Baltimore-based Constellation Energy Nuclear Group operates the reactors at Calvert Cliffs in Lusby. Spokesman Mark Sullivan says the company's plants are designed to withstand any events indicated by the seismic history of the places where they're located.

More than 180,000 people have evacuated the area around Japan's Fukushima Dai-ichi nuclear complex, and up to 160 may have been exposed to radiation.

Critics of nuclear energy say the crisis in Japan may bring to an end the so-called "nuclear renaissance" in which nuclear energy has been touted as a safer, cleaner alternative to fossil fuels. First Published: Mar 14, 2011 7:28 AM EDT

A Bullet Aimed At The Nuclear Energy 'Renaissance' (NYT)

By Peter Behr , Climatewire

New York Times, March 15, 2011

In the debates about the prospects for a US nuclear power rebirth, there was one thing advocates, foes and regulators seemed to agree on: The industry could not afford another Three Mile Island accident.

Now, in the midst of Japan's worst human and economic catastrophe since World War II, emergency crews have been battling to prevent core meltdown at three crippled nuclear reactors whose primary and backup core cooling systems were left without power by last week's huge tsunami. Units 1 and 3 at Electric Co.'s Fukushima Daiichi nuclear plant suffered a partial core meltdown and hydrogen explosions that blasted the roofs off the outer containment structures but apparently spared the essential primary containment around the reactors, authorities said.

The ongoing crisis at the reactor site on Japan's northeast coast was triggered by the worst earthquake ever recorded in Japan and the resulting tsunami, not the mechanical failures and operator errors that caused the partial core meltdown at the TMI reactor near Harrisburg, Pa., in 1979.

But that distinction may not make a difference politically for the US nuclear industry, at least for the foreseeable future.

Until the weekend, the nuclear industry could point to expansion in China and the Middle East, and 14,000 reactor years since the Chernobyl reactor explosion without a major accident. Now the prospects for building new US reactors, already burdened by comparatively high costs versus other generation options, must overcome shocking news and images from Japan: of nearly 200,000 people forced to evacuate from the reactors' vicinity; a hydrogen explosion ripping off a nuclear plant roof; crews pumping seawater into containment buildings, and technicians in white protective suits testing children for radiation.

"I do think this will force a further re-examination of future nuclear construction plans in the United States," said Peter Fox-Penner, a principal with the Brattle Group consultancy.

"The debate has been altered -- at least in the near term," Christine Tezak, an energy analyst with Robert W. Baird and Co., wrote to clients Monday. "Inexpensive natural gas in the United States has made it difficult to move forward with nuclear projects in areas of the country that no longer rely on regulated rate base investment."

Constellation Energy withdrew from its planned expansion of the Calvert Cliffs, Md., nuclear plant, she noted. "And the South Texas project sponsored by NRG Energy still searches for a purchased power agreement (PPA). We cannot imagine that the Fukushima Daiichi situation makes negotiating a PPA any easier."

Penner and other experts cautioned that the full impact of the emergency depends on its final outcome.

2 possible storylines

Richard Meserve, president of the Carnegie Institute for Science and a former chairman of the Nuclear Regulatory Commission, said it was too early to judge public reaction to the events.

"The anti-nuclear groups will say this is evidence that nuclear technology is too dangerous. Advocates are waiting to see whether a significant environmental release can be prevented," he said. If so, that would represent a victory for the old reactor structures at Fukushima Daiichi that withstood an earthquake far greater than designers had contemplated a half-century ago, he said. "There are two stories. Which way it will play, we don't know."

The NRC judges the existing US reactors to be operating safely. Improvements to equipment, operating procedures and training, supervision and NRC oversight have made plants generally safer now than at the time of the TMI accident, according to a 2007 analysis by the Keystone Center and other reviews. The new reactor designs under review now by the NRC have "fail safe" features that are supposed to prevent a loss of coolant accident like the incidents at Fukushima.

But the Japanese crisis could alter public and political views on nuclear safety, experts said.

A member of a presidential blue-ribbon panel on nuclear waste policy, who declined to be quoted by name, said simply: "Different possible outcomes will have profoundly different implications."

The impacts in the United States may include new challenges to an application by Pacific Gas and Electric Co. to relicense two reactors at its Diablo Canyon plant near San Luis Obispo on the California coast, extending their operating lives for another 20 years; closer scrutiny in an ongoing Nuclear Regulatory Commission review of seismic threats to reactors east of the Rocky Mountains; and perhaps new safety questions about the security of spent fuel at some US reactors in earthquake-vulnerable areas, industry officials and nuclear critics said.

Political fallout in Congress

Up to last weekend, most Republican energy strategies included a larger role for nuclear power. Legislation introduced this month by Rep. Devin Nunes (R-Calif.) would mandate construction of 200 new reactors by 2040, and would pressure the NRC to complete new reactor licensing on a fixed schedule. "New streamlined regulations and a system to manage waste will help drive private sector investments in these facilities, which today are mired in red tape, lawsuits and the liability associated with the storage of used fuel," he said in a statement.

Following the disaster in Japan, Rep. Fred Upton (R-Mich.), chairman of the House Energy and Commerce Committee, issued a statement that put the emphasis elsewhere, declaring "our unwavering commitment to the safety of US nuclear sites."

One of the sharpest critics of nuclear power in the House, Rep. Edward Markey (D-Mass.), issued a statement Friday calling on President Obama to ban construction of new reactors in seismically vulnerable areas and to order the strengthening of existing reactors in those areas.

"The unfolding disaster in Japan must produce a seismic shift in how we address nuclear safety here in America," Markey said.

Later this year, Sen. Jeff Bingaman (D-N.M.), chairman of the Senate Energy and Natural Resources Committee, and its ranking Republican, Sen. Lisa Murkowski (R-Alaska), are expected to seek passage of an energy bill including a new national "clean energy standard" that could include new nuclear reactors as well as wind and solar generation.

"There will be a real fight by public interest groups to define new nuclear power out of that bill," said Tom Clements of Friends of the Earth.

There is Senate support for a proposed Clean Energy Deployment Administration -- a federal "green bank" that could make loan guarantees to new nuclear projects. This, too, sharply divides nuclear power proponents and foes.

'Forces beyond anyone's control'

"I understand those who oppose nuclear power will see this as an opportunity," said Robert Dillon, committee spokesman for Murkowski, speaking of the Japanese crisis. "We don't see this as having been caused by the nuclear industry or nuclear power, but by forces beyond anyone's control. It's premature to attack the nuclear industry," he added. "We want to make sure Japan has all the assistance we can give them. We'll deal with the political implications later."

The most direct consequences of the Japanese crisis may come in an ongoing review of seismic threats to reactors in the central and eastern United States.

The NRC requires that reactors and plant components with significant safety importance be designed to withstand the most severe earthquakes or other natural hazards reported in their surrounding areas. It has concluded that "no concern exists

regarding adequate protection and that the current seismic design of operating reactors provides a safety margin to withstand potential earthquakes exceeding the original design basis" -- the threat profile on which the reactor design is based.

However, the NRC staff is considering whether new estimates of the probabilities of seismic hazards to plants east of the Rocky Mountains during earthquakes warrant additional steps to strengthen reactors and systems.

When US reactors were designed and licensed decades ago, regulators did not have probability-based analysis to assess risks like earthquake hazards, said Alexander Marion, vice president for nuclear operations at the Nuclear Energy Institute. Now those analytical tools exist, but there aren't enough experts trained in applying them to earthquake threats to carry out reviews for US plants, he said. "We don't have the infrastructure to support it right now," he said. The industry is developing an alternative way assessing seismic risks.

Kamal Manoly, NRC senior level technical adviser with the Office of Nuclear Reactor Regulation, said the staff is likely to issue a letter to reactor operators on whether "cost beneficial backfits" -- additional measures to strengthen reactors against earthquakes -- should be considered.

"It could result in plants having to do something," Marion said. "I don't think they'll have to do anything major."

"This has to cause a reassessment of earthquake impacts for all reactors, particularly on the coast of California and in the Midwest, said Clements. The NRC "is going to have to be much more thorough in considering earthquake impacts now. It's gong to slow the process down."

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Monday: Officials Say Oswego County Nucs Safe (WWNY)

WWNY-TV Watertown, NY, March 15, 2011

Officials with the Nuclear Regulatory Commission and the company that operates two nuclear plants in Oswego County said Monday the plants are safe.

That's even though two plants in the county have the same design as the damaged plants in Japan.

The Nine Mile 1 nuclear plant, operated by Constellation Energy, and the James A. FitzPatrick nuclear plant, operated by Entergy, are both boiling water nuclear reactors with the same 'containment' as the damaged Fukushima 1 and 2 plants in Japan.

(The Nine Mile 2 plant is a somewhat different design.)

"There's three barriers to prevent the release of any radiological material," said Diane Screnci of the Nuclear Regulatory Commission.

Jill Lyon, an official with Constellation Energy, said the company takes safety very seriously and is paying close attention to events in Japan.

"When we fully understand the facts surrounding the events in Japan, we will take that information and include it in our operating experience," she said.

In addition, the location of the three plants is a major factor in their safety - Oswego County along Lake Ontario does not pose the same kind of earthquake risk nor, obviously, risk of tsunami.

Nuclear Experts Keep Watch On Disaster In Japan (WSYR)

WSYR-TV Syracuse (NY), March 15, 2011

The natural and nuclear disasters in Japan are attracting the attention of operators of three nuclear power plants in Oswego County. They're working to reassure people that nuclear power is safe and that a plan is in place, just in case.

The disaster in the Pacific is literally half a world away, but there are some common elements between Japan's nuclear reactors and three in Oswego County. There are design similarities between the reactors. Nine Mile One, for example, shares the same GE boiling-water reactor and Mark I containment design used in five of the reactors at Fukushima Daiichi.

Constellation Energy, the owners of Nine Mile One and Two, add that they also share core safety values. In all, the company operates 5 nuclear power plants. All of them were built with a worst-case scenario in mind.

Jill Lyon, from Constellation Energy, says local seismic historical data was used to help determine locations for the reactors. "All of constellation energy plants are out of high hazard earthquake zones," she said. "Each of our plants was specifically designed to withstand a variety of natural emergencies, including earthquakes, storm surge, flooding."

Still, Oswego County has developed an emergency plan that's been in place since the partial core meltdown at Three Mile Island in 1979. The plan is printed on the back of a calendar distributed to people who live in a 10-mile radius around the plants.

"It's a good opportunity for people to remind themselves what are the emergency procedures for nuclear power plants or any disaster," said Emergency Services Coordinator Terry Bennett.

It's unknown how long it'll take for the nuclear industry to recover in Japan, but once it does Constellation Energy plans to use some of the lessons learned there as part of it's operational experience program.

"The nuclear industry sets the highest standards for safety, that's how we operate, and we talk about continuous learning," Lyon said.

Local Nuclear Plant Officials Closely Monitor Situation In Japan (OSWEGOPT)

By Janet Rebeor

Oswego (NY) Palladium-Times, March 15, 2011

With three nuclear plants in Oswego County, residents here are watching with special interest the ongoing crisis in Japan at the Fukushima Dai-ichi Unit 3 nuclear reactor, which was damaged by Friday's devastating earthquake and the resulting tsunami.

According to The Associated Press reports, nuclear plant operators in Japan were frantically trying to keep temperatures down in a series of nuclear reactors — including Dai-ichi Unit 3, where officials fear a partial meltdown could happen.The earthquake, with a preliminary magnitude of 8.9, was reported to be the most powerful in Japan's recorded history, and was immediately followed by a tsunami that ravaged the Asian country's northeastern coast with breathtaking speed and power.

The epicenter of the earthquake was in the Pacific Ocean about 80 miles from the city of Sendai, Japan. The Fukushima Dai-ichi nuclear power facility is located on the ocean, about 25 miles south of Sendai.Constellation Energy Nuclear Group (CENG) Senior Communications Consultant Jill Lyon said the local nuclear industry is closely monitoring the events in Japan. "It's premature for any of us to draw any conclusions since the activities are still in progress (in Japan)," Lyon said.

Lyon stressed that CENG is dedicated to the safety of its employees, residents and the community. "Our plants are all outside of the known high-hazard earthquake zones as identified by the US Geological Survey," Lyon said. "They are designed and constructed ... to withstand ground motion and designed to automatically shut down if certain seismic thresholds are reached."

Throughout the nuclear industry there is an atmosphere of continuous improvement through learning from others, Lyon noted. Once the data is known from the current situation that Japanese operators are facing, Lyon said the nuclear industry would share that data. "Globally, we — as standard practice — incorporate what we call 'operating experience' from other facilities and lessons learned," Lyon said. "We have a formal (procedure) to review operating experience from other locations in the industry to determine if we need to take any action at our facility based on what might have happened someplace else. When we do fully understand things there, and get more detailed information, it will go through our operating experience process."

Hidehiko Nishiyama, a senior official of Japan's Economy, Trade and Industry Ministry, indicated the reactor core in Dai-ichi Unit 3 had melted partially, telling a news conference, "I don't think the fuel rods themselves have been spared damage," according to the Kyodo News agency.

The International Atomic Energy Agency (IAEA) reported that the explosion at the Dai-ichi Unit 1 reactor, which injured four workers, occurred outside the primary containment vessel, not inside. The plant operator, Tokyo Electric Power Company (TEPCO), has confirmed that the integrity of the primary containment vessel remains intact.Japan's Nuclear and Industrial Safety Agency (NISA) also confirmed the presence of caesium-137 and iodine-131 in the vicinity of Fukushima Dai-ichi Unit 1. According to the IAEA, initial increases were reported in levels of radioactivity around the plant, but those levels had been observed to lessen throughout the day.

A complete meltdown — the collapse of a power plant's ability to keep temperatures under control — could release uranium, which is radioactive, along with other dangerous contaminants into the environment and pose major, widespread health risks.

The AP reported that Chief Cabinet Secretary Yukio Edano said Sunday that a hydrogen explosion could occur at the complex's Unit 3, the latest reactor to face a possible meltdown. That would follow a hydrogen blast Saturday in the plant's Unit 1, where operators attempted to prevent a meltdown by injecting sea water into it.

As a countermeasure to limit damage to the reactor core, IAEA reported that TEPCO proposed to use sea water mixed with boron in primary containment vessel. This measure was approved by NISA and the injection procedure began Saturday. Boron is used to disrupt nuclear chain reactions.

"At the risk of raising further public concern, we cannot rule out the possibility of an explosion," Edano said. "If there is an explosion, however, there would be no significant impact on human health."

More than 180,000 people have evacuated as a precaution, though Edano said the radioactivity released into the environment so far was so small it didn't pose any health threats. Late Sunday evening, officials confirmed that radiation had exceeded the legal limit.

Edano said none of the Fukushima Dai-ichi reactors was near the point of complete meltdown, and he was confident of escaping the worst scenarios and for his part, denied there had been a meltdown in the Fukushima Dai-ichi complex, but other officials said the situation was not so clear.

The AP reports that Japanese officials have declared states of emergency at six reactors — three at Dai-ichi and three at another nearby complex — after operators lost the ability to cool the reactors using usual procedures. Local evacuations have been ordered at each location. The U.N. nuclear agency said a state of emergency was also declared Sunday at another complex after higher-than-permitted levels of radiation were measured there. It said Japan informed it that all three reactors there were under control.

A separate incident at the nearby Tokai Dai-Ni plant resulted when a pump for the cooling system failed after Friday's quake. A second pump operated normally, as did the reactor, according to the utility, the Japan Atomic Power Co.

According to AP reports, on Saturday, an explosion destroyed the walls and ceiling of Fukushima Dai-ichi's Unit 1 as operators desperately tried to prevent it from overheating and melting down by releasing steam.

Officials were aware that the steam contained hydrogen and were risking an explosion by venting it, acknowledged Shinji Kinjo, spokesman for the government's NISA, but chose to do so because they needed to reduce the pressure.

Scientists noted that shutting down the reactors is just the beginning of containing the problem. "You need to get rid of the heat," said Friedrich Steinhaeusler, a professor of physics and biophysics at Salzburg University and an adviser to the Austrian government on nuclear issues. "You are basically putting the lid down on a pot that is boiling. They have a window of opportunity where they can do a lot." Using sea water as an emergency coolant is one tool operators can use. But if the heat is not brought down, the cascading problems can eventually be impossible to control. "This isn't something that will happen in a few hours. It's days," Salzburg said.

The US Nuclear Regulatory Commission announced Saturday that it was sending two of its officials with expertise in boiling water nuclear reactors to Japan as part of a US International Agency for International Development (USAID) team.

"We have some of the most expert people in this field in the world working for the NRC and we stand ready to assist in any way possible," said Chairman Gregory Jaczko.

USAID is the federal government agency primarily responsible for providing assistance to countries recovering from disaster.

The NRC assures Americans that US nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. "Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety-significant structures, systems and components be designed to take into account the most severe natural phenomena historically estimated for the site and surrounding area," the agency said in a press release.

Despite assurances by the Japanese government, people remain concerned. "First I was worried about the quake," said Kenji Koshiba, a construction worker who lives near the Dai-ichi plant. "Now I'm worried about radiation."

Japan has a total of 55 reactors spread across 17 complexes nationwide.The Associated Press contributed to this report.

The following are comments from the readers. In no way do they represent the view of palltimes.com.

You must register with a valid email to post comments. Only your Member ID will be posted with the comments.

Constellation Energy Says Nuclear Plants Designed To Withstand Natural Disasters (WHEC)

By Ted Fioraliso

WHEC-TV Rochester (NY), March 15, 2011

Western New York has one of the oldest nuclear power plants in the US along the shores of Lake Ontario. The Ginna Power Plant in the Town of Ontario, is about 30 minutes from Downtown Rochester.

Ginna produces 50-percent of the power used in our area. And in the wake of the nuclear power plant problems following the earthquake and tsunami in Japan, Constellation Energy wants the public to know that the plant is safe and designed to withstand a natural disaster.

While some Ontario residents say they're prepared for a nuclear disaster, others aren't so sure.

"It doesn't really dawn on us. Not at all," said Joseph Dixon, who's lived in Ontario for ten years.

Dixon says he's never been afraid that Ginna is in his backyard. He feels the plant has things under control in case of an emergency, and he says he and his neighbors know what to do -- thanks to the information in calendars they get from Ginna every year.

But his buddy Rich Serody isn't so sure.

"You get the calendar which is informative. But as far as drills and evacuations go, I have to say I haven't been in one," said Serody.

The events in Japan have gotten Serody thinking a little more.

"It triggers your mind to think because your in a situation that's similar because of the power plant," he said.

In a statement to News 10NBC, a Ginna spokesperson says, "We are monitoring the situation in Japan closely. All of [Constellation's] nuclear power plants are outside of known "high hazard" earthquake zones. Each plant has been specially designed to withstand a variety of natural events such as earthquakes, flooding, tornadoes and high winds without losing capability to perform their safety functions...We also have emergency response plans in place which are approved at the federal, state and local government agencies."

Ontario Town Supervisor Robert Kelsch says Ginna updates its emergency response plan every year. He also meets with the site vice-president on a regular basis and passes any new information along to his board and town residents.

"I am very confident in the way that plant is run. I've had the opportunity to work there at two different times helping with refueling, so I've seen it from the inside. And safety is really paramount to their operation," said Kelsch.

In the early 80s, a small amount of radioactive steam was released into the air after a tube ruptured, but no one had to be evacuated.

Nuclear Inspectors To Check Out Wilmington Facility After Uraniu (WECT)

WECT-TV Wilmington, NC, March 15, 2011

WILMINGTON, NC (WECT) – The Nuclear Regulatory Commission has dispatched a Special Inspection Team to Global Nuclear Fuel-Americas, LLC in Wilmington to examine what happened with an event that was reported to them earlier this month.

According to a news release, Global Nuclear "failed to maintain required process control over a small quantity of enriched uranium" on March 2nd.

This took place in a grinding station in one of the facility's process lines. An amount of uranium dioxide beyond the prescribed limits accumulated in a filter in the grinding station. When it was discovered, the facility's grinding stations were shut down to assess the situation. Workers did not find any other examples of powder accumulation.

The NRC report says that other systems ensured this event did not pose a danger to the employees at the plant or the public.

The Special Inspection Team, consisting of three members of the NRC, will start work today to determine the safety implications of the event. A public report will be available within thirty days of the completed inspection.

Japan Quake Won't Stall Ga Nuke Plant (AP)

Associated Press, March 15, 2011

ATLANTA — The Atlanta-based Southern Co. said Monday it does not expect delays as it attempts to break ground on the nation's first nuclear reactors in a generation, despite an earthquake and tsunami in Japan that put several of that country's nuclear reactors at risk of a meltdown and focused new attention on nuclear power safety concerns.

Southern Co. subsidiary Georgia Power and its partners are seeking to build two Westinghouse Electric Co. AP1000 reactors at Plant Vogtle, near Waynesboro. The US Nuclear Regulatory Commission is expected to decide whether to approve the AP1000 for use as early as late summer. The Southern Co. wants a separate decision on its request for a license to build and operate the expanded plant by the end of the year.

"We do not anticipate that events in Japan will impact our construction schedule or our ability to stay on budget," Southern Co. spokesman Todd Terrell said.

Industry leaders hope the expansion at Plant Vogtle will revive a nuclear industry that stalled in the 1970s as a bad economy drove down electricity use, costs skyrocketed and an accident at a nuclear reactor at Three Mile Island in Pennsylvania swung public opinion against nuclear power and forced costly changes to safety rules. President Barack Obama's administration previously promised about $8 billion in federal loan guarantees to help finance the estimated $14 billion project.

Terrell said the AP1000 reactor picked for use in Georgia improves on safety, including a cooling system that can operate without electricity for three days, relying only on gravity and evaporation. The trouble in Japan's nuclear reactors apparently

began when they lost use of generators powering their backup cooling equipment. Terrell said Southern Co. officials have had discussions with their partners and suppliers and do not anticipate any supply chain problems from suppliers in Japan.

As Japanese authorities struggled to regain control of their damaged reactors, the Southern Alliance For Clean Energy, which opposes the expansion of Plant Vogtle, called on the Obama administration to put funding for new reactors on hold and declare at least a temporary moratorium on new building.

"We don't say nuclear power is inherently unsafe, but we do say it's inherently unforgiving. When you start having situations like what you're seeing in Japan, they spin out of control very quickly," said Stephen Smith, SACE's executive director. "What we'd like to see happen is there needs to be a very thorough review of all the redundancies that have broken down clearly in the Japanese situation."

The US Nuclear Regulatory Commission has not put on hold its safety review of the AP1000 reactor or the proposed plant itself.

"As detailed scientific information becomes available from Japan, we'll fully review that information to determine any implications on both operating reactors and applications for new reactors in the United States," said NRC spokesman Scott Burnell.

Georgia Nuclear Plans Under Scrutiny (GPB)

By Noel Brown

Georgia Public Broadcasting, March 15, 2011

AUGUSTA, Ga. – Plant Vogtle in Burke County is where Southern Company plans to build the first new nuclear reactors the country has seen in three decades.

The reactors' design still needs approval from the Nuclear Regulatory Commission.

But the threat of nuclear meltdown at several Japanese power plants has some activists calling for a closer look.

Tom Clements with environmental group Friends of the Earth says more tests are needed to see whether the design could withstand a cataclysmic event:

"I think it would be prudent on the part of Georgia Power to announce that they're putting their license request before the Nuclear Regulatory Commission in abeyance while we review the safety of the proposed AP1000 reactor," says Clements.

NRC officials have said they could approve the reactor as soon as this summer.

But Roger Hannah with the agency's Atlanta office says that could now change.

"If there are issues that come out of the situation in Japan that may affect design features or may affect the way the plant is currently being configured then we would certainly look at that and it could have some effect on the schedule," Hannah says.

Hannah says it's too soon to know just how the events in Japan will affect the construction of new nuclear plants in the US

Southern Company's CEO says he doesn't expect any impact on Plant Vogtle's construction.

Comanche Peak Nuclear Expansion Delayed (FTWRTHST)

By Jack Z. Smith

Fort Worth Star Telegram (blog), March 15, 2011

Comanche Peak nuclear expansion delayed Luminant has delayed by two to three years the time frame for bringing online two proposed new reactors at its Comanche Peak nuclear power plant located 45 miles southwest of Fort Worth near Glen Rose. The Dallas

Luminant has delayed by two to three years the time frame for bringing online two proposed new reactors at its Comanche Peak nuclear power plant located 45 miles southwest of Fort Worth near Glen Rose.

The Dallas-based power generator disclosed the delayed timetable in a statement on its website today. The US Nuclear Regulatory Commission recently informed Luminant that it was delaying by 18 months its safety review of the proposed plant expansion.

Luminant is now projecting that it will put the two new units into commercial operation in the 2021-2022 time frame. It previously had estimated a 2018-2020 time frame to go online.

Luminant spokesman Allan Koenig said the amended time frame results from the NRC's delay of the safety review, as well as "other commercial considerations." The company said it hopes to receive a combined construction and operating license "at the end of 2013."

The change in the operational timetable "has absolutely nothing to do with the Japan issue," Koenig said in reference to the earthquake-related reactor breakdowns at nuclear power plants in Japan.

Luminant plans to more than double Comanche Peak's generating capacity in building two new 1,700-megawatt reactors that would expand the plant from two to four units at a cost estimated at $15 billion to $20 billion.

No Moratorium On Nuclear Expansion In Central Texas (KXXV)

By Amanda Gomez

KXXV News Waco, TX, March 15, 2011

CENTRAL TEXAS -- In the wake of the nuclear explosions at Japan's power plants, some members of Congress want to stop building new plants, but one energy company still plans on building in Central Texas.

Despite the scare from the possible nuclear meltdown, Dallas-based Luminant Power will be adding two new reactors in the next decade to its Comanche Peak plant in Glen Rose, about 50 miles west of the Interstate 35 split.

Ashley Barrie, spokesperson for Luminant, says the new reactors will combine to produce enough energy for 1.8 million Texas homes. She says the proposed expansion will also add $22 billion in extra revenue.

"It will also add thousands of construction jobs and in addition to those construction jobs, the units will create about 1,000 on site jobs."

However, members of Congress like Massachusetts Congressman Ed Markey now want to put a moratorium on construction of new plants because of the threat they pose to the United States.

"Well, any plant that is being considered for a seismically vulnerable area in the United States obviously should be reconsidered right now," said Markey.

"In addition, there is a proceeding that is ongoing and nearing finalization at the Nuclear Regulatory Commission that will approve a new design for a nuclear power plant, the Westinghouse AP 1,000. That plant, according to one of the senior scientists at the Nuclear Regulatory Commission, would shatter like a glass cup under the stress we are seeing in Japan right now. We just have to call a time-out and examine whether or not those safety features, which are going to be necessary in the future are going to be built into the new nuclear power plants in our country."

Luminant told News Channel 25 the process to build the new plants is lengthy, highly regulated, and takes input from all stakeholders to insure the safety of the nation's nuclear fate.

Luminant's spokesperson also says safety will always be important, and while they will continue to monitor the developments in Japan, they will not be putting their plans to build on hold.

"We do remain committed to pursuing the development of two new units at the Comanche Peak and we will work in close contact with the US Nuclear Regulatory Commission and other industry groups to incorporate lessons learned from the events in Japan and the ongoing process of designing, licensing, and building the proposed new units," said Barrie.

Those who live near the Comanche Peak Power Plant say they gladly welcome their arrival.

"I believe the impact will be positive if they build more here. That's a big 'if' right now with the Japanese situation, but I certainly hope the government won't get weak and walk away from it. They need to go ahead and do this," said David Rice, Glen Rose resident.

"They've got to have a lot more power because there's so many people here now [in Texas]," said Royce Stacy, Glen Rose resident.

Rice also told News Channel 25 he thinks the new additions can't come soon enough and that Luminant needs to begin work immediately.

For more information on the Comanche Peak nuclear power plant visit their web site at http://www.glenrosearea.com/pages/comanche.html

Japan's Disaster Chills Plan For Texas Nuclear Plant (HC)

By By Tracy Idell Hamilton, Staff Writer

Houston Chronicle, March 15, 2011

The ongoing nuclear disaster in Japan may signal the death knell for the long-planned addition of two nuclear reactors at the South Texas Project.

CPS Energy CEO Doyle Beneby announced Monday that the utility and NRG Energy, the majority partner in the expansion, have mutually agreed to suspend talks over CPS possibly buying power from the two proposed reactors, which were scheduled to be licensed and begin construction in 2012.

Tokyo Electric Power Co., which owns the crippled Fukushima Daiichi plant, was expected to invest in the STP expansion if the project was awarded a federal loan guarantee. In addition, NRG has said it would also rely on loan guarantees from the Japanese government to build the new reactors.

It now seems unlikely that either entity will be in a position to invest in the US nuclear industry any time soon.

CPS' recent renewed interest in buying additional power from the plant was seen as an important step forward for a project that, while wounded, had continued to lumber forward.

After a nasty lawsuit and war of words between the once-equal partners, NRG has had a difficult time finding new investors and selling the 2,700 megawatts the new units would produce, in part because of the reduced demand for power and the persistent low price of natural gas.

NRG said earlier this year that it would make a final decision about whether to continue investing in the project near the Texas Gulf Coast by the third quarter of this year.

Recent events seemed to buoy the expansion's chances. Loan guarantees had moved forward within the Department of Energy. The Nuclear Regulatory Commission's environmental review found no impacts that would preclude it from issuing a license for construction and operation. Talks with CPS spurred hope that small utilities and municipalities might also buy power from the units.

CPS is a 6.7 percent owner in the proposed expansion and spent about $400 million before it broke off its partnership with NRG, an investor-owned utility. CPS would get $80 million from NRG if the project is awarded a federal loan guarantee.

But as the grim news from Fukushima Daiichi continued, calls intensified from US lawmakers and others to slow down the much vaunted, but long troubled nuclear renaissance.

Neither Beneby nor a spokesman for NRG would assess the likelihood that the project is dead.

"Until more information is available, it makes sense to put our discussions on hold," Beneby said. "My first thoughts are for the people of Japan ..... and also to the Tepco workforce that is struggling to maintain control of the ... nuclear facilities in such extreme conditions."

David Knox of NRG said for now the company is focused "on our friends and partners in Japan right now. ... Our thoughts and prayers go out to them."

There will be plenty of time, in the days and weeks to come, he said, "to assess the impact on nuclear development in America."

Some industry analysts, however, have already begun predicting the expansion's demise — and are describing it as a favorable financial prospect for NRG.

Others say the Japanese disaster is practically irrelevant. "This almost doesn't change the fact that new nuclear looks to be a bad investment," said Paul Fremont, a managing director at Jeffries and Company, an industry analyst. "Constellation (Energy) walked away and said keep your loan guarantee, it's not economic to build."

STP, outside of Bay City in Matagorda County, just a few miles from the coast, is the only such plant in the country with three safety backup systems rather than two, a spokesman said Monday.

STP 1 and 2 are Westinghouse-designed pressurized water reactors that came online in 1987 and '88, respectively, making them two of the most recent commercial units in the country, said spokesman Buddy Eller. The six units at Fukushima Daiichi are GE and Toshiba-designed boiling water reactors, circa 1971-79.

Eller, while shying away from direct comparisons between the designs, noted that unlike the Fukushima plant's backup generators, which were destroyed by the tsunami, all of STP's emergency power sources are in separate, water-tight concrete buildings designed to withstand a category one hurricane, storm surges and earthquakes.

He said the two proposed reactors, Toshiba-designed, would have similar safety features built in.

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NM Uranium Enrichment Plant Considering Expansion (AP)

Associated Press, March 15, 2011

EUNICE, N.M.—A company building a $3 billion uranium enrichment plant in New Mexico said it wants to expand the project and insisted the facility poses no danger because it's built to withstand earthquakes and doesn't produce nuclear power.

The statement was made Saturday by Gregory Smith, president and CEO of Urenco USA, amid mounting concerns about the safety of nuclear power after a devastating earthquake and tsunami damaged nuclear reactors in Japan.

Smith released the memo first reported by the Hobbs News-Sun to reassure New Mexico lawmakers and residents near the plant.

"Even though Urenco USA is not a nuclear power plant and does not present hazards like those regulated in nuclear power plants, we construct and operate under strict Nuclear Regulatory Commission regulations," he wrote.

Jayne Hallett, a spokeswoman at Urenco corporate headquarters near London, told The Associated Press on Monday the company could not comment on what the disaster in Japan might mean for the nuclear power industry.

"Our thoughts at the moment are with the Japanese people and what they're having to cope with," she said.

Elsewhere in the world, Germany's government temporarily halted plans to extend the life of its 17 nuclear power plants after two explosions at one Japanese plant spread jitters in Europe about atomic energy safety.

Neighboring Switzerland suspended plans to build and replace nuclear plants, and Austria's environment minister called for atomic stress tests to make sure Europe's nuclear facilities are earthquake-proof.

In the US, the Nuclear Energy Institute, which represents the nuclear power industry, had not seen US policymakers rushing to judgment because of the situation in Japan, said Steve Kerekes, a spokesman for the Washington-based institute.

"Events in Japan are going to have to play out, but we don't feel there is going to be any real impact on what's going on in the United States," he said.

Smith said Urenco was considering an expansion of the southwestern New Mexico nuclear enrichment facility based on anticipated demand by customers—particularly those in Asia. But no final determination has been made on whether the additional investment would pay off, he said.

The Nuclear Regulatory Commission and the company board would have to approve another expansion before it could begin.

The plant is using an enrichment process that employs centrifuges to separate uranium isotopes so it can be used by nuclear power plants.

Last June, the Nuclear Regulatory Commission authorized startup of the plant, the first major nuclear facility licensed in the United States in three decades. It's now operating at about 10 percent of capacity.

Urenco announced a previous expansion in 2008, even before operations began. That increased the price tag from $2 billion to $3 billion and extended construction into 2014.

An additional expansion would extend the construction period to 2017.

Smith said the cost increase from a third phase should be less, given the infrastructure investments already made.

"We have to do it for less," he said. "We have to do things smarter and more efficient, not only in design but competitive on pricing."

When the second phase is done in 2014, the site will have the capacity to produce 25 percent of the nation's enriched uranium fuel needs.

The plant originally was known as the National Enrichment Facility but was changed to Urenco USA/LES last year.

Potassium Iodide Runs Low As Americans Seek It Out (WSJ)

By Jonathan D. Rockoff

Wall Street Journal, March 15, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

PROMISES, PROMISES: Little Transparency Progress (AP)

Associated Press, March 14, 2011

WASHINGTON – Two years into its pledge to improve government transparency, the Obama administration handled fewer requests for federal records from citizens, journalists, companies and others last year even as significantly more people asked for information. The administration disclosed at least some of what people wanted at about the same rate as the previous year.

People requested information 544,360 times last year under the US Freedom of Information Act from the 35 largest agencies, up nearly 41,000 more than the previous year, according to an analysis by The Associated Press of new federal data. But the government took action on nearly 12,400 fewer requests.

The administration refused to release any sought-after materials in more than 1-in-3 information requests, including cases when it couldn't find records, a person refused to pay for copies or the request was determined to be improper under the law. It refused more often to quickly consider information requests about subjects described as urgent or especially newsworthy. And nearly half the agencies that AP examined took longer - weeks more, in some cases - to give out records last year than during the previous year.

There were some improvements. The administration less frequently invoked the "deliberative process" exemption under the law to withhold records describing decision-making behind the scenes. President Barack Obama had directed agencies to use it less often, but the number of such cases had surged after his first year in office to more than 71,000. It fell last year to 53,360, still higher than during George W. Bush's final year as president. It was still commonly invoked last year at the Homeland Security Department, which accounted for nearly 80 percent of cases across the whole government.

Overall, the decidedly mixed performance shows the federal government struggling to match the promises Obama made early in his term to improve transparency and disclose more information rapidly. "Transparency promotes accountability and provides information for citizens about what their government is doing," Obama said when he took office. The White House said it was voluntarily disclosing more information, forestalling a need to formally make requests under the law, and said that agencies released information in nearly 93 percent of cases, excluding instances when it couldn't find records, a person refused to pay for copies or the request was determined to be improper.

"A lot of the statistics need to be taken with a grain of salt, but they may understate our successes," said Steven Croley, a special assistant to the president for justice and regulatory policy.

The Obama administration even censored 194 pages of internal e-mails about its Open Government Directive that the AP requested more than one year ago. The December 2009 directive requires every agency to take immediate, specific steps to open their operations up to the public. But the White House Office of Management and Budget blacked-out entire pages of some e-mails between federal employees discussing how to apply the new openness rules, and it blacked-out one e-mail discussing how to respond to AP's request for information about the transparency directive.

The OMB invoked the "deliberative process" exemption -- the one that Obama said to use more sparingly -- at least 192 separate times in turning over the censored e-mails to the AP. Some blacked-out sections involved officials discussing changes the White House wanted and sections of the openness rules that were never made official.

This year, after Republicans won control in the House and with the presidential election looming, the fight over transparency could turn political. The new Republican chairman of the House Oversight and Government Reform Committee, Rep. Darrell Issa, R-Calif., is conducting a broad inquiry into Obama's openness promises. The investigation was at least partly prompted by reports from the AP last year that the Homeland Security Department had sidetracked hundreds of requests for federal records to top political advisers, who wanted information about those requesting the materials.

Organizations that routinely ask for government records are fighting many of the same battles for information waged during the Bush administration. Federal offices lack enough employees and money to respond to requests quickly and thoroughly, said Anne Weismann, chief counsel at Citizens for Responsibility and Ethics in Washington, a watchdog group. With federal spending expected to tighten, the problem will likely get worse.

"They're going to be asked to do more with less," Weismann said.

AP's analysis showed that the odds a government agency would search its filing cabinets and turn over copies of documents, e-mails, videos or other requested materials depended mostly on which agency produced them -- and on a person's patience. Willingness to wait - and then wait some more -- was a virtue. Agencies refused more routinely last year to quickly consider information requests deemed especially urgent or newsworthy, agreeing to conduct a speedy review about 1-in-5 times they were asked. The State Department granted only 1 out of 98 such reviews; the Homeland Security Department granted 27 out of 1,476. The previous year the government overall granted more than 1-in-4 such speedy reviews.

The parts of the government that deal with sensitive matters like espionage or stock market swindles, including the CIA or Securities and Exchange Commission, entirely rejected information requests more than half the time during fiscal 2010. And they took their time to decide: The SEC averaged 553 days to reply to each request it considered complicated, and the CIA took more than three months.

Less-sensitive agencies, such as the Social Security Administration or Department of Agriculture, turned over at least some records nearly every time someone asked for them, often in just weeks.

Some federal agencies showed marked improvements, but sometimes it came at a cost elsewhere in the government. The Homeland Security Department cut its number of backlog information requests by 40 percent last year, thanks mostly to work under a $7.6 million federal contract with TDB Communications of Lenexa, Kan., which was approved during the Bush administration. The company accomplished its work partly by forwarding to the State Department tens of thousands of requests for immigration records from Homeland Security's Citizenship and Immigration Services because the State Department makes visa determinations in immigration cases. At one point, as the Homeland Security Department was reducing its backlog, it was sending as many as 3,800 cases each month to the State Department, said Janice DeGarmo, a State Department spokeswoman.

The State Department received and handled three times as many requests in 2010 than the previous year. It ended up with a backlog of more than 20,500 overdue cases, more than twice as many as the previous year.

Also, the Veterans Affairs Department said it received 40,000 fewer information requests last year. Spokeswoman Jo Schuda said the department incorrectly labeled some requests in 2009 as being filed under the Freedom of Information Act but actually were made under the US Privacy Act, a different law.

The 35 agencies that AP examined were: Agency for International Development, CIA, Consumer Product Safety Commission, Council on Environmental Quality, Agriculture Department, Commerce Department, Defense Department, Education Department, Energy Department, Department of Health and Human Services, Department of Homeland Security, Department of Housing and Urban Development, Interior Department, Justice Department, Labor Department, State Department, Transportation Department, Treasury Department, Department of Veterans Affairs, Environmental Protection Agency, Federal Communications Commission, Federal Deposit Insurance Corporation, Federal Trade Commission, NASA, National Science Foundation, National Transportation Safety Board, Nuclear Regulatory Commission, Office of Management and Budget, Office of National Drug Control Policy, Office of Personnel Management, Office of Science and Technology Policy, Office of the Director of National Intelligence, Securities and Exchange Commission, Small Business Administration and the Social Security Administration.

The Star's editorial | Feuding federal agencies hurt workers at Bannister complex (KCS)

Kansas City Star, March 15, 2011

The haphazard cleanup of beryllium at the Bannister Federal Complex is a frustrating tale of bureaucratic incompetence among US agencies.

The way forward is clear: To best protect current workers, the site needs to be rechecked for beryllium contamination and cleaned to stricter levels, just as has happened at other federal plants around the country.

All of this should be accomplished by departments that are collaborating with each other and keeping the public fully informed. What a positive change that would be from the past infighting and closed-mouth attitude of some of these agencies, especially the National Nuclear Security Administration.

That group and the General Services Administration have been fighting for a decade over the beryllium problem at the Bannister site.

Current and former workers have been left with unacceptable responses about its safety.

That's an especially dismaying development during Sunshine Week, an annual event that stresses the importance of openness by all levels of government.

Congressman Emanuel Cleaver wants the Environmental Protection Agency to take charge of this issue, a reasonable move that could help resolve this dispute.

Cleaver and others in Congress, including US Sens. Claire McCaskill and Roy Blunt of Missouri, should make it a priority for the site to be made cleaner and safer.

Read more: http://www.kansascity.com/2011/03/14/2725977/the-stars-editorial-feuding-federal.html#ixzz1Gf4CrdmD

Department Of Energy's Nuclear Lab's Future May Be Impacted By Japan (MCT)

By Rocky Barker, Idaho Statesman

McClatchy, March 15, 2011

A successful reactor test in Idaho in 1986 made international news and appeared to put the nuclear industry on the comeback trail after the 1979 Three Mile Island partial meltdown.

A few weeks later Chernobyl melted down in the Soviet Union and no new reactor has been built in the United States since. History appears to be repeating itself with the nuclear emergency in Japan.

With its history of nuclear energy research, the impact of the disaster on the Idaho National Laboratory remains uncertain. It also could affect the future of Areva's $3.3 billion uranium enrichment plant near Idaho Falls.

"It appears that their market just shrunk," said Liz Woodruff, director of the Snake River Alliance, which opposes Areva's plant and nuclear development.

Three Mile Island has dominated the American psyche regarding nuclear power since the accident near Harrisburg, Pa. The INL, long the home of nuclear safety testing in the United States, stores the melted core of that reactor and conducted research on the accident in the 1980s.

The Loss of Fluid Test reactor, one of more than 50 nuclear reactors built on the Delaware-sized nuclear reservation near Arco, was melted down in 1985 on purpose to re-enact the Three Mile Island accident. When the scientists and engineers successfully melted the small reactor core, they popped the corks on champagne to celebrate.

On April 3, 1986, nuclear scientists from around the world came to the INL to witness a test of a new reactor. The Integral Fast Reactor, invented by Idaho Falls physicist Charles Till, was designed not only to turn itself off and cool itself down, but also to burn much of its nuclear waste and create more fuel than it used.

When Argonne workers shut off the coolant pumps, a relief valve opened with a loud crack, scaring the visitors in the control room. But the demonstration worked perfectly. The reactor shut itself down without incident.

Read the complete story at idahostatesman.com

Concerns Rise At ORNL, Nationally (KNOXNS)

By Frank Munger

Knoxville News Sentinel (TN), March 15, 2011

OAK RIDGE - As with most folks, ORNL nuclear engineer Syd Ball has learned about the devastating events in Japan in stages - with each stage bringing new concerns.

After hearing about the massive earthquake, quickly followed by a powerful tsunami, Ball worried about the well-being of his nuclear buddies at Oarai, Japan, about 50 miles north of Tokyo. Ball is a regular visitor to the nuclear research complex at Oarai, sometimes staying a month or more to work on development of high-temperature, gas-cooled reactors. On Friday, he sent e-mails to three of his closest friends there, but has yet to hear back.

Once news emerged about problems with a series of Japan's nuclear power reactors, including a couple of explosions at the Fukushima complex, Ball began to think about how the situation could affect the nuclear enterprise in Japan - a country that's so dependent on nuclear to meet its power needs - and the industry as a whole, including what he and others hope will be a nuclear renaissance in the United States.

"This is obviously going to slow things down, I think," Ball said. "It will have an effect. I'm just not sure how huge."

The 75-year-old Ball has worked at Oak Ridge National Laboratory for more than half a century. He saw the anti-nuclear push that followed accidents at Three Mile Island and Chernobyl, and one of the reasons he has stuck around so long is to help design reactors with new and better safety features that, unlike the troubled reactors in Japan, don't require auxiliary power - even in the worst of situations.

Following years of positive momentum, a nuclear setback would be hard to take, he said: "What are you going to do, build more coal plants? Or invade more foreign countries to fix our oil supply?"

The Japanese nuclear situation is still evolving and uncertain, but the volume of debate is definitely on the rise.

US Rep. Ed Markey, D-Mass., came out firing over the weekend, calling for a top-to-bottom review of nuclear power programs in the United States.

"The unfolding disaster in Japan must produce a seismic shift in how we address nuclear safety here in America," said Markey, one of the top Democrats on the House Natural Resources and Energy and Commerce Committees.

He called for a moratorium on locating reactors in "seismically active areas," a review of government loan guarantees for nuclear projects, and an investigation of whether backup power and reactor-coolant systems at US reactors are adequate to deal with long power outages associated with earthquakes, acts of terrorism or other disasters.

Bob Alvarez, a senior scholar with the Institute for Policy Studies, said he's concerned about the storage of highly radioactive spent nuclear fuel rods in pools adjacent to reactors. That's an urgent issue at the Japanese reactors, where explosions apparently have exposed storage pools and could potentially lead to fires and release of radioactive constituents, and it's a vulnerability at US reactors sites as well, Alvarez said Monday in a teleconference with the news media.

Ellen Vancko of the Union of Concerned Scientists, in a separate teleconference, said it's premature to gauge the impact of the crisis in Japan. But she said it would be naive to think it would have no impact on the US nuclear industry, which she said was in trouble already because of spiraling costs.

One lesson learned from Japan is that no matter how technologically advanced a country is, it's impossible to anticipate every curve ball from Mother Nature, Vancko said.

ORNL is the Department of Energy's largest science lab and one of the leaders, along with Idaho National Laboratory, in nuclear research.

A major new initiative is the Consortium for Advanced Simulation of Light Water Reactors, which is using some of the world's fastest computers to simulate operations inside a nuclear reactor and speed improvements to existing power plants - and, ultimately, help with designs for the future.

Most of the effort to date has focused on "uprating" - or boosting power levels - and extending the life of nuclear plants, but that mission could be modified to help with technical issues identified in Japan, according to Doug Kothe, the consortium's director.

"By all means, we want to do what's best for the nation and this industry," Kothe said, "and, certainly, shifting our plans is something we would consider and embrace if that's what needs to be done."

Senior writer Frank Munger may be reached at 865-342-6329.

Fears Of A Slowdown In Japan Push Stocks Lower (AP)

Associated Press, March 15, 2011

NEW YORK – Concerns over the economic impact of the massive earthquake and tsunami in Japan, the world's third-largest economy, led to a broad sell-off in the stock market on Monday.

Nine out of the 10 sectors that make up the Standard and Poor's 500 index lost ground. Utilities companies fell 1.4 percent, the most of any group, as explosions at Japanese nuclear reactors in the wake of the disaster dimmed prospects for the nuclear energy industry.

The S&P index, the basis for most US mutual funds, fell 7.89 points, or 0.6 percent, to 1,296.39.

The Dow Jones industrial average lost 51.24, or 0.4 percent, to 11,993.16. The Nasdaq composite dipped 14.64, or 0.5 percent, to 2,700.97.

"Everything is linked now," said David Katz, senior portfolio strategist at Weiser Capital Management. "There is no such thing as a catastrophe happening in any major country and it not affecting the global economy."

Japan's central bank pumped a record $184 billion into money market accounts to encourage bank lending. Financial analysts said the move could put pressure on Japan to raise interest rates, particularly since the country is saddled with massive debt that, at 200 percent of gross domestic product, is the biggest among developed nations.

"The fiscal position is deteriorating in Japan," said Channing Smith, managing director of equity strategies at Capital Advisors Inc. "If we get higher interest rates, that is a major threat to ... the global recovery."

Japan's benchmark Nikkei 225 index fell 633.94 points, or 6.2 percent, to close at 9,620.49 — its lowest level in four months. The decline wiped out this year's gains.

Shares of upscale retailers with large businesses in Japan also fell. Tiffany & Co. and Coach Inc. both dropped 5.3 percent. Caterpillar Inc. gained 2.1 percent on assumptions that it will benefit from the country's large-scale rebuilding efforts.

In the US, Warren Buffett's Berkshire Hathaway Inc. said it would purchase chemical company Lubrizol for $9 billion in cash. Berkshire will pay $135 per share, a 28 percent premium to Lubrizol's closing stock price Friday of $105.44. Berkshire's Class B shares fell 1.3 percent on the news, while Lubrizol rose 28 percent.

Cephalon Inc. closed down 1.6 percent after a federal court overturned two of the patents on its painkilling drug Fentora. That could allow competitors to start selling cheaper generic versions of the drug soon.

Bond prices rose, sending yields lower. The yield on the 10-year Treasury note fell to 3.36 percent from 3.41 percent late Friday. Oil prices added 3 cents to settle at $101.19 per barrel.

Two stocks fell for every one that rose on the New York Stock Exchange. Consolidated volume came to 4.1 billion shares.

Dow Falls 51.24 Points, Paring Bigger Loss (WSJ)

By Donna Kardos Yesalavich

Wall Street Journal, March 15, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Republicans Vow To Push US Cybersecurity (FT)

By Joseph Menn

Financial Times, March 15, 2011

Full-text stories from the Financial Times are available to FT subscribers by clicking the link.

Agencies Boost Surveillance Of Classified Networks (SN)

By Steven Aftergood

Secrecy News, March 15, 2011

In the wake of the ongoing publication of large volumes of classified US government information by WikiLeaks, executive branch agencies are taking new steps to deter, detect and prevent the unauthorized transfer of information from classified government networks, officials said at a hearing of the Senate Homeland Security Committee last week.

In the majority of terminals connected to the DoD SIPRNet, the classified defense network, the capability to write to removable media has now been disabled. (Bradley Manning is suspected of downloading State Department cables and other classified materials from SIPRNet and writing them to a compact disk.)

"For those few machines where writing is allowed [newly installed security software] will report, in real time, each write operation," said Teresa Takai and Thomas Ferguson (pdf) of the Department of Defense. "It will also report every attempt of an unauthorized write operation."

"DoD has begun to issue a Public Key Infrastructure (PKI)-based identity credential on a hardened smart card... [that] will provide very strong identification of the person accessing the network and requesting data. It will both deter bad behavior and require absolute identification of who is accessing data and managing that access," they said.

Likewise, "the IC [intelligence community] plans to increase access control to critical IC information resources," said Corin R. Stone (pdf) of the Office of the Director of National Intelligence. "Technology can be used to control usage and limit user capabilities to perform activities such as copying, printing, or exporting data to a device."

As voluminous as the WikiLeaks disclosures are, they represent only a minuscule fraction of similar records. Even when it comes to the State Department cables, WikiLeaks didn't get everything, Amb. Patrick Kennedy told the Senate Committee. "During the period of time [that] we posted... some 250,000 cables... to the DOD SIPRNet, we [also] disseminated 2.4 million cables, 10 times as many, through other systems."

The fact is that more than 99.9% of classified documents don't leak. Now they will all be subject to enhanced security measures.

INTERNATIONAL NUCLEAR NEWS:

Japan Nuclear Plant Rocked By Another Explosion (LAT)

A buildup of hydrogen gas causes another explosion, destroying the outer shell of a reactor at the quake-damaged Fukushima No. 1 plant. The blast comes after the pumping of seawater stalled, exposing the fuel rods to air and increasing the risk of radiati

By Laura King And Mark Magnier, Los Angeles Times, 4:34 Pm Pdt, March 14, 2011

Los Angeles Times, March 15, 2011

A hydrogen explosion Tuesday morning destroyed the outer building of a quake-damaged Unit 2 nuclear reactor at the Fukushima No. 1 power plant. Engineers had been struggling overnight to cool the nuclear core and stave off a meltdown that could release radioactivity over a wide area. It was the third reactor at the site whose external structure had been damaged by such an explosion.

Neither of the reactor containment vessels of Units 1 and 3 had been damaged in the earlier explosion and there is no evidence so far to suggest the vessel of no. 2 had been damaged either.

Officials had feared the possibility of such an explosion because the fuel core had been exposed to air for more than two hours, allowing it to overheat. When the zirconium cladding on the fuel rods was subsequently exposed to seawater used for cooling, it released hydrogen gas, which built up to dangerous levels in the plant and was most likely ignited by a spark.

Photos: Scenes of earthquake destruction

Japan's nuclear crisis had already taken a frightening turn for the worse after officials acknowledged that fuel rods at the Fukushima No. 1 reactor had been exposed to air, heightening the risk of an uncontrolled release of radiation into the environment.

In extraordinary televised scenes, three executives from the utility that runs the crippled complex in Fukushima prefecture, about 150 miles north of Tokyo, acknowledged that pumps funneling seawater into one of the reactors had halted temporarily, a major setback in efforts to cool the superheated core.

"We are trying to reopen the valve," said one of the officials from the Tokyo Electric Power Co. as they passed the microphone back and forth among themselves. "The fuel rods are exposed. We are trying to get the pressure down and pump water into the pressure vessel again."

Photos: Scenes of earthquake destruction

It was the gravest development to date in the crisis brought by Friday's devastating temblor, which triggered a tsunami that wreaked massive destruction on the nation's northeastern coast. More than half a million people have been displaced, and the death toll is widely expected to soar into the tens of thousands.

About 2,000 bodies were discovered Monday at two sites in a single prefecture, or state, one of several pummeled by the earthquake, the worst in Japan's recorded history. Whole coastal villages were wiped from the map, and a full assessment of the extent of deaths and damage was expected to take weeks. Meanwhile, hardship and privation in the quake zone grew, with tens of thousands of people spending a fourth night in chilly shelters.

In the parallel crisis at the Fukushima No. 1 (Daiichi)plant in the town of Okuma, fuel rods twice were not covered by the seawater being used to cool down the reactor, resulting in exposure for about 140 minutes, the Kyodo News agency reported.

Prolonged exposure of fuel rods to air can cause them to heat up and melt at least partly. If they melt completely, they could burn through the containment vessel, causing release of radioactive material into the environment.

Officials at Japan's Nuclear and Industrial Safety agency were cited by Kyodo as saying that, even in a worst-case scenario, the three troubled reactors at Fukushima No.1 had been depressurized by the release of radioactive steam, which would decrease the destructive effect of any breach.

Japan's nuclear crisis began Friday soon after the earthquake, when the huge tsunami destroyed seawalls and pushed far inland, damaging or destroying pumps and generators crucial to safe operations at the complex. The cooling systems of two reactors were seriously compromised, leading to hydrogen explosions on Saturday and again Monday in their outer containment buildings.

The current problem is focused on another reactor at the Fukushima No.1 plant, where a 12-mile evacuation zone was established, forcing nearly 200,000 thousand people to flee.

Japan's chief Cabinet secretary, Yukio Edano, had said earlier that the hydrogen explosion at the third reactor posed little threat of a large-scale release of radiation — an assertion that drew anger and skepticism from some in the earthquake zone.

On Monday, there were signs that the legendary patience and politeness of Japanese in the face of such adversity was wearing thin. A widely held sentiment among disaster victims and millions more who haven't been directly touched is resentment at what many feel is the lack of clear, direct information from government officials on the state of the nuclear reactors in Fukushima.

But other issues are also fraying nerves.

In Natori, north of Tokyo, the top floor of the City Hall was repurposed into a disaster-relief center. There, in an oft-repeated scene, a woman in red pants and a brown coat loudly berated government workers for sitting comfortably in their offices with heat, 24-hour power and water when the rest of Miyagi prefecture lacked basic services. Voice cracking, she added that the government had been far too slow in restoring electricity and repairing roads and basic infrastructure.

"She's complaining that our operation doesn't work so well," said Chizuko Nakajima, a government worker in the senior citizen department, who was helping distribute food as an emergency volunteer. "Actually, it's true. We're so overwhelmed, have to do so much and it's not working perfectly. I understand she's angry and wants to direct it somewhere, but I'd rather people didn't do that."

Nakajima said the lack of clarity on the nuclear issue, given all the problems at the Fukushima reactors, has frayed nerves further. "Some people are angry," she said. "Many people complain about food shortages. Japanese people won't riot, but they're very upset."

The emergency food handouts are meant for those who've lost their homes. But with power out, most supermarkets, restaurants and convenience stores closed, and gasoline very difficult to acquire, people in undamaged houses are also asking for government allocations as well.

Some officials said they saw a sliver of hope that food-related angst might ease soon. More citizens had started donating food on the streets, some making large pots of miso soup for passersby. "I really hope people don't panic," Najakima said. "You see what it's like. We have to do so much."

Adding to the sense of anxiety, strong aftershocks have rippled across a wide area since Friday's quake.

At least two tremors were felt early Tuesday in Tokyo, including one with a preliminary magnitude of 4.1, the public broadcaster NHK reported. Japan's Meteorological Agency said Saturday there was a 70% probability of another powerful earthquake coming in three days.

Photos: Scenes of earthquake destruction

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King reported from Tokyo and Magnier from Natori. Thomas H. Maugh II in Los Angeles contributed to this report.

Japanese Agency: Explosion Heard At Nuclear Plant (AP)

By Eric Talmadge And Mari Yamaguchi, Associated Press

Associated Press, March 15, 2011

SOMA, Japan – A third explosion in four days rocked the earthquake-damaged Fukushima Dai-ichi nuclear plant in northeast Japan early Tuesday, the country's nuclear safety agency said.

The blast at Dai-ichi Unit 2 followed two hydrogen explosions at the plant — the latest on Monday — as authorities struggle to prevent the catastrophic release of radiation in the area devastated by a tsunami.

The troubles at the Dai-ichi complex began when Friday's massive quake and tsunami in Japan's northeast knocked out power, crippling cooling systems needed to keep nuclear fuel from melting down.

The latest explosion was heard at 6:10 a.m. Tuesday (2110 GMT Monday), a spokesman for the Nuclear Safety Agency said at a news conference. The plant's owner, Tokyo Electric Power Co., said the explosion occurred near the suppression pool in the reactor's containment vessel. The pool was later found to have a defect.

International scientists have said there are serious dangers but not at the level of the 1986 blast in Chernobyl. Japanese authorities were injecting seawater as a coolant of last resort, and advising nearby residents to stay inside to avoid contamination.

Tokyo Electric Power said some employees of the power plant were temporarily evacuated following Tuesday morning's blast.

The accidents — injuring 15 workers and military personnel and exposing up to 190 people to elevated radiation — have compounded the immense challenges faced by the Tokyo government as it struggles to help hundreds of thousands of people affected by twin disasters that flattened entire communities and may have left more than 10,000 dead.

The crisis also has raised global concerns about the safety of such reactors at a time when they have enjoyed a resurgence as an alternative to fossil fuels.

Japanese authorities said there have been no large-scale radiation releases, but have detected temporary elevations in levels, and have evacuated tens of thousands of people from around affected reactors. Prevailing winds were pointing out to sea, and US ships assisting tsunami recovery moved further way to avoid potential danger.

3rd Blast Strikes Japan Nuclear Plant As Workers Struggle To Cool Reactor (NYT)

By Hiroko Tabuchi, Keith Bradsher And Matthew L. Wald

New York Times, March 15, 2011

TOKYO — An explosion early Tuesday morning damaged the No. 2 reactor at Japan's Fukushima Daiichi Nuclear Power Station, the third in a series of blasts that have now hit each of the three crippled reactors at the plant, plant officials said.

It was not immediately clear if the blast was caused by the buildup of hydrogen, as occurred at the two other reactors at Daiichi — one on Saturday and the most recent one on Monday, when there was also a large explosion at the No. 3 reactor. Some early reports in the Japanese press suggested the latest explosion amounted to a different and more critical problem than the previous two.

This explosion, reported to have occurred at 6:14 a.m., happened in the "pressure suppression room" in the cooling area of the reactor and inflicted some degree of damage on the pool of water used to cool the reactor, officials of Tokyo Electric Power said. But they did not say whether or not the incident had impacted the integrity of the steel containment structure that shields the nuclear fuel.

Radiation levels around plant spiked after the explosion to 8,217 microsieverts an hour from 1,941 about 40 minutes earlier, the company said. Some emergency workers there were evacuated, though the levels would have to rise far higher to pose an immediate threat to health, officials said.

Any damage to the steel containment vessel of a nuclear reactor is considered critical because it raises the prospect of an uncontrolled release of radioactive material and full meltdown of the nuclear fuel inside. To date, even during the four-day crisis in Japan that amounts to the worst nuclear accident since Chernobyl, workers had managed to avoid a breach of a containment vessel and had limited releases of radioactive steam to relatively low levels.

Details of what happened remain unclear, with executives of Tokyo Electric Power, the plant's operator, giving only preliminary reports and declining to answer questions from reporters pressing for more information, while repeatedly apologizing "for causing concern and inconvenience."

The new blast came after emergency operations to pump seawater into the same reactor temporarily failed, leaving the nuclear fuel in that reactor dangerously exposed late Monday into early Tuesday morning.

Tokyo Electric Power said late Monday that a malfunctioning valve made it impossible to release pressure in the reactor, which in turn thwarted efforts to inject seawater into it to cool the fuel. The water levels inside the reactor's containment vessel fell and left its fuel rods exposed — perhaps completely exposed — for some hours.

Workers had been having difficulty injecting seawater into the reactor because its vents — necessary to release pressure in the containment vessel by allowing radioactive steam to escape — had stopped working properly, they said.

In the predawn hours of Tuesday Tokyo Electric announced that workers had finally succeeded in opening a malfunctioning valve controlling the vents, reducing pressure in the container vessel. It then resumed flooding the reactor with water.

But the company said water levels were not immediately rising to the desired level, possibly because of a leak in the containment vessel.

A Tokyo Electric official had earlier described the situation as improving. "We do not feel that a critical event is imminent," he told a press conference.

But the explosion appeared to suggest that the efforts to contain the problem at that reactor had failed.

In reactor No. 2, which is now the most damaged of the three at the Daiichi plant, at least parts of the fuel rods have been exposed for several hours, which also suggests that some of the fuel has begun to melt. Government and company officials said fuel melting has almost certainly occurred in that reactor, which can increase releases of radioactive material through the water and steam that escapes from the container vessel.

In a worst case, the fuel pellets could also burn through the bottom of the containment vessel and radioactive material could pour out that way — often referred to as a full meltdown.

"There is a possibility that the fuel rods are heating up and starting to melt," said a Tokyo Electric spokesman told a late-night conference on Monday, televised on public broadcaster NHK. "It is our understanding that we have possible damage to the fuel rods," he said.

By Monday night, officials said that radiation readings around the plant reached 3,130 micro Sievert, the highest yet detected at the Daiichi facility since the quake and six times the legal limit. Radiation levels of that magnitude are considered elevated, but they are much lower than would be the case if one of the container vessels had been compromised.

Industry executives in touch with their counterparts in Japan Monday night grew increasingly alarmed about the risks posed by the No. 2 reactor.

"They're basically in a full-scale panic" among Japanese power industry managers, said a senior nuclear industry executive. The executive is not involved in managing the response to the reactors' difficulties but has many contacts in Japan. "They're in total disarray, they don't know what to do."

The venting problems made it impossible for a time to administer the emergency remedy the plant operator had been using to control heat at the three crippled Daiichi reactors, all of which experienced failures in their electronic cooling systems. That remedy involves pumping in seawater to cool the fuel rods, then opening vents to release the resulting steam pressure that builds in the container vessel. When the vessel is depressurized, workers can inject more seawater, a process known as "feed and bleed."

The extreme challenge of managing reactor No. 2 came as officials were still struggling to keep the cores of two other reactors, No. 1 and No. 3, covered with seawater. There was no immediate indication that either of those two reactors had experienced a crisis as serious as that at No. 2.

The United States Nuclear Regulatory Commission said Monday that the Japanese government had formally asked for assistance as it responds to the crisis in Fukushima. As part of a wider response, the United States has already dispatched two experts in boiling-water reactors, the type used at Daiichi. They are in Tokyo offering technical assistance to the Japanese, the commission said in a statement. The commission is considering further assistance, including providing technical advice, it said.

The situation at Daiichi was also complicated on Monday by another problem when the outer structure housing reactor No. 3 exploded earlier on Monday. A similar explosion destroyed the structure surrounding reactor No. 1 on Saturday. Live footage on public broadcaster NHK showed the skeletal remains of the reactor building and thick smoke rising from the building. Eleven people had been injured in the blast, one seriously, officials said.

Chief Cabinet Secretary Yukio Edano said earlier Monday evening that the release of large amounts of radiation as a result of the explosion at No. 3 was unlikely because the blast did not compromise the steel containment vessel inside the No. 3 reactor. But traces of radiation could be released into the atmosphere, and about 500 people who remained within a 12-mile radius were ordered temporarily to take cover indoors, he said.

"I have received reports that the containment vessel is sound," Mr. Edano said. "I understand that there is little possibility that radioactive materials are being released in large amounts."

Mr. Edano and other senior officials did not address the escalating crisis at reactor No. 2 later Monday or early Tuesday.

But the situation a reactor No. 3 was being closely watched for another reason. That reactor uses a special mix of nuclear fuel known as MOX fuel. MOX is considered contentious because it is made with reprocessed plutonium and uranium oxides. Any radioactive plume from that fuel would be more dangerous than ordinary nuclear fuel, experts say, because inhaling plutonium even in very small quantities is considered lethal.

In screenings, higher-than-normal levels of radiation have been detected from at least 22 people evacuated from near the plant, the nuclear safety watchdog said, but it is not clear if the doses they received were dangerous.

Technicians had been scrambling most of Sunday to fix a mechanical failure that left the reactor far more vulnerable to explosions.

The two reactors where the explosions occurred are both presumed to have already suffered partial meltdowns — a dangerous situation that, if unchecked, could lead to a full meltdown.

Hiroko Tabuchi reported from Tokyo, Keith Bradsher from Hong Kong and Matthew L. Wald from Washington.

Japan Nuclear Crisis Worsens As Damage Feared To Reactor Containment Vessel (LAT)

Tokyo Electric Power Co., which owns the Fukushima No. 1 (Daiichi) plant 140 miles north of Tokyo, said radiation levels at the plant were rising and that everyone who lives within 18 miles of the plant had been advised to stay indoors.

By Thomas H. Maugh Ii, Los Angeles Times

Los Angeles Times, March 15, 2011

An explosion Tuesday at the Unit 2 reactor at a Fukushima power plant may have damaged the reactor's inner containment vessel, the most serious development yet in the ongoing crisis at the severely damaged facility.

Tokyo Electric Power Co., which owns the Fukushima No. 1 (Daiichi) plant 140 miles north of Tokyo, said radiation levels at the plant were rising and that everyone who lives within 18 miles of the plant had been advised to stay indoors. Nearly 200,000 people who live within 12 miles of the plant had already been evacuated.

A fire has started in a fourth reactor at the site as well, but Japan's nuclear safety agency quickly report that it had been extinguished.

The company has evacuated all personnel from the site except for 50 employees who are attempting to keep the reactor cores cool, a chore that has become increasingly problematic.

There have been at least two interruptions in the efforts to pump seawater into the reactor in the last 24 hours. In the most serious, at least half of the 18-foot length of the fuel rods was exposed to air for more than two hours, long enough for a partial meltdown of the fuel pellets inside the rods.

Company officials have not confirmed whether they have been able to get the fuel rods completely submerged again.

The hydrogen explosion at the Unit 2 reactor was the third explosion in four days at the troubled facility. Previous explosions had destroyed the outer buildings at Units 1 and 3 and damaged the cooling systems for the reactors, but had not damaged the reactor containment vessels, which are designed to hold in the uranium fuel even if it should melt.

The explosion at the Unit 2 reactor just after 6 a.m. Tuesday morning, however, occurred very close to the reactor's suppression pool. The suppression pool is a donut-shaped unit at the bottom of the reactor that quenches excess steam beyond that needed for the generation of electricity.

There have been reports that the walls of the suppression pool may have been cracked or otherwise breached, which could represent a major escalation of the crisis, said Victor Gilinsky, a former Nuclear Regulatory Commission member who has a doctorate in physics from Caltech.

"If that is true, then there is a path to the control room, the workers and the outside environment," Gilinsky said. If there has, in fact, been a partial meltdown of the fuel pellets, the uranium would have dripped into the suppression pool, experts said.

In a nationally televised speech, Prime Minister Naoto Kan said the radiation level spreading from the plant "seems very high, and there is still a risk of more radiation coming out."

Kan said 400 millisieverts of radiation were detected at the plant at about 10:30. That is 20 times the amount a radiation worker may be exposed to annually.

Chief Cabinet Secretary Yukio Edano said, "Now we are talking about levels that can damage human health. These are readings taken near the area where we believe the releases are happening. Far away, the levels should be lower."

To further complicate the situation, the prevailing winds have shifted and are no longer blowing offshore, but are now wafting the radioactivity in a southerly direction toward Tokyo. The French Embassy said the plume should reach that city in about 10 hours, but unless the radiation release increases substantially, experts believe it will be sufficiently diluted by then to not present a problem.

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Times staff writer Ralph Vartabedian and Times news services contributed to this report.

Nuclear Crisis Deepens As Third Reactor Loses Cooling Capacity (WP)

By Steven Mufson

Washington Post, March 15, 2011

Japan's nuclear crisis deepened Monday as nuclear safety officials reported an explosion at the unit 2 reactor at the Fukushima Daiichi complex. Earlier, utility officials had said that said four out of five pumps being used to flood that reactor had failed and that the other pump had briefly stopped working, hastening the meltdown of fuel rods that at one point were fully exposed.

According to a report by Kyodo News agency, the fifth pump has been refueled and seawater mixed with boron is again being injected in a desperate bid to cool the reactor, but the fuel rods remain partially exposed and ultra-hot. The other four pumps were thought to have been damaged by a blast earlier Monday that destroyed a building at the nearby Unit 3 reactor, Kyodo reported.

The new crisis in Unit 2 increases the chances that another explosion will take place at the complex as hydrogen builds up in the outer building surrounding the reactor. A similar explosion on Saturday destroyed a building at the Unit 1 reactor.

Day Four of the battle to regain control of the damaged reactors at the Fukushima Daiichi complex has turned out to be one of the most difficult so far.

Earlier on Monday, the explosion at the Unit 3 reactor rocked the seaside nuclear complex. The International Atomic Energy Agency reported that injections of seawater into units 1 and 3 had been interrupted because of a low level in a seawater supply reservoir, but the seawater injections were later restored.

Japanese government officials were quick to assert that the explosion at Unit 3 did not damage the core containment structure, and they asserted that there would be little increase in radiation levels around the plant. But the explosion prompted Japan's nuclear agency to warn those within 12 miles to stay indoors and keep air conditioners off. The blast also injured 11 people, one seriously.

Although the hot fuel rods are still encased in six inches of steel, and then inside concrete, and then in a building with layers of steel and concrete, the intense heat they generate could eventually eat through those layers if Tokyo Electric and Japanese authorities do not figure out how to cool the rods. It is impossible to see into the reactor core, so officials are speculating about what is happening inside by using a variety of gauges and indicators.

The string of earthquake- and tsunami-triggered troubles at the Fukushima Daiichi plant began last Friday when a loss of grid power (because of the earthquake) followed by a loss of backup diesel generators (because of the tsunami) led tothe failure of cooling systems needed to keep reactor cores from overheating.

On Saturday, a similar explosion occurred at Unit 1. Trace amounts of radioactive elements cesium-137 and iodine-131 were also detected outside the plant.

The IAEA reported that Japan has now evacuated 185,000 people from towns near the nuclear complex. The agency said that Japan has distributed 230,000 units of stable iodine to evacuation centers from the area around Fukushima Daiichi and Fukushima Daini nuclear power plants. The iodine has not yet been administered to residents; the distribution is a precautionary measure in the event that this is determined to be necessary.

The ingestion of stable iodine can help to prevent the accumulation of radioactive iodine in the thyroid.

The US Seventh Fleet said on Monday that some of its personnel, who are stationed 100 miles offshore from the Fukushima Daiichi plant, had come into contact with radioactive contamination. The airborne radioactivity prompted the fleet to reposition its ships and aircraft.

Using sensitive instruments, precautionary measurements were conducted on three helicopter aircrews returning to USS Ronald Reagan after conducting disaster relief missions near Sendai. Those measurements identified low levels of radioactivity on 17 air crew members.

The low-level radioactivity was easily removed from affected personnel by washing with soap and water, and later tests detected no further contamination.

Like the Saturday explosion at Unit 1, the blast at Unit 3 took place after a buildup of hydrogen was vented by the reactor. The hydrogen was produced by the exposure of the reactor's fuel rods and their zirconium alloy casing to hot steam.

In normal conditions, the fuel rods would be covered and cooled by water.

The explosion occurred as Tokyo Electric Power Co. continued its battle against a cascade of failures at its two Fukushima nuclear complexes, using fire pumps to inject tens of thousands of gallons of seawater into two reactors to contain partial meltdowns of ultra-hot fuel rods.

The tactic produced high pressures and vapors that the company vented into its containment structures and then into the air, raising concerns about radioactivity levels in the surrounding area where people have already been evacuated. The utility said that at one of the huge, complicated reactors, a safety relief valve was opened manually to lower the pressure levels in a containment vessel.

But the limited vapor emissions were seen as far less dire than the consequences of failure in the fight against a more far-reaching partial or complete meltdown that would occur if the rods blazed their way through the reactor's layers of steel and concrete walls.

The potential size of the area affected by radioactive emissions could be large. A state of emergency was declared briefly at another nuclear facility, the Onagawa plant, after elevated radio-activity levels were detected there. Later, Japanese authorities blamed the measurement on radioactive material that had drifted from the Fukushima plant, more than 75 miles away, according to the IAEA.

At Japanese Nuclear Plant, A Battle To Contain Radiation (USAT)

By Dan Vergano, Usa Today

USA Today, March 15, 2011

The last thing Japan needed was more bad news on its threatened nuclear reactors. But Monday and early today, that's just what this nation got.

An unprecedented series of crises in the reactors at three of Japan's 54 nuclear power reactors, triggered by Friday's massive quake and tsunami, is continuing to fuel fears of a fresh, enduring catastrophe of radioactive contamination — a prospect that is particularly alarming in the only nation to be attacked with atomic bombs.

In one reactor at the Fukushima Dai-ichi plant, nuclear fuel rods were exposed when they were dangerously depleted of cooling water. In two other reactors, hydrogen explosions have blown the roofs off their surrounding buildings. And early this morning, another explosion occurred. Like the others, it was the result of hydrogen building up in the outer building that surrounds the reactor.

Japan's Nuclear and Industrial Safety Agency acknowledged Monday that radiation levels at the plant had increased. Japan has evacuated nearly 200,000 people from areas near the Fukushima Dai-ichi plant and the Fukushima Daini nuclear plant nearby. The International Atomic Energy Agency said Japan had distributed 230,000 units of iodine — which can counter radiation's effects on the thyroid — to evacuation centers as a precaution.

Late Monday, Chief Cabinet Secretary Yukio Edano said a fire had started among spent fuel rods at the plant, sparking further radiation worries. The Associated Press reported that Japan's nuclear safety agency said the fire had been extinguished.

Edano said that "although we cannot directly check it, it's highly likely," that nuclear fuel rods were melting in the plant's three working reactors.

Even so, "the Japanese government's troubles are immense and unprecedented," says Peter Bradford, a former US Nuclear Regulatory Commission official. Amid the damage from an earthquake and tsunami that the U.N. said has left more than 10,000 missing, nuclear engineers likely will spend the next several days — maybe weeks — battling to keep the reactors from overheating and melting.

"They do not have the situation under control," says nuclear safety specialist Robert Alvarez of the Institute for Policy Studies in Washington, D.C., a former Energy Department official. He warns that the reactor containment walls may have been breached in the disaster.

Japanese nuclear agency official Naoki Kumagai says it is "impossible to say" whether such damage has occurred.

At the White House on Monday, Nuclear Regulatory Commission Chairman Greg Jaczko said, "We see a very low likelihood that there's any possibility of harmful radiation levels in the United States or in Hawaii." The commission sent two reactor experts to Japan on Sunday, as part of a US Agency for International Development team helping with the earthquake crisis.

"Based on the information we have, we believe that the steps that the Japanese are taking to respond to this crisis are consistent with the approach that we would use here" in the US, Jaczko said.

The crisis has raised new concerns about the safety of nuclear reactors at a time when they've been enjoying a renaissance in a world looking for alternatives to fossil fuels.

So now the question is whether engineers can get the plants under control and prevent radioactive contamination.

The crisis with Japan's reactors began Friday, when the quake cut power to the Fukushima Dai-ichi plant. Then the tsunami took out the plant's backup generators, which were being used to power the cooling systems for the reactor cores.

At the plant, two of three troubled reactors (Units 1 and 3), soon were in danger of catastrophically overheating. On Monday, the cooling system failed in a third reactor, Unit 2, leaving the nuclear fuel rods completely exposed and raising, at least temporarily, the threat of a total meltdown of the rods as plant engineers pumped in seawater in a desperate attempt to cool the rods.

Meanwhile, on Monday morning the roof on the containment building for Unit 3 blew off in an explosion caused by a mix of steam and hydrogen venting inside the building. Eleven workers were injured. The building that houses Unit 1 had blown apart on Saturday.

Then, this morning, the building housing Unit 2, with its dangerously overheating nuclear core, also experienced an explosion. Shigekazu Omukai, spokesman for Japan's nuclear safety agency, said the bottom of the container that surrounds the reactor might have been damaged. Another agency spokesman, Shinji Kinjo, says that "a leak of nuclear material is feared."

In all, it means officials are struggling to tame all three reactors, and it's difficult to tell how well they're doing so. Most analysts doubt the situation will create a scenario like that of Chernobyl in Soviet Ukraine in 1986, where a nuclear plant caught fire and sent dangerous levels of radiation over an area half the size of New Jersey.

They drew parallels to another iconic disaster in the history of nuclear power.

"This is going to be worse than Three Mile Island. We basically are looking at three Three Mile Islands," says nuclear consultant Lake Barrett, a former Energy Department and Nuclear Regulatory Commission engineer. However, Barrett and other analysts say the nightmare scenario of fuel rods melting through the steel floor of the reactor chambers is highly unlikely.

"We are three days into the shutdown of these reactors, so we are not looking at the total melting of the core," Barrett says.

In 1979, a stuck valve and operator error led to coolant water draining from a reactor at the Three Mile Island plant near Harrisburg, Pa. After officials initially told people not to worry, they ordered an evacuation in which 140,000 people temporarily left their homes.

Investigators learned weeks after the accident that the 16 hours the reactor went without cooling had led to the melting of the reactor's fuel rods. Plant operators were forced to vent radioactive gas from the overheated reactor for months to relieve pressure on the reactor chamber. No deaths or cancer cases have been tied directly to the release of those vent gases from Three Mile Island.

In Japan, plant operators face a similar dilemma, forced to vent radioactive gas from the overheating reactors at Fukushima Dai-ichi.

At the nearby Fukushima Daini facility, engineers have reported signs of three more reactors overheating, leading them to vent gas. A third facility, the Onagawa nuclear power plant, also is under a state of emergency.

"What we have here are reactors that are overheating, so we have to cool them," says radiation safety specialist Bruce Busby of the Fred Hutchison Cancer Research Center in Seattle.

On Friday, when the magnitude-9.0 earthquake rocked Japan, all of the reactors now in trouble automatically shut down. All are boiling water models. Normally, they generate steam to make electricity, which then cools and returns to the reactor chamber as water, ready to be boiled once more. Control rods that turn off the atomic reaction between the fuel rods automatically slid into place as soon as the quake started, sensed by motion detectors in the floor of the reactor facility.

Despite the shutdown, the rods didn't cool off immediately. Leftover radioactive heat remained inside them, perhaps 6% of its normal operating energy. In a normal shutdown, cooling systems and pumps would control those temperatures, dissipating them until the radioactive materials inside the rod finished cooking off most of their energy in the coming days to weeks.

Instead, the tsunami disrupted power for the pumps and cooling systems, leading the rods to heat up, boiling off the water that normally cools them. On Saturday, the Tokyo Electric Power Co., which owns all three power plants, alerted government officials to overheating in two reactors, triggering emergency declarations.

"The problem then, is removing that (radioactive) decay heat," says nuclear engineer John Gilligan of North Carolina State University in Raleigh.

Without cooling, Tokyo Electric Power Co. officials face a cascade of problems:

•With cooling knocked out, the temperature in the rods rises, boiling off more water, exposing the tips of the rods to steam and air.

•Once exposed to steam and air, the rods begin heating, leading to blistering of the metal that covers them, letting radioactive elements escape.

•The blistering also creates a chemical reaction between the steam and metal, generating hydrogen gas that builds unsafe pressure in the reactor.

While generators were rushed to the power plants to restart power to the cooling system over the weekend, engineers needed to vent radioactive gas from the reactors to relieve this pressure. Desperate to cool the reactors, they turned to piping seawater into two reactors at the Dai-ichi plant. "That's an extraordinary thing to do," Alvarez says, because it means the reactors, billion-dollar machines in today's market, will be contaminated and never used again. Alvarez and others point to still more problems at the reactors:

•Plutonium fuel inside one reactor, different from the uranium used in the other reactors, may take longer to cool down than others, raising its risks. Barrett calls that a very small concern.

•Venting the hydrogen inside the reactors led to explosions that have injured 15 workers at the plants, and blew the roof off the outermost containment building housing two of the reactors.

•Used-up fuel rods are on-site, kept in water pools above the reactors. Leaks from those pools could lead to the release of radioactive elements in the old, used-up fuel rods.

If steps to cool the reactor proceed without further mishaps, the reactors should cool in the next few weeks, Gilligan says. Engineers will likely continue having to vent small amounts of radioactive gas from the reactors for months however, to keep the pressure off, even under the best of scenarios.

"That's how it was at Three Mile Island," Barrett says. "The weather report would say, 'Today will be sunny, and they will be venting gases today from the plant.' "

Banking's Scourge On Charm Offensive (WSJ)

By Victoria McGrane And Maya Jackson Randall

Wall Street Journal, March 15, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Third Nuclear Reactor Blast Rocks Japan (WT)

Rescue teams rush in supplies; bodies wash up on shore

By Christopher Johnson, The Washington Times

Washington Times, March 15, 2011

TOKYO | Officials feared "a radiation leak" early Tuesday after a third explosion rocked one of Japan's three crippled nuclear reactors, as rescue teams rushed supplies to survivors of Friday's massive earthquake and tsunami and a gruesome tide of bodies washed up on the beaches.

Shigekazu Omukai, a spokesman for Japan's nuclear-safety agency, said the nuclear core of Unit 2 of the Fukushima Dai-ichi plant was not damaged in a third explosion, which occurred early Tuesday. The agency suspects that explosion may have damaged the reactor's suppression chamber, a water-filled tube at the bottom of the container that surrounds the nuclear core, said another agency spokesman, Shinji Kinjo. He said that chamber is part of the container wall, so damage to it could allow radiation to escape.

"A leak of nuclear material is feared," said Mr. Kinjo. He said the agency had no details of possible damage to the chamber.

Radiation levels measured at the front gate of the Dai-ichi plant spiked after Tuesday's explosion, Mr. Kinjo said.

Tuesday's explosion followed two hydrogen explosions at the plant, the latest on Monday, as authorities struggled to prevent the catastrophic release of radiation in the area devastated by a tsunami.

The plant's owner, Tokyo Electric Power Co., had said earlier that Tuesday's explosion occurred near the suppression pool in the reactor's containment vessel. The pool was later found to have a defect.

Meanwhile, fuel rods at the Fukushima Dai-ichi plant, about 170 miles northeast of Tokyo, were very "likely" melting, a government spokesman said late Monday. A meltdown poses the potential danger of radioactive gases escaping into the air.

"Although we cannot directly check it, it's highly likely happening," Chief Cabinet Secretary Yukio Edano told reporters.

He spoke after a hydrogen explosion had ripped through the building housing a reactor at Unit 3. On Saturday, a similar explosion hit Unit 1. However, officials were most concerned about the exposed fuel rods in Unit 2, where they feverishly pumped in water to cool the reactor.

"Units 1 and 3 are at least somewhat stabilized for the time being," said Ryohei Shiomi of Japan's Nuclear and Industrial Agency. "Unit 2 now requires all our effort and attention."

The blast in Unit 3 actually lessened the pressure inside the reactor. The explosion injured 11 plant employees, but left the crucial concrete containment shell over the reactor undamaged.

Meanwhile, hundreds of foreign rescue teams deployed to help Japanese soldiers and aid workers deal with the massive human tragedy from the three-pronged disaster. Millions of survivors have been without food, water or electricity since Friday.

The death toll is expected to hit 10,000, with most of the dead in the Miyagi prefecture at the epicenter of the 9.0-magnitude earthquake and ensuing tsunami, which wiped out whole beach towns with 30-foot-high waves.

On one beach in Miyagi, about 2,000 bodies washed ashore, the Kyodo News agency reported Monday.

Since the earthquake struck Friday, Japan has been rocked by more than 300 powerful aftershocks, with one registering 6.4 magnitude.

Outside of the immediate disaster area, many Japanese were asking themselves whether to heed the calming words of the Japanese government, telling them to stay put to conserve energy, or follow the advice of foreign governments warning their citizens to flee the country.

Facing power shortages, the government asked workers to stay home Monday morning instead of using up scarce electricity on Tokyo's spider web of trains and subways, which ran irregular service.

Yet many workers crowded around stations during morning and evening rush hours, saying they did not want to let down their co-workers and bosses. Unable to reach their jobs, other office workers spent a warm, sunny day on park benches.

Foreigners following the warnings of the French, German and other embassies to flee the Kanto area, which includes Tokyo and Yokahama, found it hard to catch trains or buses to the airport, where many waited in line for airlines to clear backlogs of delayed flights.

To save energy, companies, including carmakers Toyota and Honda, suspended production at factories, and department stores such as Mitsukoshimae shuttered their doors.

State broadcaster NHK planned to take two channels off the air for five hours after midnight Monday. Many downtown office employees worked in darkened rooms.

In the devastated Miyagi area, Canadian-born Blaise Plant of the popular Japanese rock band Monkey Majik tweeted from his home in the provincial capital, Sendai, that many people hoping to evacuate Sendai could not get out.

Like many others, he was jolted in the morning by an aftershock and frightened by false alarms about an impending tsunami.

"Just woke up, got some unconfirmed news that there is radiation in the atmosphere over Sendai, but a very small amount," he tweeted from his home, where his phone would not work. "Waiting for gasoline outside, I can see the frustration and exhaustion in everyone's eyes."

The US Navy's 7th Fleet, meanwhile, announced on its website it had to reposition ships and aircraft because crew on the USS Ronald Reagan aircraft received tiny, non-threatening doses of radiation while at sea about 100 miles northeast of the troubled nuclear plant. Another 17 airmen flying relief missions on helicopters received small doses of radiation, which they removed by soap and water, the Navy said.

Many Tokyo residents originally from the stricken north, including Yujiro and Miyuki Hashimoto, worried about elderly parents unable to evacuate from homes near reactors.

"Shoganai," they said in Japanese, after searching in vain for gasoline in a Tokyo suburb. "There's nothing we can do."

• This article is based in part on wire service reports.

New Explosion At Japanese Reactor (FT)

By Jonathan Soble And Michiyo Nakamoto In Tokyo

Financial Times, March 15, 2011

Full-text stories from the Financial Times are available to FT subscribers by clicking the link.

25 Years Later, Chernobyl's Name Evokes Disaster Still (WT)

Arguments remain over plant's legacy

By Shaun Waterman, The Washington Times

Washington Times, March 15, 2011

Nearly 25 years after it was the site of the worst nuclear disaster in history, the concrete-encased ruins of the Chernobyl reactor remain a disputed symbol, their legacy contested terrain in the battle over the future of atomic power.

The argument about Chernobyl's legacy looms over the 25th anniversary of the accident next month — and presages a long and likely contentious assessment of the catastrophe that continues to unfold at Japan's earthquake-stricken nuclear plants.

Anti-nuclear campaigners have used the Chernobyl reactor — where plans for a new shell to bury the melted radioactive core are being delayed by a shortage of international cash — as a rallying point for their all-out opposition to nuclear power and a symbolic warning of its dangers.

"It has been used by fear mongers ever since the accident to frighten people about nuclear power here [in the United States]," said Thomas Kauffman of the Nuclear Energy Institute, an industry advocacy group. "Time and time again, it is brought up" by critics of the industry.

He noted that in Japan, the massive containment domes that house the reactor cores at the stricken plants remain intact.

It was the absence of such a dome over reactor 4 at Chernobyl, he said, that allowed the release of tons of radioactive fuel and fission products into the environment.

The April 26, 1986, meltdown — the result of an unauthorized experimental procedure being run at the plant — caused a fire in the core that burned for 10 days, released clouds of radioactive smoke and dust, and brought a screeching halt worldwide to plans to expand the nuclear industry.

Over the past decade, many governments around the world, including the United States, have begun looking again to nuclear energy as a carbon-free alternative to fossil fuels.

The nuclear industry's defenders say that modern reactors are built to much more rigorous standards than Chernobyl.

"The fact is, by design, it is physically impossible for such an event to happen at any reactor in the United States, or in Japan," Mr. Kauffman said.

Industry advocates also say that initial estimates of the impact of the Chernobyl disaster might have overstated the long-term consequences. Mr. Kauffman highlighted a 2006 U.N. International Atomic Energy Agency (IAEA) report that described early predictions of tens or even hundreds of thousands of deaths from radiation as "highly exaggerated."

The report predicted up to 4,000 possible additional cancer fatalities — a 4 percent increase — among those in Ukraine, Russia and Belarus affected by the radioactive fall-out from the explosion and fire.

But it said only a few dozen deaths — almost half of them from acute radiation sickness in the early days of the disaster — definitively could be linked to it.

Damon Moglen, director of the climate and energy project at environmental advocacy group Friends of the Earth, told The Washington Times that the IAEA report was "disgraceful."

"Thousands have died," he said, citing different figures produced by the World Health Organization. "People are still dying."

The problem was, he said, the IAEA was supposed to be the global regulator for nuclear energy but was committed by its charter to promoting it.

"It is the fox guarding the hen house," he said.

He said the three lessons from Chernobyl are:

- "Governments are not transparent about nuclear accidents."
- "The immediate impacts on public health are not the worst ones."
- "Brave people will go, sadly, to their deaths to do a job that can't be done" in efforts to contain a disaster.

US West Coast: On Frontline From Nuclear Cloud? (AFP)

By Michael Thurston

AFP, March 15, 2011

LOS ANGELES (AFP) – California is closely watching the crisis at a Japanese nuclear plant, but officials downplayed the threat that a radioactive cloud blown across the Pacific could pose for the US West Coast.

While radioactivity could reach the United States from the quake-hit Fukushima plant, the levels would not be high enough to cause major health problems, said the Nuclear Regulatory Commission (NRC).

Some experts disagreed, notably pointing to the west-east jet stream, but NRC – which was asked by Japan on Monday to send nuclear experts to deal with the crisis – said even the Pacific island state of Hawaii faced little risk.

"Right now it's quite possible that there could be some radiation floating over the United States. But we don't think that it would be particularly harmful... even in a worst case scenario," spokesman David McIntyre told AFP.

"We see a very low likelihood, a very low probability that there is any possibility of harmful radiation levels in the United States or in Hawaii or in any other US territories," added an NRC statement.

The comments came as Japanese authorities grappled with multiple crises at the Fukushima No. 1 plant, located 250 kilometers (155 miles) north of Tokyo, rocked by Saturday's 8.9 quake and tsunami in northeastern Japan.

The plant has been rocked by two explosions, and early Tuesday officials said that fuel rods in the number two reactor were again "fully exposed", boosting fears of an eventual partial meltdown.

California's Department of Public Health says it is "monitoring the situation closely," and highlights its Nuclear Emergency Response Program, which sets out measures to be taken in case of a nuclear incident.

But the document is clearly designed for a possible radioactive leak from one of California's two nuclear plants – including due to a long-feared major earthquake here – rather than a threat from afar.

"Emergency preparedness is built around the concept of protecting populations around the plants because that's where the danger is. The danger isn't thousands of miles away," said the NRC's spokesman.

Japan is some 5,000 miles (8,000 kilometers) from the US West Coast, and nearer to Alaska in the north. Some experts suggest that, blown along by the fast-moving jet stream, radioactivity could reach north America in 36 hours.

"The worst case scenario is .. the fuel rods fuse together, the temperatures get so hot that they melt together in a radioactive molten mass that bursts through the containment mechanisms, said nuclear expert Joe Cirincione.

"Some of the radioactivity could carry in the atmosphere to the West Coast of the US," added Cirincione, head of anti-nuclear group Ploughshares Fund.

He cited the 1986 Chernobyl nuclear disaster to underline how far radioactivity can travel.

"The radioactivity spread around the entire northern hemisphere," from the devastated Ukrainian plant, he said.

Harvey Wasserman, a senior adviser to environmental group Greenpeace in the US added that after Chernobyl "fallout did hit the jet stream and then the coast of California, thousands of miles away, within ten days.

"It then carried all the way across the northern tier of the United States," he said.

The NCR spokesman declined to comment in depth on possible scenarios for how quickly or at what levels radioactivity could reach the US mainland.

"Right now the government as a whole has people looking at the situation and asking these questions. We don't have the answers yet. We don't have anything that we can say publicly right now."

"This is an unfolding situation and really we can't comment on it very much," he added, while stressing the NRC's basic view that the threat to the US is minimal.

"If that changes, believe me, we would say so," he added.

Obama: US Will Stand By Longtime Ally Japan (AP)

Associated Press, March 15, 2011

WASHINGTON – President Barack Obama said Monday the US will stand by long-time ally Japan as it recovers from last week's earthquake and tsunami and the nuclear crisis that those twin disasters spawned. The White House said that despite the emergency, nuclear power remains "vital" to US energy policy.

Meanwhile, the Navy reported that several US ships involved in the relief effort had to be moved away from the Fukushima Dai-Ichi nuclear power plant after officials found out that the ships and the 17 helicopter crew members had been exposed to low-levels of radiation. There have been two hydrogen explosions in three days at the plant, a third crisis that developed after the facility's cooling systems failed following Friday's earthquake and tsunami.

But US officials said Monday the design of the Japanese reactors and the distance across the Pacific Ocean mean there is little probability of harmful levels of radiation reaching the United States, including Hawaii or US territories.

Obama said he has offered Japan any assistance the United States can provide as it recovers from the "multiple disasters."

In an education speech at a school in Virginia, the president began his remarks by saying that he continues to be heartbroken by the images of devastation that have struck the US ally. "I know all of you, young and old, have been watching the full magnitude of this tragedy unfold," he told his school audience. He called the people of Japan "some of our closest friends and allies."

The Nuclear Regulatory Commission has sent two technical experts to Japan, NRC Chairman Gregory Jaczko said. The Department of Energy has also dispatched reactor experts and emergency response experts to Japan.

"It is a serious situation and we continue to provide whatever assistance is requested," Jaczko told reporters at the White House.

He said US nuclear plants are built to withstand natural disasters, including earthquakes, tsunamis and hurricanes. But he said he did not want to speculate whether US reactors would be able to resist a disaster of the same magnitude that struck Japan.

Administration officials said the US would seek lessons from the Japanese crisis but said the events in Japan would not diminish the United States commitment to nuclear power.

"It remains a part of the president's overall energy plan," white House spokesman Jay Carney said. "When we talk about reaching a clean energy standard, it is a vital part of that."

Cmdr. Jeff Davis, spokesman for 7th Fleet, said air monitoring equipment on the aircraft carrier USS Ronald Reagan detected that the warship had been exposed to very low levels of contamination. It is presumed that the seven other ships traveling together in the carrier group also were exposed, but only the Reagan — which has an air monitoring system meant to detect problems with the ship's own nuclear power — picked it up, he said.

Smaller hand-held equipment kept on ships for detecting surface contamination separately determined a low level of exposure for the 17 helicopter crew members who had returned to the carrier after a search and rescue mission over Japan, Davis said.

"Bottom line is, the amount of contamination that they were exposed to was very very low," Davis said from the command ship USS Blue Ridge, which is near the Philippines and headed toward Japan. "It was easily taken care of by washing with soap and water. Once they had discarded their clothing, washed with soap and water and were retested, there was no additional contamination detected.

"The dosage of radiation that they received would have been less than what somebody gets from just normal background radiation over the course of a month from the sun, soil, rocks — all the things around you that give off background radiation," Davis said.

He said officials then moved the ships out of the downwind path of the nuclear plant.

"We are committed to this operation — we're going to do it," Davis said. "We just wanted to make sure that we're doing it in a manner that accounts for the environmental risk."

So far, two US Navy P3-Orion surveillance planes have been mapping debris fields and working as spotters for search and rescue missions, passing on information on the location of victims on to Japanese officials. They have mapped a huge debris field in the water that is one nautical mile wide by 60 miles long and official have recovered some bodies but no survivors.

The US assistance operation will ramp up with the arrival of US Marines, who are expected to use the USS Tortuga amphibious dock ship to pick up some 300 Japanese civil defense workers on the island of Hokaido and ferry them and 90 vehicles Tuesday to the island of Honshu.

The Navy also has agreed to allow use of the deck of the Reagan as a floating platform for refueling Japanese helicopters being flown by the coast guard, police and other civilian agencies in the relief effort.

Obama In New Pledge Of Support For Japan (AFP)

AFP, March 15, 2011

ARLINGTON, Virginia (AFP) – US President Barack Obama on Monday issued a new pledge of support for Japan, saying he was "heartbroken" at the toll of "multiple disasters" after an earthquake and tsunami.

Obama reiterated American support for the key US Pacific ally at the start of a speech on education at a school in the Washington suburbs.

"I continue to be heartbroken at the images of devastation in Japan," Obama said.

"I have said directly to the Prime Minister of Japan (Naoto Kan) ... that the United States will continue to offer any assistance we can, as Japan recovers from multiple disasters," Obama said.

"We will stand with the people of Japan in the difficult days ahead."

The United States has sent several disaster teams to Japan to help look for any survivors from the quake and the monstrous tsunami that swept ashore on Friday. It is feared that 10,000 people may have died.

The United States, which has nearly 50,000 military personnel stationed in Japan, now also has two aircraft carriers deployed to the country.

Tokyo had so far asked one of the ships, the USS Ronald Reagan, to help refuel Japanese rescue helicopters, and to help transport Japanese troops to affected areas.

The ship on Monday adjusted its position after detecting low levels of radiation from nuclear power plants badly affected by the earthquake.

Seventh Fleet officials said that the radiation level was so low that it presented no health risk – less than one month of exposure to natural background radiation from rocks, soil and the sun.

US Navy helicopters were also flying relief supplies to quake and tsunami survivors.

Washington has also urged Americans to avoid travel to Japan following the devastating earthquake and tsunami that hit the country.

Amid Catastrophe, Japan Fights Mayhem With Order (WP)

By Chico Harlan

Washington Post, March 15, 2011

TOKYO — As bodies washed ashore by the hundreds and an emergency deepened at a coastal nuclear plant, millions in Japan on Tuesday faced an unabating sense of apprehension, mourning and astonishment over the emerging scope of this nation-changing catastrophe.

The toll of Japan's triple disaster — first an earthquake, then a tsunami, then a related nuclear crisis — is both visceral and hard to see. Officials in coastal towns say they are running low on body bags; homes and the people inside them have been

pulverized. But Japan is also trying to quantify — and contain — the potential damage from a partial meltdown at the Fukushima Daiichi plant, where on Tuesday another explosion was heard at a damaged nuclear reactor, the third since Saturday.

Initial readings suggested that this latest explosion may have damaged the unit's containment chamber and stoked fears of a catastrophic leak from the nuclear core. Radiation levels spiked outside the plant, and Japanese authorities sought both to cool several overheated reactor units and to protect the several hundred residents who had not evacuated from within a 12.5-mile radius of the site.

Four days after the earthquake and resulting tsunami destroyed much of the northeastern coastline here, the US Geological Survey updated the magnitude of the quake from 8.9 to 9.0, making it the fourth largest in the world since 1900.

More than 500,000 people have been removed from the hardest-hit areas and 15,000 have been rescued. But time was running low for rescuers to help those stranded by flooding or trapped in debris. Officials said about 2,000 bodies were found Monday along the coast of battered Miyagi Prefecture, and a survey of local governments conducted by the Kyodo news agency found that about 30,000 people in the devastated areas remain unaccounted for.

With some roads impassable and fuel almost nonexistent in the north, relief and rescue workers have struggled to reach the areas where they are needed most. Survivors in shelters say they are short of food and water. With the country's power supply depleted by the damaged nuclear plants, many shelters have no heat, and on Monday, Japan began widespread efforts to curb nationwide energy usage.

As the government urged companies and residential complexes to keep lights off or cut down on time, Tokyo on Monday felt as though it had been put on pause. Millions stayed indoors. Train lines ran on limited schedules. At the iconic crosswalk in front of Tokyo's Shibuya Station — usually a riot of lights and noise — the massive video screens were turned off. No Japanese pop music was blaring; only footsteps could be heard.

Many of these power reductions were voluntary. But the sudden downsurge in electricity use also caused confusion, as the Tokyo Electric Power Co. made on-the-fly changes to its planned series of rolling blackouts, announced Sunday. Tepco Executive Vice President Takashi Fuji-moto said that, at least Monday, lower-than-expected demand prompted the company to keep lights on in some areas — despite public announcements saying otherwise. As the plans unfolded with little correct information, chief government spokesman Yukio Edano criticized Tepco's management, calling for a speedy release of accurate information.

Even so, Japan, a country of paradoxes, seems to be handling its greatest crisis since World War II with decorum, fighting chaos with order. A ferryboat is sitting atop a house in the tsu-nami-ravaged town of Otsuchi, but at shelters nationwide, shoes are neatly removed at the entrance and the trash is sorted by recycling type.

There has been virtually no evidence of looting or rising crime levels, and the Japanese have shown stoicism while waiting in long lines.

Also on display have been Japan's unrelenting politeness and its love for group consensus. Twitter users told stories about the stranded and the homeless sharing rice balls. Travelers heading north reported 10-hour car rides — with no honking. At a convenience store in one battered coastal prefecture, a store manager used a private electric generator. When it stopped working and the cash register no longer opened, customers waiting in line returned their items to the shelves.

Even at Tokyo's Kokubunji Station, with most train lines down, morning commuters waited hours just to board their trains. Lines reached out of the station, over crosswalks and along the streets for several hundred yards. Railway employees wearing suits and white masks directed commuters into lines — east going this way; west going that way.

But along hundreds of miles of coastline, there are biting concerns about safety.

The fuel rods in one of the Fukushima Daiichi plant's reactors became partly exposed when water levels fell temporarily, raising the risk of overheating and meltdown.

Although government officials say that radiation levels around the plant are not dangerous, several thousand people have been tested for radiation exposure. On Monday, the US 7th Fleet repositioned its ships — about 100 miles away from the nuclear plant — after 17 crew members were found to have trace amounts of radioactive material on their bodies and clothing.

US Ambassador John V. Roos told reporters Monday that Nuclear Regulatory Commission experts are in Japan and have been consulting with their Japanese counterparts. "We are confident that the government of Japan is doing all it can to respond to this serious situation," he said.

Yukio Sekiguchi, 64, lived in the shadows of two nuclear plants in Tomioka, located just a couple of miles off the Pacific Coast. He operated an izakaya — a popular after-work spot for drinks and food — about 500 yards from the coastline and about two miles from one of the plants. Although the tsunami damaged his home and his business, Sekiguchi knows that the power plants could be just as dangerous.

"We have mixed feelings," he said. "I have a business and it's supported by the people of the plant. . . . But the families with young children, that's a main concern. You can't visibly see the radiation."

In the meantime, thinning amounts of basic supplies in the areas north of Tokyo have forced long lines that snake outside stores. Often the stores have empty shelves, with instant noodles and rice in high demand.

"We all know what the situation is, and we all feel each other's pain," said Hidenori Chonan, a supermarket manager in Fukushima, where several hundred people waited hours before the store was set to open.

US Military Joins In Quake-Relief Effort (WSJ)

By Chester Dawson

Wall Street Journal, March 15, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Need Overwhelms Japan After Quake And Tsunami (NYT)

By Martin Fackler And Mark McDonald

New York Times, March 15, 2011

NATORI, Japan — What the sea so violently ripped away, it has now begun to return. Hundreds of bodies are washing up along some shores in northeastern Japan, making clearer the extraordinary toll of the earthquake and tsunami that struck last week and adding to the burdens of relief workers as they ferry aid and search for survivors.

On Monday, various reports from police officials and news agencies said that as many as 2,000 bodies had now washed ashore along the coastline, overwhelming the capacity of local officials to deal with what Prime Minister Naoto Kan described as Japan's worst crisis since World War II.

About 350,000 people have reportedly been left homeless and are staying in shelters, awaiting news of friends and relatives among the many thousands who remain unaccounted for. The national police said early Tuesday that more than 15,000 were missing, though just 2,414 deaths had been confirmed since the quake, which the US Geologicial Survey revised to a magnitude of 9.0, from 8.9, on Monday.

With police officials estimating that 10,000 people may have been swept away in one town alone, Minamisanriku, north of here, there was every expectation that the toll would rise.

Here in Natori, where some of the first pictures of the tsunami showed a towering initial wave lashing a line of trees, all that remains along the coast is a field of black mud. Brightly clad searchers bent to their work Monday — the police in navy blue, the handlers of sniffer dogs in orange, the military squads in camouflage.

They made their way around marooned boats and collapsed houses, finding toys, torn bedding, tangled fishing nets and pieces of cars, toilets or pottery, all the mundane pieces of daily life, now broken. Occasionally, too, they found a body, sometimes already covered by a tarp.

The region continues to face widespread power and water shortages. When relief supplies do come, residents clamor for help. At Natori City Hall, survivors quickly lined up at a truck handing out large containers of water. Lines of nearly a mile formed in front of stations providing gasoline.

At City Hall, officials in this town of 70,000 residents have posted a list of the 8,340 people who arrived safely at 41 makeshift shelters. Dozens of people crammed into the building's small lobby to pore over the lists.

Those who could not find the name they sought wrote out messages on pieces of paper, and taped them to the entrance. Hundreds of pieces hung there.

Mikako Watanabe, 26, and Yumiko Watanabe, 24, were looking for their mother. They were at work when the tsunami struck, but their mother was napping at home in the Yuriage neighborhood, as she always did after her night shift as a nurse.

"I hope she woke up with the earthquake and got to safety in time," the older sister said. "We have no way to contact her."

On Monday, three days after the tsunami, they still had no word of her. Their message said, "Yurika Watanabe, we're looking for you. Contact us if you see this."

But communications are badly broken. With cellphone service largely knocked out, many residents are relying on the small number of surviving pay phones.

Some meetings are by chance. In the crowds, there were squeals of joy at reunions — and crying for relatives not found. One woman wailed over and over, "Her name is not on the list! Her name is not on the list!" She said she was looking for her sister-in-law, who lived in Yuriage. She said that if she is not at an evacuation center, she must be dead.

Rescue teams from 13 countries pressed on with the searches. One used a German shepherd and a small spaniel in Yuriage. The shepherd would climb around the wreckage of homes and twisted hulks of cars, sniffing. If he started barking, the team sent in the spaniel, small enough to prowl around the crevices of the wreckage.

In one case, the spaniel also barked. The team began digging in the debris, but found nothing. "Is there anyone here? Is there anyone alive?" They yelled as they dug. A member of the team said that there was now a scant chance of survivors, and the dogs were finding only corpses.

Off in the distance, a small cluster of buildings stood undamaged on the sad expanse of the mud flats. Outlined against the afternoon sky, they seemed like tombstones.

Such was the rubble that soldiers used olive-drab power shovels and construction equipment to cut roads through the mountains of debris.

In the air, helicopters shuttled back and forth constantly, part of a mobilization of some 100,000 troops, the largest since World War II. Several convoys could be seen on the road to Sendai, a larger city to the north.

Some firefighters in Natori had arrived from as far away as the southern city of Hiroshima, reflecting the fact that rescuers had descended from across Japan.

In addition, helicopters and ships from the United States Seventh Fleet, including the aircraft carrier Ronald Reagan, had joined the relief effort.

Farther south, in the city of Fukushima, gas stations, grocery stores and restaurants were closed, and convenience stores had no food or drinks to sell — only cigarettes. Red Cross water tankers dispensed drinking water to Fukushima residents who waited in long, orderly lines.

Because of the Fukushima nuclear plants being lost to the national power grid, the Tokyo Electric Power Company, which operates the plants, announced plans for rolling blackouts across the region to conserve electricity — the first controlled power cutbacks in Japan in 60 years.

Tokyo-area residents worriedly followed a series of confusing statements from the power company about the location and duration of the power reductions. Just after 5 p.m., the utility said it had started cutting power to parts of two prefectures — Ibaraki, north of Tokyo, and Shizuoka, south of the capital.

Tokyo was feeling the effects, too. Residents had struggled to get to work Monday as a number of important commuter rail lines ran on limited schedules. Six lines featuring Japan's famous shinkansen, or bullet trains, were not running. Six major department stores also closed for the day because workers were unable to reach the city.

The rush hour Tuesday morning was nearly as chaotic as commuters were unsure whether trains and subways would be operating. The power company's announcements continued to be misleading and unclear, and the company came under criticism from the central government.

The first set of blackouts Tuesday morning began in four prefectures outside Tokyo. The utility, which provides service to 45 million people in the region, said the cuts could continue for six weeks.

Public conservation of electricity was significant enough, the company said, that the more drastic blackout scenarios were being scaled back. Still, anticipating deep and lengthy power cuts, many people were stocking up on candles, water, instant noodles and batteries for radios.

Toyota also announced it was closing all its factories until at least Thursday.

The disruptions to Japan's $5 trillion economy, the third-largest in the world, and collective anxiety caused a rout in the Japanese stock market. The main Nikkei index fell 6.2 percent in Monday's trading, the worst drop in three years, and plunged another 6.4 percent on Tuesday morning.

Worried about the severe strains on banking and financial systems, the Bank of Japan pumped about $180 billion into the economy on Monday, and the government considered an emergency tax increase to help finance relief and recovery work.

Thomas Byrne, a senior vice president with Moody's Investors Service, said Monday that his firm saw the Japanese economy as "having the ability to absorb the shock over time."

"In general, large, wealthy economies have demonstrated a capacity to absorb localized natural disasters," Mr. Byrne said.

The US Geological Survey recorded 96 aftershocks on Sunday, and many Japanese were alarmed at several earthquake warnings that appeared as televised bulletins on Monday. A warning at 4 p.m., an alert announced by gentle trilling bells told of expected "strong shaking" across the entire waist of Japan, essentially from Tokyo to Kyoto.

Martin Fackler reported from Natori, Japan, and Mark McDonald from Tokyo. Reporting was contributed by Mac Bishop from Fukushima, Japan, Moshe Komata and Hiroko Tibuchi from Tokyo, and Bettina Wassener from Hong Kong.

The Nation: Could Japan's Disaster Happen Here? (NPR)

By Christian Parenti, The Nation

NPR, March 15, 2011

Christian Parenti is a contributing editor to The Nation. He is a fellow at The Nation Institute and a visiting scholar at the CUNY Graduate Center.

The "impossible" is underway in Japan. An 9.0 magnitude earthquake has badly shaken up several "indestructible" nuclear plants. Reactor No. 1 at the quake-damaged Fukushima Daiichi Nuclear Power Station is in partial meltdown, and reactor No. 3 may soon join it. In an act of naked desperation, plant officials are blindly pumping seawater into reactor No. 1 in an effort to cool its fuel rods.

In all, four nuclear plants across northeast Japan are damaged, with a total of six reactors now having trouble cooling their radioactive uranium fuel rods. One major problem is that the quake destroyed all backup electrical power systems, so there is now very little juice to run equipment.

The worst off is the Fukushima Daiichi nuclear complex, where the No. 1 reactor containment building exploded on Saturday when radioactive hydrogen gas was vented from the containment vessel inside it. Mixing with oxygen, the hydrogen ignited. More venting is due at reactor No. 3, thus a second such explosion is feared imminently (and may have occurred by the time you read this).

As day three of this disaster drew to a close, I reached former Nuclear Regulatory Commissioner Peter Bradford by phone at his home in Peru, Vermont. Now an adjunct professor at Vermont Law School, Bradford was a Carter-appointee to the Nuclear Regulatory Commission (NRC) and was on duty for the partial meltdown at Three Mile Island in 1979.

"It's very hard to know what's going on," said Bradford with a grim calm. "During Three Mile Island very much of what we believed to be true on day three turned out to be untrue in subsequent days. Even now, we still don't know how much radiation was actually released. It was less than was later released at Chernobyl, less than could have been released had the containment vessel failed. But how much was released? We don't actually know."

As for the multifaceted atomic crisis in Japan, it is very hard to say what is really going on. But this much is clear: if the containment vessel at the partially melted-down Fukushima reactor No. 1 holds, most of the radiation should be held within the site.

That is the Three Mile Island scenario, which the International Atomic Energy Agency rates as a four on its Nuclear and Radiological Events Scale. The crisis in Japan is, so far, a five. Chernobyl was a seven.

If the containment vessel breaks -- or is already broken, cracked and leaking due to the earthquake -- and if the meltdown keeps going, officials would have to switch from trying to cool the reactor to burying it with tones of sand and cement; essentially bombing it with dirt in numerous and very dangerous air sorties by cargo planes and helicopters.

That would be the Chernobyl scenario, and it would mean that massive amounts of radioactive iodine, cesium and other very poisonous stuff would escape into the atmosphere. This contamination would be deadly close to the site, but could reach the West Coast and even the East Coast of the United States -- though in a very defuse form.

The fallout from Chernobyl left swaths of Belarus and Ukraine red-hot no-go areas of contamination, inhabited by mutant wild boar and other strange fauna. The radiation from one or two Japanese Chernobyls could sicken many thousands of people -- and many of them could die. The fallout's diffusions across the Northern Hemisphere would strike later and quietly as hard to track cancers seemingly unlinked to any one cause.

And what about our reactors? In the US we have twenty-three reactors of the same General Electric design as Fukushima No. 1. We also have atomic plants built on fault lines. For example, the Diablo Canyon Nuclear Power Plant's units 1 and 2 not far from Santa Barbra, and outside San Clemente there's the San Onofre Nuclear Generating Station, which has three reactors, two of which are still running. Environmentalists protested and bitterly opposed the opening of these plants along the California coast in a region of regular and often violent seismic activity. But, as in Japan, their concerns were brushed aside with assurances that all contingencies had been taken into account.

The American fleet of 103 atomic reactors is old and rickety. But more dangerous than the old and brittle equipment, according to Bradford, may be overconfidence among regulators and managers. "The phrase it can't happen here is an invitation to disaster," said Bradford. Mix technological arrogance with the profit motive, and you get slipshod management, corner-cutting and repeated lying.

As I've detailed in these pages in the past the American discourse around nuclear energy is somewhat schizophrenic. At one level, conservatives and some greens carry on a profoundly out-of-touch discussion about the merits of fourth generation and miniature nuclear power plants. None of these schemes will be built due to their extremely prohibitive costs.

But in the meantime, there is an overlooked yet very real campaign by industry to relicense and extend by 50 percent the operation of our rickety old existing fleet of reactors. And get this — a quarter of our reactors are leaking or have leaked radioactive carcinogenic, tritium-polluted water.

Vermont Yankee is one of the nukes up for relicensing, and it also has a tritium leak than no one can seem to find or stop. At first company officials from Entergy of Louisiana just lied about the problem, telling state regulators and lawmakers that the plant did not have the sort of underground pipes that could leak tritium into groundwater. But, it does.

So far more than half of America's commercial nuclear reactors have received new twenty-year operating licenses. In fact, the NRC has not rejected a single license-renewal application. Many of these plants have also received "power up-rates" which allow them to run at up to 120 percent of their originally intended capacity. That means their systems are subjected to unprecedented amounts of heat, pressure, corrosion, stress and embrittling radiation.

The only thing that could make our nukes safer would be a campaign of constant, careful, rigorous (and expensive) inspection and maintenance. But the NRC does not require that. During his campaign, Obama called the NRC "a moribund agency... captive of the industry that it regulates." Unfortunately, that has not changed much since Obama took office. And the private companies running the plants -- armed with notions of infallibility and motivated by money -- are doing all they can to squeeze yet more money from the aging nuke fleet.

Sizing Up Japan's Nuclear Emergency: No Chernobyl (NPR)

By Jon Hamilton

NPR, March 15, 2011

Problems at three nuclear reactors in Fukushima, Japan, have led to news reports that range from reassuring to terrifying. But experts on nuclear accidents say there's plenty of cause for concern, not for alarm.

It's simply impossible to imagine anything like Chernobyl happening in these reactors, despite all the problems they're having.

-- David Brenner, professor of radiation biophysics at the Center for Radiological Research at Columbia University

The benchmarks for nuclear mishaps were set by incidents at Three Mile Island in Pennsylvania in 1979 and Chernobyl in the former Soviet Union in 1986, and most experts think what's happening in Fukushima will end up somewhere in between those two. But the trouble with comparisons like these is that leaves a lot of wiggle room.

"[Chernobyl and Three Mile Island] were really very, very different," says David Brenner, a professor of radiation biophysics at the Center for Radiological Research at Columbia University. "Just to put it in perspective, Chernobyl was roughly the equivalent of a million Three Mile Islands" in terms of the amount of radiation released.

The amount at Three Mile Island wasn't enough to cause any detectable health problems, but radiation from Chernobyl killed dozens and put many thousands more at increased risk for cancer. Brenner says it's unlikely Fukushima will be that bad.

"I think in almost any situation, we're much closer to Three Mile Island than Chernobyl," Brenner says. "It's simply impossible to imagine anything like Chernobyl happening in these reactors, despite all the problems they're having."

Explosions Were Not Nuclear Blasts

Though there have been powerful explosions at two different reactors in Fukushima, those explosions are markedly different from the Chernobyl blast, which sent huge amounts of radiation into the atmosphere. The explosions at the Fukushima plant didn't do that.

One reason is that in Chernobyl, the nuclear reaction itself was out of control. But in Japan, all three reactors shut down the moment the earthquake struck.

"What has happened is that the core of the reactor continues to stay very hot and needs to be cooled down, and that is done with what is called secondary cooling," Brenner says. "And it was the secondary cooling that failed."

This cooling failure has allowed at least two reactors to become hot enough to produce large amounts of hydrogen, and some of that hydrogen got out of the cores and caused the explosions.

But the explosions occurred outside the so-called containment vessels that surround each reactor, so the reactors themselves stayed intact. That makes the problems in Fukushima sound more like those at Three Mile Island.

Kenneth Bergeron, a physicist who has worked on simulations of nuclear accidents, says there are still reasons to worry, however. For one thing, he says, scientists have detected radioactive cesium and iodine outside the power plants.

"That is a telltale sign that the fuel rods have become overheated and that the cladding on those fuel rods has ruptured – a very bad sign," he says. "Not quite the same thing as a meltdown, but it's the precursor to a meltdown."

Melting At The Core

Japanese officials say at least two of the reactors at Fukushima probably have experienced some melting at the core. But Dale Klein, the former chairman of the US Nuclear Regulatory Commission, says that doesn't tell you much.

"What we call a core melt -- it's like an automobile accident. You can have all the way from a fender bender to a massive collision," Klein says. "And so when we talk about fuel melting, you can have just a few fuel elements or just have the top of them."

At the Three Mile Island accident, about half of the fuel melted in the reactor. In a complete meltdown, though, the nuclear fuel ends up in a molten mass hot enough to burn its way right through the steel pressure chamber surrounding the core.

Klein says once that happens, the last defense is a containment structure made of thick steel and concrete.

"If you look at Chernobyl, they did not have a containment [system]. So once they had an accident, they had massive releases of radioactive materials," Klein says. "In the case of Japan, as long as the containment and reactor vessel remain intact, it's not likely they will have massive radiation releases."

But scientists say the containment vessels in Fukushima are not as large, or as strong, as the one at Three Mile Island.

Japanese Stocks Plunge More Than 13% On Worries Over Radiation (NYT)

By Bettina Wassener

New York Times, March 15, 2011

HONG KONG — Stock markets plunged in Japan and across the rest of the Asia-Pacific region on Tuesday amid fears of the impact of the nuclear disaster and resulting concerns about radiation exposure.

The Nikkei 225 index, already badly mauled on Monday, plummeted as much as 14.4 percent on Tuesday to its lowest in two years, exacerbating the 6.2 percent slump the previous day, as warnings about a potential nuclear disaster in the country aggravated the pain already felt by the quake and tsunami. The broader Topix, or Tokyo Stock Price index, sank 14 percent.

"Minute levels" of radiation have been detected in the Japanese capital, Tokyo, Kyodo news agency said, quoting the metropolitan government.

Investors were already jittery about the lack of clarity on the extent of the damage from the quake on Friday and the tsunami that hit Japan's northeast, but their concerns intensified after an explosion at the most crippled of three reactors at the Fukushima Daiichi Nuclear Power Station damaged its crucial steel containment structure.

The worries helped send stock markets lower across the region Tuesday. The Kospi in South Korea, the Taiex in Taiwan and the Hang Seng in Hong Kong all sagged 2 percent. The key indexes in Australia and Singapore fell 1.7 percent, and in mainland China, the Shanghai composite index dropped 1.6 percent by late morning.

Prime Minister Naoto Kan, speaking in a televised news conference Tuesday, said that radioactive levels around the Fukushima Daiichi complex were now high and urged people to remain calm.

The Japanese central bank continued pumping liquidity into the financial system on Tuesday, after it had offered on Monday to inject a record 15 trillion yen, or $183.8 billion.

At the end of a policy meeting on Monday, the Bank of Japan had also announced that it would enlarge an existing program to purchase government and corporate bonds from 5 trillion yen to 10 trillion yen.

"The damage of the earthquake has been geographically widespread," the central bank said in a statement accompanying its decision, adding that the asset purchase extension was done "with a view to pre-empting a deterioration in business sentiment and an increase in risk aversion in financial markets from adversely affecting economic activity."

The steps were "very appropriate in terms of dealing with the short-term impact" of the disaster, said Stephen Schwartz, an economist with the Spanish bank BBVA in Hong Kong. "It will take a long time until we can really quantify the fallout on the overall economy, but what is clear is that they are going to have to set aside fiscal consolidation plans for the moment."

"My feeling is that the markets may be over-reacting and panicking a bit," said Emil Wolter, head of Asian strategy at RBS in Singapore.

The authorities in Japan, he added, had already introduced substantial supportive measures, both for the disaster relief and the financial markets, and more stimulus efforts are likely to follow. "They are dealing with a disaster on an unprecedented scale; the response to date has been pretty formidable."

N. Korea Ready To Discuss Uranium Programme (AFP)

AFP, March 15, 2011

SEOUL (AFP) – North Korea has told a visiting Russian envoy that it was willing to discuss its uranium enrichment programme at six-party disarmament talks, state media said Tuesday.

"(North Korea) is willing to come to the six-party talks unconditionally," Pyongyang's foreign ministry said in a statement published by the official Korean Central News Agency.

At talks with Russian Deputy Foreign Minister Alexei Borodavkin, the North said it did not "object to the issue of the uranium enrichment programme" from being discussed at the six-party forum, a ministry spokesman was quoted as saying.

The Russian envoy visited the North between Friday and Monday, meeting with Foreign Minister Pak Ui-Chun and other North Korean officials, according to the South's Yonhap news agency.

Pyongyang sparked security fears in November when it disclosed an apparently functional uranium enrichment plant to visiting US experts.

The North said it was a peaceful energy project but experts said it could hand Pyongyang a second route to making atomic bombs on top of its existing plutonium stockpile.

Meanwhile, a senior South Korean diplomat left for Russia Tuesday, the foreign ministry said, as Seoul deepens efforts to gain international condemnation of North Korea's nuclear program.

Cho Hyun-Dong, deputy South Korean envoy to six-party disarmament talks, will hold discussions with Borodavkin, and his deputy Grigory Logvinov, Seoul said.

Cho is expected to discuss Borodavkin's recent visit to Pyongyang, the North's position on its uranium enrichment program and ways to resume stalled six-party talks, Yonhap news agency said.

He will return home Thursday, the ministry said.

Six-party disarmament talks grouping the two Koreas, Japan, Russia, the United States and China have been deadlocked since Pyongyang walked out in April 2009 and staged its second nuclear test a month later.

Seoul wants the UN Security Council to address the North's uranium programme, but an attempt last month to publish a UN report criticising the North failed amid opposition from Beijing, Pyongyang's strong ally.

Russia has backed South Korea's call for the Security Council to debate the North's uranium programme.

Report: Iran's Paramilitary Launches Cyber Attack (AP)

By Nasser Karimi, Associated Press

Associated Press, March 15, 2011

TEHRAN, Iran – Iranian hackers working for the powerful Revolutionary Guard's paramilitary Basij group have launched attacks on websites of the "enemies," a state-owned newspaper reported Monday in a rare acknowledgment from Iran that it's involved in cyber warfare.

The report followed an announcement in January that Iran had formed its first cyber police unit in an attempt by authorities to gain an edge in the digital world.

The Internet has also been a key outlet for Iran's opposition since the 2009 disputed presidential election. In addition, Iran has been trying to boost its web defenses after the Stuxnet computer worm made its way into computers involved with the country's controversial nuclear program.

Gen. Ali Fazli, acting commander of the Basij, was quoted by state-owned IRAN paper as saying Iran's cyber army is made up of university teachers, students and clerics. He said its attacks were a retaliation for similar attacks on Iran, according to the semi-official Mehr news agency. There were no further details about the possible targets or the time of the attacks.

"As there are cyber attacks on us, so is our cyber army of the Basij, which includes university instructors and students, as well as clerics, attacking websites of the enemy," Fazli said. "Without resorting to the power of the Basij, we would not have been able to monitor and confront our enemies."

So far, the Revolutionary Guard — Iran's military-industrial powerhouse — was believed linked to the secretive "Cyber Army" that emerged to fight opposition websites and blogs after President Mahmoud Ahmadinejad's disputed re-election in 2009.

In February, Guard chief, Gen. Mohammad Ali Jafari, signaled that the force supports the cyber army, describing it as a "defensive, security, political and cultural need for all countries." Jafari claimed at the time that the Guard have been successful in cyber warfare.

Iran has been seeking to master the digital world as a crucial step to prepare for what it calls "soft war," which includes fighting against cyber attacks such as the Stuxnet computer worm that Iran said was aimed at sabotaging its uranium enrichment program.

Iranian officials claimed there were no setbacks in nuclear operations from Stuxnet but a November report by the U.N. nuclear agency said Iran's enrichment program was temporarily shut down in a possible link to the worm's infiltration at the Natanz nuclear facility.

The origins of Stuxnet are unclear. But it's considered a highly sophisticated malware designed to attack industrial systems and could have been aimed at the centrifuges used in uranium enrichment. Washington and others worry that Iran could eventually produce nuclear material for warheads, but Iran insists it only seeks to enrich uranium for energy and research.

The country has also been wary about Western cultural influences while trying to gain the upper hand in cyberspace against web-savvy opposition groups. Opposition groups use proxy servers and other tactics to stay ahead of authorities.

From: Droggitis, Spiros
To: Brenner, Eliot; Burnell, Scott; Harrington, Holly; Janbergs, Holly; Hayden, Elizabeth
Subject: FW: Transcript of Chairman"s briefing with WH press corps
Date: Tuesday, March 15, 2011 8:59:12 AM

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 8:58 AM
To: Schmidt, Rebecca; Powell, Amy; Droggitis, Spiros; Dacus, Eugene; Decker, David; Shane, Raeann; Riley (OCA), Timothy
Subject: FYI: Transcript of Chairman's briefing with WH press corps

Yesterday's briefing.

THE WHITE HOUSE
Office of the Press Secretary

For Immediate Release March 14, 2011

PRESS BRIEFING
BY PRESS SECRETARY JAY CARNEY,
NUCLEAR REGULATORY COMMISSION CHAIRMAN GREG JACZKO
AND DEPUTY SECRETARY OF ENERGY DAN PONEMAN

James S. Brady Press Briefing Room

Please see below for a correction (marked with asterisks) to the transcript.

DEPUTY SECRETARY PONEMAN: Thank you, Mr. Chairman. Thank you, Jay.

We have been working very closely with our colleagues throughout the interagency process here at the Department of Energy. We've been ***led by Secretary Chu -- I just came from speaking with him on this matter and we've been speaking continuously throughout the weekend.

1:07 P.M. EDT

MR. CARNEY: Good afternoon, everyone. Over the weekend, as you know, the President was briefed multiple times on the situation in Japan in the wake of the tragic earthquake and tsunami there. USAID is leading our humanitarian assistance effort with the Department of Energy, the Department of Health and Human Services, the Nuclear Regulatory Commission and others.

Here at the White House, Homeland Security Advisor John Brennan is coordinating an interagency process with regards to Japan and engaging with relevant officials from across the government. Because we knew that you would have a lot of questions about the situation in Japan, especially with regard to nuclear issues, I brought with me today, asked to come today, Greg Jaczko, who is the chairman of the Nuclear Regulatory Commission. He can answer questions people have about the safety of American citizens in Japan, as well as he can just generally update Americans about the impact of the accident -- or rather the aftermath of the tsunami and earthquake.

And then I also have Dan Poneman, who is our Deputy Secretary

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of Energy, and he can outline everything that we are doing to assist Japan as it deals with the aftermath.

With that, I'll ask these two gentlemen to speak. If you could address the questions related to their areas to them, and then we'll let them get out of here and get back to work. And I will take questions on other issues. Thanks very much.

CHAIRMAN JACZKO: If I could just start with just a few points. First and foremost, based on the type of reactor design and the nature of the accident we see a very low likelihood, really a very low probability that there's any possibility of harmful radiation levels in the United States or in Hawaii, or in any other U.S. territories.

Right now, based on the information we have, we believe that the steps that the Japanese are taking to respond to this crisis are consistent with the approach that we would use here in the United States. And most importantly, we advise Americans in Japan to listen to and to follow the instructions of the Japanese government with regard to the nuclear facilities.

The agency has been providing technical assistance to the Japanese government as they are requesting, and in particular, we have dispatched two technical experts to Japan and are continuing to assemble a team of experts that would be dispatched in the near future.

So with that, I will then turn to Dan.

DEPUTY SECRETARY PONEMAN: Thank you, Mr. Chairman. Thank you, Jay.

We have been working very closely with our colleagues throughout the interagency process here at the Department of Energy. We've been ***led by Secretary Chu -- I just came from speaking with him on this matter and we've been speaking continuously throughout the weekend. John Brennan has been coordinating matters interagency. We have had frequent meetings in person, we've had frequent meetings over the telephone, as we are trying to respond to all of the data that we are taking in.

We've also been in very, very close, continuous consultation, all hours of the day, with Ambassador John Roos -- and hats off to him for the incredible job he and the country team have been doing as they've been coordinating the American response. And as appropriate, given their independent regulatory status, we're making sure we share information as appropriate with Chairman Jaczko and our colleagues over at the NRC.

We have focused our efforts on consulting very, very closely with our Japanese colleagues. We also have dispatched subject matter experts -- both reactor experts and an expert on emergency response. We are in consultation with them and we will make sure that any requirement that they have we are prepared to meet. And we are talking with them even on a real-time basis as that proceeds. So we have technical expertise already there on the ground. We have additional capabilities if and as needed. Of course, the Japanese government has tremendous capabilities on their own, but because a matter of this nature requires all of our best efforts, we stand ready to assist as required.

MR. CARNEY: What I'll do is I'll go ahead and call on people. Ben, why don't you start?

Q Thank you. Chairman Jaczko, can you give us a sense of how President Obama is getting briefed about this nuclear crisis in

Japan and the risk to the people there? And also, in the plainest terms you can, can you describe sort of the nature of what we're seeing and just how bad it is?

CHAIRMAN JACZKO: Well, I would turn to one of the others about the President's briefings.

MR. CARNEY: Let me just say, Ben, if I could, the President was briefed multiple times over the weekend. He has been briefed this morning and is being updated throughout the day. John Brennan, the Assistant to the President for Homeland Security, is taking a lead on that and gathering information and coordinating the briefings the President gets with all the relevant officials in the government.

CHAIRMAN JACZKO: It terms of the second part of your question, it is a serious situation certainly in Japan. The efforts right now of the Japanese government, with our assistance where they've requested it, is to continue to look for ways to provide the ability to keep the reactors cool. And that is a process that has been ongoing now for some time, and we continue to provide assistance where we can. In particular, they have asked for additional types of equipment that will help provide water and other resources to ensure that the reactors continue to be cool.

Q Has there been a partial meltdown in any of these reactors there?

CHAIRMAN JACZKO: At this time, we don't really have detailed information about the nature of the core in the reactor itself. But it is a situation in which there has been a loss of the normal type of cooling mechanisms to the reactor. So as the situation continues to develop we'll get better information. But right now, the focus has been to do everything possible to ensure that the reactor continues to be cooled.

Q And this incident leading to any safety concerns at nuclear facilities here in the United States?

CHAIRMAN JACZKO: Well, as I said, from the NRC's perspective, we are always focused on the safety and security of nuclear power plants in this country. That will always be something that we do. Whenever there's any new information, we always take that information into consideration and make changes if necessary. But right now we continue to believe that nuclear power plants in this country operate safely and securely.

I'll stop at that point.

MR. CARNEY: Jill.

Q Following up on that, is there any attempt, though, at this stage to assess, carry out a study of the ability of these plants in the United States to withstand an earthquake? Because after all, you have California. And also at least one of the reactors in jeopardy apparently in Japan uses that MOX fuel. Is there more concern about that, heightened -- any situation with the venting?

CHAIRMAN JACZKO: Well, with regard to the U.S. power plants, the U.S. power plants are designed to very high standards for earthquake effects. All our plants are designed to withstand significant natural phenomena like earthquakes, tornadoes and tsunamis. So we believe we have a very solid and strong regulatory infrastructure in place right now. But of course, as we always do, as an independent regulatory agency, we will continue to take new information and see if there are changes that we need to make with our program.

With regard to the MOX fuel, again, we are providing assistance to the Japanese where they request our assistance. And at this time, they have not asked for any specific information with regard to the MOX fuel.

Q You just talked about how the high standards are here in the United States domestically. What are the differences in safety standards between what Japan has and what the United States does have?

CHAIRMAN JACZKO: Well, right now as I said, our focus is always on keeping the nuclear power plants in this country secure. We are also putting a strong focus right now on providing technical expertise to the Japanese as they request it. Questions about exactly the differences and what changes we might want to consider and look at in this country is something we'll deal with down the road. But bottom line right now, we believe that the plants in this country continue to be designed to a very high standard for seismic and tsunami-type events.

Q There's already been calls -- this might be more for Jay, but there are already calls for moratoriums in the United States. For example, Congressman Markey called for that. Does the President know about these calls for changes in U.S. handling of this issue? And you said you were reviewing, but what is the timeline for that? This is obviously something that Americans are concerned about.

CHAIRMAN JACZKO: Again, as an independent regulatory agency, we will always take whatever steps are necessary to ensure the safety and security of nuclear power plants in this country. But right now we believe we have a very strong program in place. As we get more information from Japan, as this immediate crisis ultimately comes to an end, we will look at whatever information we can gain from this event and see if there are changes we need to make to our system.

I would just add as a similar scenario, following the 2004 tsunami, we did review tsunami requirements for nuclear power plants, and, in fact, went and made sure that our plants would be able do deal with that type of event.

MR. CARNEY: Chip.

Q Would plants in the United States be able to withstand a quake of this magnitude?

CHAIRMAN JACZKO: Again, I don't want to speculate on anything like that at this point.

Q But are they planned to be able to -- I know they try to estimate what they would be able to withstand. I know in Japan, for example, this one I believe was only built to withstand a 7.9 or something like that. In the United States, are they built to withstand a quake of this magnitude, of an 8.9?

CHAIRMAN JACZKO: At this point what I can say is we have a strong safety program in place to deal with seismic events that are likely to happen at any nuclear facility in this country. As we get past this immediate crisis where we continue to provide support to the Japanese, we'll gather information about the specifics of the event. But I don't want to speculate too much about what exactly were the relevant factors in Japan at this point.

Q And one other question. You said that there's a "very low likelihood," I believe were your words, of harmful radiation making it to Hawaii or the West Coast. Is that based on the condition of those plants right now, or is that based on a partial meltdown or,

heaven forbid, a total meltdown? Could that change your assessment?

CHAIRMAN JACZKO: The information about harmful -- the lack of any harmful impacts to the U.S. is simply based on the nature of these reactors and the large distances, obviously, between those and any U.S. territory. So you just aren't going to have any radiological material that by the time it traveled those large distances could present any risk to the American public.

Q Even in a worst-case scenario, even with a meltdown, you're not going to have harmful radiation reach Hawaii or the West Coast?

CHAIRMAN JACZKO: Again, I don't want to speculate on various scenarios, but based on the design and the distances involved, it is very unlikely that there would be any harmful impacts.

MR. CARNEY: Mike.

Q Do you gentlemen worry about perhaps an overreaction in this country, seeing a nuclear problem in another country, in terms of policymakers running away from nuclear energy?

CHAIRMAN JACZKO: I would defer to Dan.

DEPUTY SECRETARY PONEMAN: I think you just heard very clearly from Chairman Jaczko that we place safety paramount when it comes to the regulation of our nuclear power plants, and we always will. That having been said, we have to have an energy policy and a direction in this country that's driven by our overall assessment of our country's best interest.

In that respect, we are going to continue to seek to diversify our energy supplies. We're going to continue to make sure that each and every one of those sources is as safe as is humanly possible. And we will continue to take all learnings into account as we proceed from episodes that happened, from hypothetical that we might be able to come up with. It's a matter -- it's nothing new about it. It's a matter of our continuous approach to our own development of our safety resources -- our energy resources to make sure that they're done continuously and safely. Each event as it occurs is taken into account, but we don't sort of change from day to day our overall approach to the desire to diversify our overall energy posture.

Q And nuclear is a key component in your interest in diversification, correct?

DEPUTY SECRETARY PONEMAN: Nuclear power has been a critical component to the U.S. energy portfolio. We have 104 operating reactors -- that's 20 percent of the electricity of this country; 70 percent of the carbon-free electricity in this country comes from nuclear power. So we do see nuclear power as continuing to play an important role in building a low-carbon future. But be assured that we will take the safety aspect of that as our paramount concern.

And under the independent regulatory authority, going back to 1974, the NRC, which is independent and is, therefore, at arms' length, will ensure that we live up to exactly those kinds of high standards that the President expects us to use in operating those plants.

Q And quickly, it is critical to reaching your mission goals, correct -- nuclear energy?

DEPUTY SECRETARY PONEMAN: We view nuclear energy as a very important component to the overall portfolio we're trying to build

for a clean energy future.

Q I want to follow up on a question and see if we can get Jay to answer on this -- the moratoria issue. I think it was Senator Lieberman said over the weekend that what's gone on in Japan should cause us to put the brakes for the moment on nuclear power plant development in America. Does the administration agree with that?

DEPUTY SECRETARY PONEMAN: I'm happy to start and others can supplement.

As I said, going back decades, every experience that we have with respect to our nuclear plants we take fully into account. Certainly back in March 1979 at the time of the Three Mile Island episode, there were a tremendous amount of learnings that we applied to the improvement of safety in our fleet. Our reactors are much safer today because of all those learnings that have been applied.

We continually hypothesize new scenarios of different types and never stop our efforts to continue to exercise our capabilities, to assess the possibilities, and to ensure that our reactors can operate as safely as possible. We'll continue to do that. We'll continue to seek to improve. We'll certainly take the learnings out of this experience and apply those as well. And we know, because of the independence of the Nuclear Regulatory Commission, that in terms of operating our reactors only if they can operated safely, that is a responsibility that is properly reposed in the Nuclear Regulatory Commission.

Q So a pause isn't necessary?

DEPUTY SECRETARY PONEMAN: From a policy perspective, we will continue to operate our reactors and seek to operate them safely. We will continue to seek to build nuclear into a part of a responsible energy future, and we will repose our confidence in the NRC to make sure that we only do so to the extent that it can be done safely.

MR. CARNEY: Athena, I would just add that we have the plants that we have already in operation that provide 20 percent of the electricity in the United States. And information is still coming in from Japan, so as we evaluate that information, these gentlemen have made clear that they will incorporate that into how we view safety and security of nuclear energy as a resource.

But it remains a part of the President's overall energy plan when he talks about reaching a clean energy standard it's a vital part of that. And as we get more information about Japan and what happened there, that can be incorporated. But right now, we remain committed to the clean energy standard and the other aspects of the President's energy plan.

Q Mr. Chairman, do you have NRC people in Japan now?

CHAIRMAN JACZKO: We currently have two NRC technical experts in Japan. They are working to provide information to the U.S. embassy, as well as to interface with their colleagues in the Japan regulatory authority.

Q And from your understanding of the situation now with the Japanese reactors, is it as bad as it's going to get, or might it get worse?

CHAIRMAN JACZKO: Again, I don't want to speculate on how this may progress. I would say it is a serious situation, and we continue to provide whatever assistance is requested from us and is necessary -- assistance requested or necessary by the Japanese

government. And I would it is a -- Japan is a technically advanced nuclear country and they possess significant technical resources and capability on their own.

Q Jay, so there's nothing -- the President hasn't seen anything in Japan that will lead him to change his position that the U.S. should continue to get power from nuclear sources and increase that amount in the future?

MR. CARNEY: Dan, from a policy point of view -- but again, this is a -- information is still coming in. I think these gentlemen have addressed the issues of safety and security of the American nuclear energy program. And as more information comes in, obviously it will be evaluated. But 20 percent of our electricity is generated by nuclear power. It is already a major component of our energy here I in the United States.

CHAIRMAN JACZKO: If I could add, just again to reiterate I think the point that's been made, that we are an independent regulatory authority and we always keep focus on a day-to-day basis on the safety and security of nuclear reactors in this country. So if we do get information that would cause us to take action, we will take that action. But at this time, we don't have any information that would cause us to do anything different with our approach with the current reactors. But we will review information as it becomes available.

MR. CARNEY: A couple of more.

Q Mr. Chairman, of those two technical advisors you have there, are they in Tokyo? Are they up near the facility? Are they getting information from the Japanese government? And how would you describe the Japanese government's description of what's going on? Are they being forthcoming with both the public and with you?

CHAIRMAN JACZKO: Well, our two experts are in Tokyo and they are providing assistance to both the U.S. embassy as well an interface with our Japanese counterparts. And we continue to work to provide resources and assistance as we can.

Q Are they getting information, technical information from the Japanese? Are they watching press reports about what they're seeing going on? To what extent are they really hearing what's going on?

CHAIRMAN JACZKO: Right now, they're providing a very valuable resource to us to give us direct information from Japan about what's going on. And that's coming from a variety of sources, including interaction with counterparts in their regulatory --

Q Has the government of Japan been very cautious about what it's putting out publicly? They didn't have much urgency at the beginning and it's gotten more and more urgent.

CHAIRMAN JACZKO: Again, from what I've seen, we continue to see a very aggressive effort to deal with what is a very difficult situation in Japan right now.

DEPUTY SECRETARY PONEMAN: Can I just supplement that by saying that we've been in consultation through Ambassador Roos. He's been in continuous consultation with Chief Cabinet Secretary Edano. And we have two subject matter experts over there as well, and they are in communication with their counterparts.

Q Have you supplied any actual equipment to the Japanese? Have they requested anything?

DEPUTY SECRETARY PONEMAN: Well, we are ready to provide equipment. We have talked to them about what they have. As of this morning, there may be some additional information that Chairman Jaczko may wish to comment on. But what we are making sure of is, A, of course they have a lot of equipment on their own, but, B, such equipment as we have -- and we have equipment that can do aerial monitoring of ground deposition -- that's available. We have emergency response equipment. That's available. We're not starting from a blank slate, though, because the Japanese already have a lot of equipment, and we're just making sure we've got what we need to supplement.

MR. CARNEY: Why don't we -- one question from the Japanese media and then we'll wrap this part up.

Q With the accident at the nuclear plant over the weekend, has there been any direct impact from that on the U.S. support teams that are already in the area? Have they had to alter their plans at all as a result?

CHAIRMAN JACZKO: I would defer that question to AID, I believe. They have better information about the teams. The two NRC officials who are in Tokyo have not experienced any issues that I'm aware of. But, obviously, their safety -- their personal safety is important to us. But in Tokyo, there is no direct impact from the nuclear incident itself.

Q Can you talk then more generally about the logistical challenges of going into an area with such unprecedented damage?

CHAIRMAN JACZKO: Again, I would defer some of those broader questions to the folks at AID that we've been working with very closely to help provide that logistical support.

DEPUTY SECRETARY PONEMAN: I would just add to that, our DOE people have not been impaired in their ability to reach out to their Japanese counterparts. And in fact, at the Ambassador's request, we're sending another technical expert to join the team so they've got more subject matter expertise there.

In the context of the coordination that Mr. Brennan has been doing from the homeland perspective, we are making sure and working very closely with our colleagues in the Pentagon to make sure that any assets from a U.S. government perspective that need to be brought in there, we make available whatever assets we have through them, working with AID, as well.

Q Can I ask about nuclear waste, please? It's very important.

MR. CARNEY: I want to let these guys go for now.

Q Can we ask you about it?

MR. CARNEY: We'll take one question on nuclear waste, Connie.

Q Thank you. Is the U.S. reviewing its policy now on nuclear waste? And what are the Japanese doing in the midst of this crisis with their nuclear waste?

DEPUTY SECRETARY PONEMAN: I would segregate what they're doing in the middle of this crisis with respect to their nuclear waste. The first focus in the crisis, obviously, is getting the coolant to the cores of the affected reactors. And of course, there is spent fuel present at the reactors and making sure that that used fuel remains cooled properly and so forth.

From a U.S. perspective, we are still very closely evaluating our options. And the principal mechanism here, as you well know, is that President Obama asked Secretary Chu to convene a high-level panel of very distinguished Americans, chaired by Mr. Lee Hamilton, former congressman, and retired general Brent Scowcroft. And that group is going to be looking at all the options having to do with the back end of the fuel cycle for the United States of America, and by July will be coming back with some interim views on the options we ought to think about going forward. I'm sure they're going to be taking all of these experiences, data coming out of this experience into account.

Q Are you confident that Japanese nuclear waste is safe now?

DEPUTY SECRETARY PONEMAN: In terms of Japanese regulation of Japanese nuclear waste, I would refer you to the Japanese regulatory authorities.

MR. CARNEY: Thank you, gentlemen, very much. I appreciate it. We'll move on to the rest of the briefing. Thank you for coming.

Thanks for holding in abeyance your questions on other issues. Ben.

Q Two quick ones, Jay. I know that the President's concern first and foremost is about health and safety as it relates to this disaster. But is he also concerned about the impact the Japan natural disaster could have on the world economy?

MR. CARNEY: Ben, we have full confidence in the capacity of Japan to address the economic challenges during these exceptionally difficult times. We're monitoring, as we do always, the global economic environment, but we stand ready to assist the Japanese who are our friends and allies in any way that we can. And it's important to remember that the Japanese have demonstrated a great resiliency and ability to pull together during times of adversity, and we are confident that they will overcome this challenge and recover from this tragedy.

Q And on one other topic, on the meeting that the President is having with General Petraeus, could you just tell us a bit about why he's here? And specifically, is this a meeting at which he -- the General plans to talk about troop withdrawal plans in Afghanistan?

MR. CARNEY: Well, the General, as you know, is here. He is testifying on the Hill this week, and he is here meeting with the President today -- well, they meet with some regularity -- but to brief him on the progress we're making in Afghanistan. And as part of that discussion, yes, I believe they will discuss the President's plan to being a transition process in July of 2011, which will begin a process that will lead to turning over the security lead to the Afghan security forces by the end of 2014.

Q Jay, I saw the statement this morning about Bahrain and Saudi Arabia and the other GCC countries, but if this is the case that you have Saudi Arabia sending its forces into Bahrain, isn't that a gross violation of the sovereignty of another country?

MR. CARNEY: Well, we're aware of those reports and that other GCC countries are considering doing that. We urge all of our GCC partners to show restraint and to respect the rights of the people of Bahrain, and to act in a way that supports dialogue instead of undermining it. The important factor here is that our overall principles apply to Bahrain and all the countries in the region, which is that we urge restraint. We urge nonviolence in response to

nonviolent protesters; the respect for the universal rights of people in the region to gather peacefully, to voice their opinions, to have their grievances heard by their governments, and to have greater participation in the political process.

We have long believed and the President has expressed for a long time now that stability in the region will be brought about by dialogue and political reform. And it is counterproductive to that goal to in any way repress the expression of those desires that the people of Bahrain, in this case, and other countries, have.

Q Jay, that's a very diplomatic way of saying that the U.S. is unhappy about what's going on. But if another country, if Iran had decided to go into another country because they felt it was the right thing to do, what would the United States be saying? And I know it's a hypothetical, but this appears to be pretty serious.

MR. CARNEY: Well, again, I think you have to understand what -- I mean, we've seen the reports that you're talking about. This is not an invasion of a country.

Q Right, but there are security forces.

MR. CARNEY: It is -- correct. And we urge the government of Bahrain, as we have repeatedly, as well as other GCC countries to exercise restraint, and not to meet the nonviolent protests of people legitimately expressing their concerns and asking to have their voices heard with any kind of physical violence. So we -- that -- we call on, again, the government of Bahrain as well as other countries in the region that -- to hear this message.

Steve.

Q Did you get any advance warning that this was going to happen, the Saudis moving in?

MR. CARNEY: I don't have anything on that for you, Steve. As far as --

Q As far as you know -- okay.

MR. CARNEY: I don't know. I don't have anything for you on that.

Q Are we calling on the Saudis to leave?

MR. CARNEY: We are calling on the Saudis, the other members of the GCC countries, as well as the Bahraini government, to show restraint; and that we believe that political dialogue is the way to address the unrest that has occurred in the region, in Bahrain and in other countries, and not to in any way suppress it.

Yes.

Q Over the weekend you sent out a statement responding to the Arab League's endorsement of a no-fly zone, but you didn't obviously indicate whether the United States supports that or not. Knowing that all options are still on the table, isn't it approaching a situation where it might be too little, too late, in Libya to enact this no-fly zone?

MR. CARNEY: As you know, we have discussions going on at the United Nations in New York regarding various options, military options, as well as non-military, and specifically a no-fly zone option. We have, as you know, tomorrow and then Wednesday at NATO, a process by which the plans that were being reviewed and refined that address a no-fly option will be presented to the NAC on

Wednesday. And so we are, as we have said, constantly reviewing our options, refining our options, and this process is moving along.

The situation in Libya -- we continue to condemn the use of violence against the Libyan people by the Qaddafi regime, and we are encouraged by the international condemnation of that and by the actions taken by the Arab League, for example, because we believe that whatever actions we do take should be international and especially should represent the will of the people in the region and the countries in the region. And that's why the Arab League's voice on this is so important.

Q Knowing that you are -- could potentially be -- could be moving forward on this this week, but doesn't that -- there's been some voiced concern from foreign counterparts that that might nullify the goal of a no-fly zone, to enact it a little too late. Is there no concern --

MR. CARNEY: Well, Sunlen, again, I would say that the -- to go back to things we've talked about last week, the speed of the international reaction here has been quite remarkable and we are not letting up on our pressure, as the President made clear on Friday. I would note that, as you probably know, Secretary Clinton is in Paris where she will meet with opposition leaders, Libyan opposition leaders, as well as G8 counterparts to discuss some of these issues.

So we are moving with a great deal of haste and in coordination with our international partners, again with the kind of deliberation and speed that the situation requires, mindful of the fact that the decisions we're talking about here are significant ones and need to be made with everyone's eyes open to what they mean and what the goals are -- and I mean that with regard to a variety of possible options.

Chip.

Q Jay, following up on the no-fly zone, my understanding is there are now about five ships off the coast of Libya, three U.S. submarines off the coast, presumably with cruise missiles, plus you've got plenty of NATO aircraft at bases in the vicinity. Is the hardware now in place where if the President and other leaders were to give the order, that they could pull the trigger on a no-fly zone right now?

MR. CARNEY: Chip, what I would say, first of all, for the technical requirements to impose a no-fly zone, I would refer you to NATO, to the Defense Department. But what I think Secretary Gates has made clear and others have made clear is that this has never been a case about what our capabilities are. Obviously the United States of America has the capacity with its international partners to engage -- activate a no-fly zone, as well as take a variety of other potential measures.

The issue is making sure that the policy decisions we make, we make collectively with our international partners, because it is very important that the response be an international one and not just an American one, and that we are cognizant of what the goals are and whether they're achievable, and what the impacts of that decision will be.

Q But there's no big lag period? If they decide Tuesday, Wednesday to --

MR. CARNEY: Again, I don't have specifics on what technical requirements have to be met in order to begin to implement an option like that. I would refer you to NATO probably for that.

Q Just one more question. Following up on Ben's when he asked you about the global economic impact here, you basically responded with your confidence in the resiliency of Japan. But even if Japan does respond as well as could possibly be expected, this could still have a significant effect on the global economy. In discussions back there that you've been a part of or are aware of, have you heard economic advisors for the administration suggest that what could happen here is the same thing that happened last year with the Greek crisis, delaying the economic recovery? Could this have that same kind of effect on the economic recovery again?

MR. CARNEY: Well, I would just say, Chip, that these are still early days, but that we remain confident that Japan and, therefore, the world can deal with this crisis and respond and rebuild in a way that is good for Japan and good for the world. So we have that confidence and we therefore believe that -- the resiliency of the Japanese people, the resiliency of the Japanese economy are very important factors in the capacity of Japan to handle this, and therefore the world working with Japan to handle it as well.

Q The recovery is safe?

MR. CARNEY: Again, I would just refer you to what I said.

Q A quick one on the gun laws. President Obama wrote an op-ed over the weekend and he said, "None of us should be willing to remain passive in the face of violence or resigned to watching helplessly as another rampage unfolds on television." So the question is what is the administration prepared to do actively, to actively support legislation-wise? For instance, Representative McCarthy's bill to ban high-round magazines -- is that something that the President or administration officials will come out in support for?

MR. CARNEY: Well, what I've said in the past still holds, which we will review proposed legislation as it comes up. I don't have any announcements for what we would support. But I would also say that the Department of Justice has reached out to stakeholders on all sides of this issue and they're going to be holding a series of discussions as a first step, and that some of those meetings are happening this week.

So we are -- the President made his views known in the op-ed that you referred to. And the Department of Justice is continuing this process by meeting with stakeholders on all sides of the issue to look at ways that we can find common ground to take some common-sense measures that respect Americans' Second Amendment rights, but also deal in a common-sense way with Americans' safety and security.

Q So the administration wouldn't put forth legislation on its own or spearhead a plan?

MR. CARNEY: Well, I don't want to speculate about what we may or may not do legislatively, except to say that we are engaged in this process.

Yes, Carol.

Q Sort of on what Chip was talking about, is there -- how much aid is the United States willing to give to Japan? And have there been discussions in the administration about financial assistance and what that amount might look like? Have the Japanese made any specific requests?

MR. CARNEY: I think we are now in the phase of dealing with the immediate crisis, and we are offering any and all assistance that we can provide that the Japanese request and need to help them deal

with it. They are a very close ally and we stand ready to assist them in any way that we can. Long term, obviously, we'll have to evaluate what the needs are and how we can help. But we're committed to helping Japan recover from this.

Q Have there been any discussions about that internally, in terms of what --

MR. CARNEY: Not that I'm aware of, because we are literally dealing with the aftermath, the considerable aftermath of a terrible situation caused by this earthquake and tsunami.

Q Just one quick thing on education -- and obviously that's an area where the White House sees room for compromise and bipartisanship -- would you consider Race to the Top an area where you have consensus? Or is that an area where the White House thinks that they might need to do some work in order to get consensus?

MR. CARNEY: Well, we are consulting with our partners on Capitol Hill of both parties on education reform regularly. And Race to the Top already has received a great deal of bipartisan support. We think it's been a very effective program and a good model for education reform. And we expect that bipartisan support to continue -- which doesn't mean we take it for granted. And in the process of improving the law, we'll be working with Republicans and Democrats going forward, but we do expect it to happen this year.

Yes, sir.

Q Jay, on a funding bill, does it look to the White House as though you will get a three-week extension before the end of the week?

MR. CARNEY: I don't want to put timing on it, Mark. But we -- the cuts that have been outlined in that temporary measure are ones that we have already identified as acceptable. So we believe that we should be able to get something done. But again, we are focused on the process of achieving a resolution for the full fiscal year. Those conversations and negotiations are ongoing and that is our primary focus.

As the President said on Friday, because of the time it took to allow the process in the Senate to take place where the Senate voted on the Republican measure that emerged from the House and the Senate Democratic measure, it became necessary to give us the breathing space to negotiate the final CR for the fiscal year. But that remains our focus. And we remain absolutely committed to the idea that we need to get this done, last year's business done as soon as possible so we can focus on some of these other big challenges that we face.

Q And Vice President Biden will be taking the lead on that now that he's back from Europe?

MR. CARNEY: Well, this is a team effort. Vice President Biden is back from his trip and I'm sure he will be very much engaged in that process going forward.

Peter.

Q Thank you, Jay. If the U.S. wants -- believes that the legitimate grievances of Bahraini people need to be met, why not call upon Saudi forces to withdraw?

MR. CARNEY: Peter, I don't have anything more for you on that. We are calling on the countries in the region to show restraint and pointing to the fact that the dialogue that can bring about political

reform is essential for the stability of the countries in the region and their continued economic prosperity. Because we believe, as the President has said going back to his speech in Cairo, that it is -- the unrest that we have seen is a result of the lack of dialogue and the lack of engagement with the peoples in the region in their governments and in the political process.

Q And also, you mentioned in Egypt that the -- Mubarak was on this wrong side of history. Is that Bahraini monarchy also on the wrong side of history?

MR. CARNEY: Well, we have called on the Bahraini government to -- as we have others in the region -- to have a dialogue with their people, to listen to their grievances, to adopt political reforms, to respect the universal rights of their people. And I think, broadly speaking, in the countries of the region, the leaders in the region will be judged by how they deal with this process. And we think it's important for the future of the region, for the peoples in these countries, that their voices be heard and their legitimate aspirations be addressed.

April.

Q Going back to the op-ed of President Obama on gun control -- the President talked about the mental competency of the gunman in Arizona, how he could not get into the U.S. military, how he could not get into a college, but yet he still purchased a gun. Is that President looking at any -- what kind of ways does the President want there to be issues of judging mental competency in purchasing a gun? Or is that something that he's looking for in anything -- any gun control measures that come along?

MR. CARNEY: That level of specificity, I don't have, April. But I think that his point that he's making is that we can honor our Second Amendment rights while still ensuring that, as you noted, that someone with a criminal record shouldn't be able to check out a gun seller; that an unbalanced man shouldn't be able to buy a gun so easily. I mean, there is room for us to have reasonable laws that uphold liberty, ensure citizen safety, respect the Second Amendment, and that we should be able to find some common ground on some of those measures. I don't want to detail what those measures are or what he has in mind, specifically. The conversations are beginning along those lines at the Department of Justice.

Q Do conversations include gun shows, purchases at gun shows?

MR. CARNEY: Again, I don't have -- I don't want to narrowly define specific measures that may or may not be proposed. We're looking at possible legislation and we're having conversations with stakeholders on all sides of the issue.

Chris.

Q Thanks, Jay. I have some questions for you on marriage. Last week, the Maryland statehouse recommitted a bill legalizing same-sex marriage to committee because proponents didn't feel like they had enough votes for passage. The measure is effectively dead for this year even though Democrats have control of the chamber. By not supporting same-sex marriage, is the President, as head of the Democratic Party, giving cover to Democrats in that chamber who don't support the bill?

MR. CARNEY: Chris, the President's position on gay marriage is well known. He addressed this in December at the press conference and I don't have anything new for you on that.

Q So is the President not concerned that this measure failed

to progress in that chamber?

MR. CARNEY: I don't have anything for you on that either.

Q One last question, one last question. The proponents of this bill said they're going to try again in 2012. You said he's grappling with the issue of same-sex marriage. The President said he's wrestling with it. Is he going to pin down support for marriage equality and make an announcement before next year in time for these efforts --

MR. CARNEY: I don't have any timing for you on that either.

Yes.

Q Moroccan King has delivered a speech in which the government will change the reform (inaudible) constitution to give more power for the prime minister and lose more freedom. So does the White House have any comments on Morocco speech?

MR. CARNEY: I'm not sure if we have anything specifically on that. We encourage political reforms that liberalize the governments there, that allow for greater participation and representative government, and that applies across the region.

Q Jay, I have two questions, one a follow-up. Is it safe to assume that the GCC countries have not coordinated or informed the United States about their move to enter Bahrain, considering that they're close allies of the United States? And second, the Turkish Prime Minister said that it's counterproductive to have military intervention in Libya by NATO or any other country. Does this complicate your effort or all-options-on-the-table kind of approach?

MR. CARNEY: Regarding the no-fly zone and other options, nothing has changed since I last addressed this question five minutes or so ago. So the -- and with regards to Bahrain, we've made clear that we call on the nations in the region to show restraint and to honor the peaceful protestors by not using force against them. We make that -- call on the Bahraini government and the GCC countries as well.

Q So they haven't informed you? You don't know anything --

MR. CARNEY: I don't have anything on that.

Yes.

Q Jay, last week, Robert Einhorn over at State had a comment on Iran's nuclear program. He said that the U.S. believes that Iran intends to get to the brink of a nuclear capability but won't go to breakout. Can you talk about the extent to which that's been the subject of the conversation here at the White House by the President?

MR. CARNEY: I don't have anything -- any new information on that since the last time we addressed -- Ron, if you can talk to State about those particular comments.

Q Is that going to change his calculus at all?

MR. CARNEY: Well, we've made very clear that we are very concerned about Iran's pursuit. We and a lot of our international partners maintain that concern, so I think that still holds.

Yes.

Q Secretary Clinton last week told Congress that she wasn't

sure that a no-fly zone would actually be effective. She cited Iraq and Kosovo. Was she stating administration policy?

MR. CARNEY: Well, as I've made clear from this podium and others have made clear, too, that it is very important -- no matter what options we choose -- that we are aware of what is entailed in applying them, enforcing them, and that we are confident that the goals we set out for them are achievable.

The fact that, as Secretary Gates and others have said, that a no-fly zone is a serious matter and with costs associated and risks associated doesn't mean that it's off the table. It's still very much on the table. I think the purpose of having Secretary Clinton or Secretary Gates or others make people aware of the seriousness of a measure like that is simply that; so that we all are aware going into this process should that decision be made -- or other decisions be made -- that we know what we're talking about and what we would be pursuing.

Q But she said it doesn't work. So why would it be on the table?

MR. CARNEY: No -- well, I don't want to parse her words. I think -- but what I have made clear and others have made clear is that we need to know -- we would in any process, any decision like this we would make, we would have a plan, which I think elements are being developed at NATO about what a no-fly zone plan would look like and its implementation would look like should that be chosen. And it would obviously include within it discussion about its presumed effectiveness, the impact it would have, the risks associated with it and the potential costs associated with it.

Q Have you run any numbers on that as to cost?

Q She said it didn't get rid of the leader --

MR. CARNEY: I don't have any -- no, I don't.

Q She said it didn't get rid of the leader. It didn't stop the violence. So what would be the point?

MR. CARNEY: Again, making -- she's making an observation about a past exercise. Before we take any action, we would evaluate what that action would mean if it were applied in the specific case at hand.

Q Can I follow up, Jay?

MR. CARNEY: Yes.

Q Thanks, Jay. I don't want to ask about what the U.S. is ready to do or not ready to do, and I have lot of sympathy towards caution, but my question is about what would the U.S. accept others to do? Would it be conceivable that somebody else who seems to be much more eager to call for a no-fly zone, like France, like Arabic states, could you accept that they are taking the lead and say, okay, if France want to do it, together with Egypt, it's fine with us? Or would the U.S. prefer to be in control of the process because the consequences would also be consequences for the position of the U.S. in the region?

MR. CARNEY: Well, I think I have made clear that we feel it's very important that this -- the actions we take in response to the situation in Libya be international actions, that we work in concert with our international partners. So, quite the contrary; this is not about the United States dictating what happens working with our international partners. So the consultations continue with the

French and the British and others about what other measures we can take together.

So I don't -- I think we welcome the fact that there is so much international approbation and international unity in condemning what the Qaddafi regime is doing, and so much discussion with our international partners about all the different measures that we could do together to continue to put pressure on Qaddafi, to get him to cease and desist what he's doing against his people, and ultimately to remove him from power.

Q Could it also happen without involvement of the United States?

MR. CARNEY: Well, right now we're discussing at the United Nations, in Brussels at NATO, with our international partners what the various options are. We're very engaged in that discussion and continue to have that specific option on that the table.

Q Just two questions, Jay.

MR. CARNEY: Okay, I'm going to wrap it up here. Thank you very much.

Q When does he fill out his bracket? When is the Andy Katz exclusive?

MR. CARNEY: Stay tuned.

END 1:58 P.M. EDT

NUCLEAR REGULATORY COMMISSION NEWS SUMMARY

TUESDAY, MARCH 15, 2011 7:00 AM EDT

WWW.BULLETINNEWS.COM/NRC

TODAY'S EDITION

NRC News:

International Nuclear News:

Online Version

Visit www.bulletinnews.com/nrc for searchable archive, interactive story index, and links to complete stories where appropriate.

NRC NEWS:

Administration Reaffirms Support For Nuclear Energy. With media outlets focused on the devastation in Japan, a subtext in the coverage deals with fears that the US could one day face a similar nuclear crisis. The network newscasts, for example, devoted a combined six minutes and 25 seconds of airtime (out of nearly 34 minutes devoted to Japan) to questions about the safety of US plants -- in some cases raising the alarm about potential vulnerabilities. Those stories, as well as similar ones in print and on cable, also included comments by Administration officials restating their support for nuclear energy.

ABC World News (3/14, story 5, 2:00, Sawyer), for example, showed NRC chairman Gregory Jaczko saying, "US

CCC/195

power plants are designed to high standards for earthquake effect." Fox News' Special Report (3/14, Baier), meanwhile, reported that "nuclear power has been a big part of President Obama's energy policy," and yesterday "at the White House, officials emphasized the safety at American facilities." According to Fox, "Administration officials are not backing away from nuclear, which they said will...prevent climate change." Deputy Energy Secretary Daniel Poneman was shown saying, "We view nuclear energy as a very important component...for a clean energy future."

Politico (3/15, King) notes that "at a briefing also attended by...Jaczko and...Poneman," White House press secretary Jay Carney "deflected questions on whether President Barack Obama would support Connecticut Sen. Joe Lieberman's call for a freeze on permitting of new US nuclear power plants until more was known about the causes of the Japanese problems." Jaczko "also did not directly answer questions on how US nuclear plants compare in safety with their Japanese counterparts. And he declined to 'speculate' on whether US plants were designed to withstand an 8.9-magnitude earthquake."

The Hill (3/15, Youngman, Geman) reports that Carney also said "Obama continues to receive updates on the situation in Japan," and that "John Brennan, Obama's top assistant for homeland security, is coordinating an inter-agency response from the White House." McClatchy (3/15, Hotakainen, Schoof, Talev) also reports that "with the Fukushima complex still making headlines, White House officials sought to assure the public that there's nothing to worry about." The Wall Street Journal (3/15, Favole, Tracy) runs a similar story under the headline "Obama Stands By Nuclear Power."

On Fox News' Special Report (3/14, Baier) NPR's Mara Liasson noted that the White House and Senate minority leader Mitch McConnell "are on the same page," cautioning against "rush[ing] to some conclusion like we should never build another nuclear plant in the United States."

The CBS Evening News (3/14, story 6, 3:20, Couric) reported, "Consider this: In this country, some nuclear plants are built in earthquake zones along the West Coast." The CBS Evening News (3/14, story 7, 2:25, Couric) also reported that "California isn't the only part of the country can have earthquakes, what geologists call seismic hot spots are scattered across the country. There are 104 commercial nuclear reactors in the US, including those operating in earthquake zones, and there are other natural hazards, too." CBS noted that "in 1992, Hurricane Andrew knocked out power to the Turkey Point Plant south of Miami for five days but the plant survived."

NBC Nightly News (3/14, story 5, 2:00, Myers) asked, "Could what happened in Japan happen here?" Edwin Lyman, of the Union of Concerned Scientists, was shown saying, "Yes, I'm afraid it could. Unless we learn the lessons of this accident, then I'm afraid that it's only a matter of time before it does." NBC also showed Marvin Fertel, of the Nuclear Energy Institute, disagreeing, "We would actually be able to handle the situation much easier than the Japanese are facing right now."

The AP (3/15, Charlton, Heilprin) reports, "Fears about nuclear safety that took a generation to overcome after the accidents at Chernobyl and Three-Mile Island are resurfacing around the globe," and "casting new doubt on a controversial energy source that has seen a resurgence in recent years, amid worries over volatile oil prices and global warming."

The Huffington Post's Chris Kirkham and Amy Lee (3/15) write that "in the wake of an unfolding nuclear crisis in Japan, those championing aggressive construction of nuclear facilities face an immeasurably more difficult task," and that "the Japan events present a quandary to...Obama, who has been a vocal proponent of expanding nuclear energy."

Charles Ferguson of the Federation of American Scientists spoke to Chris Matthews on MSNBC's Hardball with Chris Matthews (3/14, Matthews), who said that he was to "rate this on a scale of Three-Mile Island or Chernobyl, I would say this is probably going to be worse than Three-Mile Island, but not nearly as bad as Chernobyl."

In an ABC affiliate, KETV-TV Omaha, NE (3/15, 2:19am EDT) broadcast, Nuclear safety advocate Damon Moglen said US "reactors a now decades old and we have lots of problems with these reactors and lots of problems that we don't, in many ways, have a regulatory structure that's on top of how dangerous our reactors are."

ABC affiliate, WJXX-TV Jacksonville, Florida (3/15, 2:07am EDT) broadcast, "The head of the company building two nuclear reactors in Georgia, says the crisis in Japan will not delay construction. It will be built about 220 miles north of Jacksonville in Waynesboro." If approved by the US Nuclear Regulatory Commission, the project in Waynesboro, Georgia could become the first nuclear plant in the United States to break ground in a generation."

Jaczko Defends US Nuclear Safety Programs. Voice of America (3/15, Robinson) reports that Chairman "Jaczko said that due to the distance involved, there is little chance that harmful radiation from Japan's damaged reactors will reach Hawaii or the US mainland. But reporters pressed him about the extent to which the situation in Japan could alter Obama administration thinking about the safety of nuclear power plants in service in the United States. 'What I can say is, we have a strong safety program in place to deal with seismic events that are likely to happen at any nuclear facility in this country,' Jaczko said."

The "44 Politics and Policy" blog on the Washington Post (3/15, Bacon) website reports, "White House officials on Monday defended the use of nuclear power in the United

States. 'At this time, we don't have any information that would cause us to do anything different,' said Gregory B. Jaczko, chairman of the Nuclear Regulatory Commission, at a White House briefing. White House press secretary Jay Carney, at the same briefing, also defended the use of nuclear power, saying it 'remains a part of the president's overall energy plan.'"

FOX News (3/15, Kehnemui) adds that with such "consistently bad news trickling out from Japanese government officials about the potential nuclear meltdown, much of the attention at home has turned away from the unfolding tragedy to the debate about whether a similar fate could await the US. 'This is nuclear power's Achilles' heel and shows why it is sheer folly to pour resources into building and maintaining nuclear reactors in the US,' Tyson Slocum, director of Public Citizen's energy program, said in a statement." But the "American Council on Science and Health, a group of scientists and doctors that monitors the use of science in public policy debate, said dire warnings about US insecurity are the work of agenda-driven groups. 'The anti-nuclear energy activists trying to exert pressure to stunt the progression of nuclear power do not really care about nuclear safety,' said Dr. Gilbert Ross of ACSH." Investor's Business Daily (3/15) also covered the story.

The Beaver County (PA) Times (3/15, Pound) reports on the wherewithal of US nuclear plants – including Beaver Valley Nuclear Power Station – to "withstand all kinds of natural disasters -- including earthquakes. ... 'Each of the plants in the United States was designed to withstand the worst-case scenario for a variety of natural disasters, and since 9/11, we've increased what we consider for terrorism events as well,' said Neil Sheehan, an NRC spokesman. 'Even at older facilities like Beaver Valley, we still pay attention to those factors as the years pass.'"

NRC Chairman Seen As Giving "Imprecise" Answers. On the CBS News (3/15) "Political Hotsheet" blog, Chip Reid writes, "White House Press Secretary Jay Carney brought a special guest to the briefing room today - Chairman of the Nuclear Regulatory Commission Gregory Jaczko," who was "asked repeatedly about the safety of US nuclear power plants, but his answers did little to satisfy reporters looking for information that might assure readers and viewers that American nuclear plants are built to withstand a crisis of this magnitude." The blog adds that Jaczko gave an "imprecise answer" to the question of whether there was a new attempt to study the ability of US plants to withstand an earthquake. "All US plants are 'designed to withstand significant natural phenomena, like earthquakes, tornadoes, and tsunamis.'" Reid says he tried "one last attempt at getting a precise answer," but says he got "another generality" in response. Reid says Chairman Jaczko's answers were "pretty thin gruel."

Markey Warns White House On Nuclear Disaster Response. The Wall Street Journal's (3/14, O'Connor) "Washington Wire" blog reported Massachusetts Rep. Ed Markey has warned the Obama Administration that the country does not have a clear plan for dealing with a nuclear disaster such as that currently faced by quake-stricken Japan. Markey, in a letter to the President, said he is "concerned that, based on recent reports, it appears that no agency sees itself clearly in command of emergency response in a nuclear disaster. ... In stark contrast to the scenarios contemplated for oil spills and hurricanes, there is no specificity for emergency coordination and command in place for a response to a nuclear disaster."

CNN International (3/15) adds Rep. Markey sounded said Monday, "Any plant that is being considered for a seismically vulnerable area in the United States should be reconsidered right now." He "also called for ensuring that backup systems for US nuclear plants include sufficient cooling fluids for shutting down reactors and for the government to distribute radiation-blocking potassium iodide to people living within a 20-mile radius of a nuclear plant, as was called for in a 2002 bill he authored."

Some Concerned About US Reactors Near Geographic Fault Lines. On its website, CBS News (3/15, Freeman) reports on the dangers of nuclear power and whether a nuclear disaster could happen in the US. "'We have 23 nuclear reactors that are the same design as the Fukushima plants that have failed,' Dr. Ira Helfand, past president of Physicians for Social Responsibility and a long-time critic of nuclear power, told CBS News." Dr. Helfand said of the plants "with containment systems similar to the ones in the Japanese reactors are built on fault lines, including one near New York City. 'The Indian Point reactor just north of New York City is built on a fault capable of generating a magnitude 7 earthquake, but it was only built to withstand a magnitude 3 quake,' he said."

Questions Raised About GE's Boiling Water Reactor Mark 1 Containment System. The Washington Post (3/15, Yang) reports on the General Electric design used on the Fukushima Daiichi power plant in northeastern Japan, and how "some regulators and critics have questioned whether the system -- which was supposed to be smaller and less expensive than others -- can withstand a nightmare scenario." Their concerns are focused on the GE BWR Mark 1 "containment system that is the final line of defense against a wide release of radiation." Beyond Nuclear's Paul Gunter said "these vessels are brittle. They were going to retire Fukushima Daiichi in just a few more months, and so this particular Mark 1 with its substandard design was reaching its endlife, and so it raises a lot of concerns." Meantime, GE defended its technology in a statement Monday, saying the

design "is the industry's workhorse with a proven track record of safety and reliability for more than 40 years."

Democratic Lawmakers Call For Hearings On US Plant Safety. Top Democrats on the House Energy and Commerce Committee want Republicans to hold hearings on US nuclear power plant safety in light of the nuclear crisis in Japan, The Hill (3/15, Restuccia) reports. The lawmakers said the "NRC should consider the potential dangers of nuclear power when approving new projects and renewing reactor licenses. ... 'In recent years, the NRC has approved over 60 license renewal applications, including several for plants with the same design as the endangered Japanese facilities,'" the Democrats' letter said. "In fact, the NRC recently voted to renew the operating license for the Vermont Yankee nuclear plant, which is of the same design as some of other reactors experiencing severe problems in Japan."

E&E Daily (3/15, Northey) reports, "Key lawmakers and regulators this week will dig into unfolding details surrounding the nuclear emergency" in Japan "and how US officials are safeguarding the domestic nuclear fleet." House Energy and Commerce Committee Chairman Fred Upton (R-Mich.), "said he will use a Wednesday hearing to question the head of the Nuclear Regulatory Commission about the Fukushima Daiichi nuclear power plant, as well as domestic operations. 'We will use that opportunity to explore what is known in the early aftermath of the damage to Japanese nuclear facilities, as well as to reiterate our unwavering commitment to the safety of US nuclear sites,' Upton said in reference to the hearing at which NRC Chairman Gregory Jaczko will testify." E&E notes Energy Secretary Steven Chu is supposed to join Jaczko at the joint hearing.

Nuclear Safety Expected To Be Highlight Of Chu, Jaczko's Hearing Wednesday. The Hill (3/15, Geman) "E2 Wire" blog reports that Nuclear Regulatory Commission Chairman Gregory Jaczko and Energy Secretary Steven Chu are both scheduled to appear before the House Energy and Commerce Committee on Wednesday, originally to discuss their agencies' budget plans, "but Committee Chairman Fred Upton (R-MI) signaled over the weekend that questions prompted by Japan's crisis will be a major focus as well."

Meanwhile, in a separate post to its "E2 Wire" blog, The Hill (3/15, Restuccia, Geman) reports that Rep. Ed Whitfield (R-KY), the chairman of the House Energy and Commerce Committee's Energy and Power Subcommittee, said he will press Jaczko during the hearing Wednesday "on speeding up the nuclear reactor licensing process even as the nuclear crisis continues in Japan." Whitfield said Monday, "All I know is that a lot of other countries, France for example, they do it in six years," adding, "I'm not going to brow beat him. I just want to know why it takes 10 years in America."

Little Threat To US Seen From Stricken Plant. The Christian Science Monitor (3/15, Grier) reports on the prospects of a radioactive cloud traveling across the Pacific and becoming a threat to the United States. Matthew Bunn of the Managing the Atom Project at Harvard's Belfer Center for Science and International Affairs, said, "What has happened is melting of fuel in reactor cores, leading to release of a very modest amount of cesium and other fission products." And the NRC said in a statement Sunday, "Given the thousands of miles between the two countries, Hawaii, Alaska, the US territories and the US West Coast are not expected to experience any harmful levels of radioactivity."

USA Today (3/15, Jackson) notes that NRC Chairman Jaczko said at the White House, "Based on the type of reactor design and the nature of the accident, we see a very low likelihood – really, a very low probability – that there's any possibility of harmful radiation levels in the United States or in Hawaii or any other US territories." On its website, WSB-AM Atlanta (3/15, Mellish) also covered the concerns. Hawaii Reporter (3/14) reported that NRC Chairman Gregory Jaczko "reiterated his agency's view that there's a low likelihood of harmful radiation" reaching "Hawaii or the West Coast."

Despite Fears, Experts Say Radiation Health Risk In Japan Remains Low. Bloomberg News (3/15, Bennett) reports, "A potential meltdown at Tokyo Electric Power Co.'s Fukushima Dai-Ichi No. 3 nuclear reactor, which was destabilized by Japan's strongest earthquake, threatens to release dangerous" radioactive materials. The vessel "containing the reactor's radioactive core is intact after a blast at 11:01 a.m. local time today," Chief Cabinet Secretary Yukio Edano said.

The Wall Street Journal (3/15, Naik) reports that Japanese authorities are warning that people living in the area immediately surrounding the stricken nuclear reactors are facing health risks from continued radiation leak increases. The Journal quotes the officials as saying that radiation levels in the area have risen to levels that will "clearly have impact on the human body." CNN (3/15, Smith) adds that US radiation drug manufacturers have been "swamped with calls from Japan" asking about the "dangers of thyroid gland radiation poisoning."

However, according to MSNBC Health (3/14, Aleccia), experts say that despite the "dire reports of melting fuel rods and sickened workers at Japan's beleaguered Fukushima Dai-ichi nuclear reactor, the public health risk from radiation exposure remains very low. ... 'In general, right now, the citizens of Japan have far more other things to worry about than nuclear power,' said Richard L. Morin, a professor of radiologic physics at the Mayo Clinic and chair of the safety committee of the American College of Radiology."

Medscape (3/15, Gever) adds that American College of Radiology President James Thrall, MD, from the Massachusetts General Hospital in Boston "told MedPage Today that the chances of a consequential radiation exposure

from the Japanese disaster anywhere in the US is 'essentially zero.'" Dr. Thrall noted, however, that "radiation detectors are so sensitive that they will likely be able to measure even minute levels of radioactivity from Japan on US soil."

The Los Angeles Times (3/15, Roan) "Booster Shots" blog notes that the Japan's nuclear accident is "alarming" to Americans because of "our tendency to fear radiation in all of its degrees and forms, said Jerrold Bushberg, a medical physicist at UC Davis." In an interview, Bushberg noted that Americans "don't have a particularly good grasp of the science of radiation and tend to over-exaggerate the risks. Debates over the safety of exposure from radiofrequency waves emitted by cellphones and high-power lines is an example of how worried people are," he said. USA Today (3/15) and Reuters (3/15) also cover the story.

Nuclear Power Opponents See Cautionary Tale For US. Rep. Ed Markey, on MSNBC's Hardball (3/14, Matthews), noted, "It's not protesters that have hurt nuclear power over the last 30 years, it's investors. After Three Mile Island, after Chernobyl, investors, Wall Street, just walked away from nuclear power. ... I think that what we're about to see is a dramatic rise in the risk premium for Wall Street to invest in nuclear power plants. They've already said all along that they won't build any nuclear power plants unless the taxpayers guarantee it. ... So, I think that [nuclear] was never going a large part of the electricity mix in our country going forward."

Cenk Uygur, host of MSNBC Live (3/14, 6PM EST), said, "There are new questions about exactly how the government would handle a nuclear disaster if such a tragedy were to occur here. In a letter to...Obama," Markey "writes, 'I am concerned that it appears that no agency sees itself as clearly in command of an emergency response in a nuclear disaster.' ... So we have some of the same plants as Japan, some of them are on major earthquake fault lines, and we're not quite sure who's in charge if a disaster hits. That doesn't sound that good."

Charles Ferguson of the Federation of American Scientists, on MSNBC's Hardball (3/14, Matthews), said, "In California there are two nuclear plants, at Diablo Canyon and San Onofre, where concerns have been raised about seismic activity. ... In fact, three years ago, in 2008, a fault was found near the Diablo Canyon site...and the Nuclear Regulatory Commission and the plant operators said, 'we're on top of it. ... The plant is safe against those types of accidents.' But still you got to...think we're going see a re-evaluation of nuclear power in the United States."

Beyond Nuclear's Paul Gunter, on MSNBC Live (3/14, Uygur), contended that "the big concern is if we do have 'the big one' along the San Andreas, it's going to break pipes, it's going to crack concrete, there are going to be land shifts. The cliffs at Diablo Canyon [site of Diablo Canyon Nuclear Power Plant] could fall into Diablo Cove. These kinds of events that we're seeing now play out in Japan are clear demonstrations that in a natural disaster, nuclear power becomes a liability and not an asset."

On MSNBC's The Last Word (3/14), nuclear scientist Daniel Hirsch noted that the Diablo Canyon nuclear plant "originally was designed with the assumption that there was no major earthquake faults nearby. But after they built it, they found a massive fault nearby. They had to retrofit it. And when they retrofitted it, they used the wrong blueprints. ... They reversed the blueprints, and put all of the restraints, pipe supports in the wrong place. And when that was discovered, they had to go back and redo it all."

Appearing on MSNBC's The Rachel Maddow Show (3/14), Democratic Rep. Rush Holt, who is also a physicist, said, "The Japanese plants are operated at least as well as plants in the United States. The designs are similar to what we find in the United States. They have a lot of experience and yet these rare events seem to be occurring every decade or two -- the ones that are supposed to occur only every many thousands of years." Holt added, "The looming issue that I think determines how aggressively we should move forward with nuclear power is the connection with weapons proliferation. Far more people would be killed, and far more damage to civil society would be done, with nuclear weapons than with any nuclear power plant accident."

Anti-Nuclear Activists Accused Of Exploiting Japanese Disaster. According to Fox News' Special Report (3/14, McKelway), "With the entire industry now under new scrutiny, anti-nuclear proponents see Japan as a crisis they don't want to waste." Ira Hefland, described by Fox as an "anti-nuclear activist," was shown saying, "The Administration has asked for $36 billion more in loan guarantees for nuclear power. That money should be going to finance research and development in solar and wind and other renewable forms of energy." Fox's Doug McKelway concluded, "65 new nuclear plants are under construction worldwide right now. More than a billion people across the planet still live without electricity. And where life itself is so risky, many believe the threat posed by nuclear plants may seem tame by comparison."

Glenn Beck, on Fox News' Glenn Beck (3/14), said, "So far, everything [at the Japanese nuclear plants] has worked beyond what it's supposed to do. It's so stable at this point -- remember, seven times more powerful of an earthquake than it was supposed to even stand. ... If everything works the way it should...it won't be a problem. ... It cannot explode. Remember, it can't turn into a nuclear bomb." Beck went on to suggest that unnecessary alarm over the situation in Japan is the work of left-wing groups funded by George Soros. According to Beck, "Early on Saturday morning the radical left was already busy at work. Instead of trying to figure out how

to help people...they're just making sure that this crisis just doesn't go to waste."

Fox News digital politics editor Chris Stirewalt, on Fox News' Special Report (3/14, Baier), claimed "environmentalists don't like nuclear power because they're afraid...that it is going to prevent us from embracing renewables like solar, wind and other things they want to see us use. They don't like nuclear in the first place, so anything like this gives them a pretext to say, 'No, Democrats, you can't...go there.'"

Kerry Backs Reappraisal Of Nuclear Plant Security. The Boston Globe (3/15, Emery) reports Sen. John Kerry said yesterday that "the emerging threat of nuclear meltdowns...in Japan should trigger an overdue discussion on energy security concerns." In a statement, Kerry wrote, "A lot of folks took a new hard look at nuclear because it's low-carbon energy, but the safety questions about meltdowns and waste were always part of the discussion." The Globe notes that "in his months-long effort to develop a consensus on energy and climate legislation in the Senate last year, Kerry had embraced nuclear power."

Europe Ponders Nuclear Plans; China, India Will Continue Development. The New York Times (3/15, Dempsey) reports, "Germany and Switzerland said on Monday that they would reassess the safety of their own reactors and possibly reduce their reliance on them." Meanwhile, "across Europe, officials worried about the Continent's use of nuclear power as cooling systems failed at a third nuclear reactor in Japan and officials in that country struggled to regain control." The EU "called for a meeting on Tuesday of nuclear safety authorities and operators to assess Europe's preparedness."

The Christian Science Monitor (3/15, De Pommereau) notes that Chancellor Angela Merkel "suspended a plan to prolong the lifespan of Germany's 17 nuclear power plants, which are among 195 across a continent still haunted by the Chernobyl nuclear disaster 25 years ago. Britain, Switzerland, and Finland also announced reassessments of their nuclear programs."

The New York Times (3/15, Timmons, Bajaj) reports, "Despite Japan's crisis, India and China and some other energy-ravenous countries say they plan to keep using their nuclear power plants and building new ones." The Times adds that "for now, while acknowledging the need for safety," developing economies "say their unmet energy needs give them little choice but to continue investing in nuclear power." For example, in China, "which has the world's most ambitious nuclear expansion plans, a vice minister of environment, Zhang Lijun, said on Saturday that Japan's difficulties would not deter his nation's nuclear rollout."

Poneman Assures Nuclear Will Play Role In Clean Energy Future. CNN (3/15) reports on its website that during a White House press briefing Monday on the developing situation in Japan, "Deputy Energy Secretary Daniel Poneman made clear that nuclear power remains part of US energy policy." Said Poneman, "Seventy percent of the carbon-free electricity in this country comes from nuclear power," adding, "So we do see nuclear power as continuing to play an important role in building a low-carbon future, but be assured that we will take the safety aspect of that as of our paramount concern."

Reuters (3/15, Mason, Gardner) adds that Poneman said during the briefing, "We view nuclear energy as a very important component to the overall portfolio we're trying to build for a clean-energy future," later adding, "We will continue to seek to build nuclear into a part of a responsible energy future."

The Los Angeles Times (3/15, Memoli), Politico (3/15, King), and the Platts (3/15, Sands) website also cover Poneman's comments during Monday's news conference.

Former DHS Official: Be Prepared, Stay Inside During Nuclear Disaster. Former DHS Assistant Secretary Juliette Kayyem writes in the Boston Globe (3/15), "Last summer, the Obama administration began the difficult challenge of making plans to educate citizens about radiation in the event of a nuclear attack, detonation, or release. The advice — stay put, a variation of my elementary school days 'duck and cover' technique — was based on extensive study of radiation fallout; if you are indoors, you would receive a 10th the radiation you'd receive outdoors, fleeing." She adds that "sheltering in place (for any contingency) requires a few minutes to prepare your home with basic essentials, including water and food, and to ensure that your loved ones know where to go in the event that all communications are disrupted."

US Health Departments Unprepared For Radiation Emergencies. Modern Healthcare (3/14, Bar) reported, "State health departments display substantial gaps in preparedness for a major radiation emergency, including acts of terrorism and unintentional releases of radiation," according to survey results published in the journal Disaster Medicine and Public Health Preparedness. The survey responses by "38 state health departments indicated that 45% of states do not do the 'most fundamental step of preparedness,' which is the development of a response plan, other than for nuclear power plant emergencies," according to the article. The survey also found that for some measures, as much as "85% of responding states reported 'insufficient capability to respond to a radiation incident.'"

However, the Buffalo Business First (3/14, Drury) reported that a "Buffalo firm is waiting – and ready – should the government call with a request for help." Cleveland BioLabs Inc. "already holds more than $45 million in contracts with the US Department of Defense and other federal

agencies to develop a countermeasure for exposure to total body irradiation, for which there is currently no FDA-approved countermeasure." The company's "CBLB502 radiation treatment drug," however, is "still going through clinical trials and has not yet received full" FDA approval.

More Commentary. The New York Times (3/15, A34) editorializes, "With the United States poised to expand nuclear power after decades of stagnation, it will be important to reassess safety standards. Some 30 American reactors have designs similar to the crippled reactors in Japan," and while "this page has endorsed nuclear power as one tool to head off global warming. We suspect that, when all the evidence is in from Japan, it will remain a valuable tool. But the public needs to know that it is a safe one."

Under the headline "Nuclear Fails The Test," the Los Angeles Times (3/5) editorializes, "This page takes the threat of climate change very seriously, and would be delighted if a safe, cost-effective way of producing carbon-emissions-free nuclear power were developed. Sadly, we're not there yet." The Times concludes that "there are more cost-effective ways of weaning the country off climate-warming fossil fuels, namely improved energy efficiency and more renewable power. In the cost-benefit analysis, nuclear doesn't add up."

Eugene Robinson writes in the Washington Post (3/15), "I wish this were not so," but "as Japanese engineers struggle frantically to keep calamity from escalating into catastrophe, we cannot ignore the fact that nuclear fission is an inherently and uniquely toxic technology. ... It can happen here."

Anne Applebaum writes in the Washington Post (3/15), "I hope that this will never, ever happen. ... But I also hope that a near-miss prompts people around the world to think twice about the true 'price' of nuclear energy, and that it stops the nuclear renaissance dead in its tracks."

Bill O'Reilly, Fox News' The O'Reilly Factor (3/14), argued, "We are not going to get away from foreign oil unless we get an expansion of nuclear power. The alternative fuels are not going to be ready for decades, on a mass level."

The Weekly Standard's Stephen Hayes, on Fox News' Special Report (3/14, Baier), said, "There is so much we don't know about what is happening inside these nuclear reactors. People are these drawing grand conclusions based on very little information. ... With all of these questions unanswered...it seems highly foolish to me to draw a grand conclusion about the status of the US nuclear system and nuclear energy generally."

California Officials Want San Onofre, Diablo Canyon's Preparedness Examined. KCAL-TV Los Angeles (3/15, 1:07am EDT) broadcast, "Japan's disaster is setting new light on an old debate, our – are nuclear power plants safe?" California lawmakers "urged US Energy Department Blue Ribbon Commission on America's Nuclear Future to hold hearings on the Golden State, warning California is at a critical moment in nuclear history, but a spokesperson said that San Onofre is safe, built to withstand a quake of 7.0 magnitude and the seawall built 30 feet high."

The San Luis Obispo (CA) Tribune (3/15, Sneed) notes that if power were lost at Diablo Canyon, the plant's "diesel generators that can run the pumps. These are maintained and tested on a regular basis, said Kory Raftery, Diablo Canyon spokesman. Diablo Canyon also has several sources of fresh water that can be used to replenish cooling water in the reactors, if it is lost. Using seawater as cooling water is a last resort because it is corrosive to the reactor core." Water from a desalination plant is stored "in pools on a hill behind the plant that could inject water into the reactor using gravity."

On its website, CBS News (3/14, Blackstone) reported on the questions being raised about San Onofre and Diablo Canyon plants in California. "Diablo Canyon is within about 60 miles of the San Andreas Fault and much closer to at least three smaller faults. One of them, the Shoreline, is less than a mile away and was discovered just three years ago." Plant owner PG&E "says it was built to withstand a 7.5 earthquake, and none of the faults in the region are expected to produce anything bigger. However, the Japanese also assumed their nuclear plants would hold up, says Victor Gilinksy, a former member of the Nuclear Regulatory Commission."

Meantime, Rep. Lois Capps, (D-CA) said that in the wake of the "tragic events in Japan, seismic and other safety issues at the Diablo Canyon nuclear power plant must be thoroughly re-examined," according to Dow Jones Newswires (3/15, Sweet).

KEYT-TV Santa Barbara, California (3/14) reported on its website, "A locally-based watchdog group Mothers for Peace strongly doubts the safety report for Diablo Canyon, and says there are many unknown earthquake faults that could cause a quake much stronger than anyone has predicted."

Florida Governor Says State Prepared For Nuclear Accident. The AP (3/15) reports, "Gov. Rick Scott says the state is prepared to meet any catastrophic challenges that might threaten any of the five nuclear reactors housed in Florida." The Governor "asked his emergency management director to review Florida's emergency action plan" in view of the recent earthquake and tsunami in Japan "that has led to possible nuclear meltdowns" in that country.

Japan's Nuclear Crisis Puts Florida Nuclear Reactors Under Spotlight. The Tampa Bay (FL) Online (3/15, Sasso) reports, "Old fears about nuclear energy leapt back to the surface this week, giving a leg up to atomic energy foes in this country and prompting Germany and Switzerland to halt power plants abroad." The paper says

"Progress Energy could have a lot to lose from the public fear," as "the company hopes to build a new nuclear plant in Levy County [FL], just north of its existing Crystal River plant, and it may restart the Crystal River plant as early as next month." The article says opponents "of nuclear energy hope the Japanese crisis opens people's eyes in this country."

Meanwhile, Suzanne Grant, "a spokesperson for Progress Energy, which operates the Crystal River nuclear" facility, said, "Our plant is designed to withstand what we consider to be the worst case scenario for the Florida area," according to CBS affiliate WTSP-TV Tampa Bay (3/14, Glasser). Both on its website and on air, the TV station reported, "The threat of a nuclear meltdown in Japan has some in the US calling for a full review of the nation's 104 nuclear reactors."

Readers' Opinion Sought In Florida Nuclear Power Debate. The Palm Beach (FL) Post (3/15) "The Opinion Zone" blog, in a posting under the headline "No More Nukes For Florida?" writes that "as Japan races to contain tsunami-related damage at four nuclear plants, there's a nuclear power debate looming for Florida." The blog posting is asking readers to take a poll on the website, seeking their response on the nuclear debate as well as Florida Power & Light's proposal for "another two nuclear generators at that Dade facility, known as Turkey Point."

Iowa Nuclear Energy Bill Under Scrutiny Amid Threat Of Japan Nuclear Meltdown. The AP (3/15) reports, "Expanding nuclear power in Iowa came under intensified scrutiny amid the threat of a nuclear meltdown in Japan on Monday, with some lawmakers softening their support and others predicting tough questioning when a utility boss testifies about his plans this week." AP says "legislators are considering bills that would make it easier for energy companies to build new nuclear plants in Iowa." Sen. Matt McCoy, who had earlier supported the bill, "doubts the legislation will move forward this year as the world watches Japan try to stabilize its nuclear reactors after last week's devastating earthquake and tsunami."

Meanwhile, Iowa Republican Lt. Gov Kim Reynolds says the threat of nuclear meltdown in Japan should not prevent the state from going ahead with its proposal to build a second nuclear power plant, writes Reuters (3/15, Henderson).

Entergy: Indian Point Nuclear Plant Could Survive Earthquakes That Strike Northeast. The Mid-Hudson (NY) News (3/14) reported Entergy Corp., which operates "the Indian Point nuclear power plant in Buchanan [NY] said the facility has many layers of protection and could survive the kind of earthquakes that happen occasionally in the northeast." Indian Point spokesman Jerry Nappi said the plant has "many layers of protection," including "concrete walls around key components that are more than six feet thick." Still, a 2008 paper in the Bulletin of the Seismological Society of America raised some concerns. The US Geological Survey noted: "A study by a group of prominent seismologists suggests that a pattern of subtle but active faults makes the risk of earthquakes to the New York City area substantially greater than formerly believed." Reuters (3/15, Nichols) also covers the story.

NRC Says Constantly Fine-Tuning Emergency Preparedness Procedures. WNYC-FM New York (3/14, Swanson) reported on its "WNYC News Blog" that Nuclear Regulatory Commission spokeswoman Diane Screnci said the agency "reexamined the role of preparedness first after the accident in 1979 in Three Mile Island," and has "enhanced our focus on that area since then." Moreover, "the commission said it was constantly fine-tuning its emergency preparedness procedures," the radio station added.

Progress Energy To Re-Evaluate Brunswick Nuclear Reactors In View Of Japan Crisis. On its website and on the air, WNCN-TV Raleigh, North Carolina (3/14, Faye) reported, "In light of Friday's earthquake and tsunami in Japan thousands fear a possible nuclear meltdown." Two of Progress Energy's reactors "on North Carolina's coast were built with the same design as the reactors facing a meltdown in Japan," and the company said it "will reevaluate its safety measures and emergency procedures in Brunswick County." Jeff Lyash, the executive vice president of energy supply at Progress Energy, said the Brunswick plant "could withstand an earthquake, a category 5 hurricane, and 20 to 30 feet of flooding."

On its website and on the air, WRAL-TV Raleigh, North Carolina (3/14) reported, "Lyash says Progress will look for lessons from the Japanese nuclear failures, but he says the company remains committed to nuclear energy."

Progress Energy: Shearon Harris Can Withstand Disasters. On its website and on the air, WTVD-TV Raleigh, North Carolina (3/14, Crisson) reported, "Earthquakes and tsunamis aren't major threats in North Carolina, but there are other threats to the Shearon Harris Nuclear Plant that have some people asking could a major disaster happen here?" The TV station said, "Progress Energy says Shearon Harris is built to withstand acts of nature and manmade disasters," but "some critics aren't so sure." Jim Warren, of the nuclear watchdog group NC Warn, "says he has other safety concerns about Harris." The group "is concerned the plant is considering adding two more reactors to the its site and that Duke Energy is meeting with the state utility commission Tuesday to discuss building another plant south of Charlotte."

Duke Energy: Oconee Nuclear Station Prepared For Any Disaster. On its website and on the air, WYFF-TV Greenville, South Carolina (3/14) reported, "The crisis at nuclear stations in Japan has some people asking: Could it happen in the Upstate?" The report, citing officials at the Oconee Nuclear Station at Lake Keowee, [SC] said "a plan is in place to keep the site safe during an earthquake." Duke Energy spokesperson Addie Bradshaw said: "We have very detailed procedures that tell us when the plant needs to be shut down based on how much ground movement there is and what other situations we are seeing. While certainly it's too soon to draw any conclusions about what happened in Japan, there will be lessons learned from this."

Duke Energy: Charlotte Area Nuclear Plants Prepared For Disasters. On its website and on the air, WCNC-TV Charlotte (3/14, Boudin) reported, "The earthquake, tsunami and resulting explosions at nuclear plants in Japan have local residents concerned about two facilities in the Charlotte area." Nancy Halberson, "who lives just a few miles from Duke Energy's McGuire nuclear station on Lake Norman," said: "We're thinking if anything happens we'll get on a boat and head north." Steve Nesbitt, Duke Energy's director of nuclear policy, said, "Our plants are well designed to withstand all kinds of natural phenomenon, including earthquakes."

Hearing On Duke Energy's Lee Nuclear Plant Set To Begin Tuesday. The Charlotte Business Journal (3/14, Downey) "Power City" blog, reported, "With the world transfixed on the potential of nuclear power plant disaster in Japan, Duke Energy goes to N.C. regulators Tuesday for authorization to spend $267 million more on planning for the proposed Lee Nuclear Station." Peter Bradford, a former member of the NRC, "will be one of the witnesses for Lee opponents at the N.C. Utilities Commission." The Journal said "Japan's problems following the earthquake and tsunami Friday – raising the specter of a nuclear meltdown at three reactors in northeast Japan – is almost certain to figure in his testimony now." The paper warned that "if for no other reason than the growing feeling that the problems in Japan make it more likely that nuclear construction in the US will be delayed or abandoned."

Some Georgians Raise Concerns About Nuclear Plants. WAGA-TV Atlanta (3/14) reported, "Georgia is a major player when it comes to nuclear energy," and Plant Vogtle, Waynesboro, GA, "is about to begin an historic expansion and add two new nuclear power units." However, following the recent nuclear disaster in Japan, "some Georgians are concerned about their safety." The TV station reported that "Georgia Power officials say the company monitors ground motion at all of its power facilities and that motion has never been detected at those plants."

WRBL-TV Columbus, Georgia (3/14, Panko) reported, "A spokesperson for Georgia Power says employees at their nuclear facilities go through extensive training to deal with a disaster like an earthquake." Apart from Plant Vogtle, Georgia has another nuclear facility at Plant Hatch in southeast Georgia. "Both of these facilities are designed, constructed built and operated to withstand a natural disaster like the one in Japan," noted Todd Terrell a spokesperson for Georgia Power.

Official: Alabama Nuclear Plant At Farley Can Withstand 5.0 Earthquake. The Dothan (AL) Eagle (3/14, Griffin) reported, "The likelihood of a catastrophic earthquake, similar to the one which occurred in Japan, happening in Houston County and impacting Farley Nuclear Plant [AL] is so remote the United States Geological Survey doesn't even place a percentage on its probability." The paper pointed out that "a spokesperson for Farley Nuclear Plant said Monday that the plant was built to withstand an earthquake of up to 5.0 on the Richter scale, with the quake occurring at or near the plant itself."

Entergy: Mississippi-Based Grand Gulf Nuclear Plant Ready To Face Any Disaster. On its website and on the air, WAPT-TV Jackson, Mississippi (3/14) reported, "Concerns about a possible nuclear meltdown in Japan have raised new questions about the safety of nuclear power plants here in the US." The report said "the nation's fifth largest nuclear reactor is in Port Gibson [MS]," and "Entergy officials said Monday that the company is prepared for any disaster that may strike the Grand Gulf Nuclear Station." WAPT reporter Erin Kelly "spoke to a physics professor who said the disaster in Japan could make it harder to build nuclear plants in the US." Still, Suzanne Anderson, of Entergy, "said the disaster is something Mississippi can learn from."

Officials At Wolf Creek Nuclear Plant Monitoring Japan Nuclear Crisis. The Lawrence (KS) Journal World (3/14, Rothschild) reported, "Wolf Creek nuclear power plant [KS] officials said Monday that they are watching developments in Japan closely to see whether lessons can be learned from the plant disasters occurring there." Jenny Hageman, spokeswoman for the Wolf Creek plant, said, "We are closely monitoring it as an industry."

Washington State Nuclear Plant Was Not Completed Due To Earthquake Hazard. On its website and on the air, KING-TV Seattle (3/14, Farley)

reported, "Those curvy towers seen from the highway between Olympia and the coast are ghostly reminders of Washington's nuclear power ambitions." The report said the Washington Public Power Supply System nuclear plants number 3 and number 5 "were never completed" after researchers found "the smoking gun in mud banks near the coast line." Brian Atwater, a US Geological Survey geologist, found pete layers had "formed because of the pressure on the Juan De Fuca Plate, part of the ocean floor which is locked to the western coast of Washington, Oregon and Southern British Columbia, Canada." Notably, "about every 300 to 500 years, Atwater said the lock breaks, resulting in an earthquake."

Japan Nuclear Crisis Raises Concerns About Proposed Utah Nuclear Plant. On its website and on the air, KSTU-TV Salt Lake City (3/14) reported, "As Japan's nuclear power plants approach meltdown in the aftermath of the devastating earthquakes and tsunamis, new questions are being raised about the safety of American nuclear power plants." The disaster in Japan "could potentially include a nuclear power plant being proposed near Green River, Utah." Supporters of the "proposed nuclear power plant insist the site is seismically sound," and "tsunamis are not a threat in landlocked Utah, but environmentalists point out other risks."

Safety Of Surry, North Anna Station Plants Emphasized. As major media outlets continue to focus on the nuclear crisis in Japan, local news sources in the United States are looking into whether neighborhoods near nuclear plants could ever be in a similar situation. The Newport News Daily Press (3/15) reports, "Located on the James River across from Williamsburg and other tourist attractions, the Surry Power Station is not likely to be struck by a tsunami." But the reactors there could be vulnerable to "coastal flooding, earthquakes, tornadoes, and terrorist attacks." Dominion's Richard Zuercher said, "We prepare our people to respond to these sort of things." According to Dominion's Jim Norvelle, the reactors at "Surry and North Anna are built to withstand 5.9- to 6.2-magnitude shocks."

According to a report on the website of WCAV-TV Charlottesville (3/15), Zuercher "says the company has many safety procedures in place in the event of a crisis." He added, "We have thought through virtually any scenario that we can think of that could potentially happen at the station, and we have measures in place to address those issues."

The Richmond Times-Dispatch (3/15, Bacque) reports, "Dominion Virginia Power said Monday that it intends to move forward with plans for a third reactor at its North Anna Power Station as the international nuclear energy industry reels from the disaster at the Dai-ichi nuclear plant in Japan." Dominion CEO Thomas Farrell II said, "We're going to continue seeking the combined operating license." The NRC "is reviewing Dominion's application to build and operate North Anna Unit 3, with a decision expected in 2013. Dominion Virginia Power operates four commercial nuclear power reactors in Virginia, two at North Anna in Louisa County and two at Surry Power Station in Surry County."

The WVEC-TV Norfolk (3/15) website reports, "Although it has been a long time since an earthquake happened in Surry, some people are giving it more thought after the natural disasters in Japan." Area resident Keith Bunch said, "I thought about that when I saw that on the news. I'm not moving, I think it's fine. I think it's safe." But Ray Lane "has always been a little worried having the plant as a neighbor" but doesn't plan to move.

An article on the WTVR-TV Richmond (3/15, Covil) website titled "Living & Working Near A Nuclear Plan" reports, "After the earthquake and tsunami in Japan last week, many in the small town of Mineral have paid close attention to what's happened with the damaged nuclear power plant. Most say, it's un-likely to happen here in the commonwealth and they have faith in the safeguards implemented at the facility."

An AP (3/15) notes "There are 104 nuclear power plants operating in the US, including Dominion Power's plant in Surry County." The website of WAVY-TV Norfolk (3/14) and the Free Lance-Star (3/15, Dennen) also report on the local nuclear plants. A separate article by the Fredericksburg Free Lance Star (3/15, Hall) reports on the availability of iodide pills locally.

Millstone Station Safety Discussed. The New London Day (3/15, Daddona) reports, "The Millstone nuclear complex has equipment in place to prevent power loss and partial meltdowns like those occurring at reactors in Japan, plant owner Dominion said Monday." Dominion's Ken Holt said, "This is a very extraordinary situation Japan is in - it's unprecedented. ... We're trying to learn as many lessons as we can about this event." The Ledyard Patch (3/15, Petrone) and WVIT-TV New Haven (3/15, Hanrahan) also published reports covering this story on their websites.

Kewaunee Plant Safety Noted. In Wisconsin, the Milwaukee Journal Sentinel (3/15, Content) reports, "At the Kewaunee Power Station east of Green Bay, plant spokesman Mark Kanz said plant owner Dominion Resources Inc. will review all of its safety systems such as flood barriers, emergency warning systems and safety-related equipment to ensure that 'they are as they should be.'"

WLUK-TV Green Bay (3/15, Jones) reports on its website that Kanz said, "When something occurs within the industry, we all take a look at it and we've gone already today

and taken a look at the number of our different safety systems and we'll re-evaluate everything that we have in place here, to learn lessons from what happened and improve it so we're able to best mitigate it here." WBAY-TV Green Bay (3/14, Matesic), WFRV-TV Green Bay (3/15) and WISN-TV Milwaukee (3/15) are also covering this story on their websites.

Calvert Cliffs Safety Discussed. The AP (3/15) reports, "The ongoing disaster is turning the spotlight on the two nuclear reactors at Calvert Cliffs in Lusby. Calvert Cliffs say the reactors are safe and are designed to withstand any seismic activity." The website of WBAL-TV Baltimore (3/15) adds, "Mark Sullivan said the company's plants are designed to withstand any events indicated by the seismic history of the places where they're located."

An article on the website of WUSA-TV Washington, DC (3/15, McCarren) reports on people that work and live near the Calvert Cliffs Power Plant. Lusby resident Thomas Mitchell said, "It's been here for years. You kind of get used to it. You hope nothing drastic happens." Another Lusby resident, Craig Titus, said, "There's hazards involved with all energy sources. You weigh your options. And frankly, I'm good with it." The website of WRC-TV Washington, DC (3/15) also reported on this story.

An article by Climatewire (3/15, Climatewire) reporting on how the crisis in Japan may impact the "nuclear renaissance" in the United States notes that Constellation Energy has withdrawn "from its planned expansion of the Calvert Cliffs, Md."

FitzPatrick, Nine Mile Point Plants Seen As Safe. In New York, WWNY-TV Watertown (3/15) reports, "Officials with the Nuclear Regulatory Commission and the company that operates two nuclear plants in Oswego County said Monday the plants are safe" despite the fact that "two plants in the county have the same design as the damaged plants in Japan." WWNY adds, "The Nine Mile 1 nuclear plant, operated by Constellation Energy, and the James A. FitzPatrick nuclear plant, operated by Entergy, are both boiling water nuclear reactors with the same 'containment' as the damaged Fukushima 1 and 2 plants in Japan." Constellation's Jill Lyon said, "When we fully understand the facts surrounding the events in Japan, we will take that information and include it in our operating experience."

WSYR-TV Syracuse (3/15) reports Constellation "operates 5 nuclear power plants" and "all of them were built with a worst-case scenario in mind." Lyon told WSYR, "All of constellation energy plants are out of high hazard earthquake zones. ... Each of our plants was specifically designed to withstand a variety of natural emergencies, including earthquakes, storm surge, flooding."

The Palladium-Times (3/14, Rebeor) reports, Lyon stresses that "CENG is dedicated to the safety of its employees, residents and the community." She adds, "Our plants are all outside of the known high-hazard earthquake zones as identified by the U.S. Geological Survey. ... They are designed and constructed ... to withstand ground motion and designed to automatically shut down if certain seismic thresholds are reached."

Safety Of Ginna Plant Noted. On its website WHEC-TV Rochester (3/15, Fioraliso) reports the Ginna Power Plant "produces 50-percent of the power used in our area. And in the wake of the nuclear power plant problems following the earthquake and tsunami in Japan, Constellation Energy wants the public to know that the plant is safe and designed to withstand a natural disaster." In a statement to the station, a spokesman for Ginna says, "We are monitoring the situation in Japan closely. All of [Constellation's] nuclear power plants are outside of known 'high hazard' earthquake zones."

NRC Special Inspection Team To Investigate Incident At Global Nuclear Fuel. On its website, WECT-TV Wilmington, North Carolina (3/14) reported that the NRC "dispatched a Special Inspection Team to Global Nuclear Fuel-Americas, LLC in Wilmington to examine what happened with an event that was reported to them earlier this month." NRC said "Global Nuclear 'failed to maintain required process control over a small quantity of enriched uranium' on March 2nd." During an operation at a grinding station on one of the facility's process lines, an "amount of uranium dioxide beyond the prescribed limits accumulated in a filter in the grinding station." The NRC said its "Special Inspection Team, consisting of three members of the NRC, will start work today to determine the safety implications of the event."

Southern Does Not Expect Delay In Schedule For New Plant Vogtle Reactors. The AP (3/14) reported that Southern Company said Monday "it does not expect delays" in its efforts to break ground on the two new reactors at Plant Vogtle, despite the earthquake and tsunami in Japan that has "focused new attention on nuclear power safety concerns." The AP notes Southern Company and its partners expect the NRC to decide "whether to approve the [Westinghouse] AP1000 for use as early as late summer." Southern spokesman Todd Terrell said, "We do not anticipate that events in Japan will impact our construction schedule or our ability to stay on budget."

Georgia Public Broadcasting (3/15, Brown) notes that while Southern Company wants to "build the first new nuclear reactors the country has seen in three decades," in the wake of the Japanese nuclear crisis, "some activists calling for a closer look. Tom Clements with environmental group Friends

of the Earth says more tests are needed to see whether the design could withstand a cataclysmic event: 'I think it would be prudent on the part of Georgia Power to announce that they're putting their license request before the Nuclear Regulatory Commission in abeyance while we review the safety of the proposed AP1000 reactor,' says Clements."

Luminant Announces Comanche Peak Nuclear Expansion Delay. On its "Barnett Shale" blog, the Fort Worth Star Telegram (3/14, Smith) reported that "Luminant has delayed by two to three years" the time frame for pursuing its Comanche Peak nuclear expansion new reactor project. "Luminant is now projecting that it will put the two new units into commercial operation in the 2021-2022 time frame. It previously had estimated a 2018-2020 time frame to go online." Luminant spokesman Allan Koenig "said the amended time frame results from the NRC's delay of the safety review, as well as 'other commercial considerations.'"

KXXV-TV Waco, Texas (3/14, Gomez) reported on its website that despite "the scare from the possible nuclear meltdown, Dallas-based Luminant Power will be adding two new reactors in the next decade to its Comanche Peak plant in Glen Rose, about 50 miles west of the Interstate 35 split." Luminant spokesperson Ashley Barrie, "says the new reactors will combine to produce enough energy for 1.8 million Texas homes" and noted the "expansion will also add $22 billion in extra revenue. 'It will also add thousands of construction jobs and in addition to those construction jobs, the units will create about 1,000 on site jobs.'"

Texas Reactor Expansion In Limbo. The Houston Chronicle (3/15, Hamilton) reports that the "ongoing nuclear disaster in Japan may signal the death knell for the long-planned addition of two nuclear reactors at the South Texas Project." CPS Energy CEO Doyle Beneby "announced Monday that the utility and NRG Energy, the majority partner in the expansion, have mutually agreed to suspend talks over CPS possibly buying power from the two proposed reactors, which were scheduled to be licensed and begin construction in 2012."

Urenco Considering Expanded New Mexico Enrichment Facility. The AP (3/14) reports that Urenco USA, which wants to build a "$3 billion uranium enrichment plant in New Mexico said it wants to expand the project and insisted the facility poses no danger because it's built to withstand earthquakes and doesn't produce nuclear power." President and CEO Gregory Smith said over the weekend, "Even though Urenco USA is not a nuclear power plant and does not present hazards like those regulated in nuclear power plants, we construct and operate under strict Nuclear Regulatory Commission regulations." According to Smith, Urenco is "considering an expansion of the southwestern New Mexico nuclear enrichment facility based on anticipated demand by customers—particularly those in Asia" – though no final determination has been made.

Suppliers Said To Be Running Out Of KI Stocks. The Wall Street Journal (3/15, Rockoff) reports that some manufacturers are running low of potassium iodide supplies, as Americans take steps to guard against radiation contamination of the thyroid gland. Anbex Inc., a leading supplier, rapidly exhausted its stocks of 14-tablet KI packages and Alan Morris, who heads up the firm said they were receiving about three orders a minute for the $10 packages.

DOE, NRC's Response To FOIA Requests Reviewed By AP. In continuing coverage from Monday's briefing, according to an analysis of federal data by the AP (3/14), "two years into its pledge to improve government transparency, the Obama administration handled fewer requests for federal records from citizens, journalists, companies and others last year even as significantly more people asked for information." The AP review, which included the Department of Energy and Nuclear Regulatory Commission, found that while "people requested information 544,360 times last year under the US Freedom of Information Act from the 35 largest agencies, up nearly 41,000 more than the previous year... the government took action on nearly 12,400 fewer requests." The article did not specify either agencies' response record.

KCStar Urges Better Cleanup Coordination At Bannister. The Kansas City Star (3/15) editorializes that that in order to best protect current workers at the Bannister Federal Complex, "the site needs to be rechecked for beryllium contamination and cleaned to stricter levels, just as has happened at other federal plants around the country. All of this should be accomplished by departments that are collaborating with each other and keeping the public fully informed," which the Star says would be "a positive change...from the past infighting and closed-mouth attitude of some of these agencies, especially the National Nuclear Security Administration."

National Labs' Roles In Nuclear Energy Research Discussed. McClatchy (3/15, Barker) reports that the impact of the unfolding nuclear emergency in Japan "on the Idaho National Laboratory remains uncertain. It also could affect the future of Areva's $3.3 billion uranium enrichment plant near Idaho Falls." The article then details the role that INL has played in nuclear energy research, including research on the melted core of Three Mile Island's reactor, and the test of the Integral Fast Reactor in 1986, which "was designed not only to turn itself off and cool itself

down, but also to burn much of its nuclear waste and create more fuel than it used."

The Knoxville (TN) News Sentinel (3/15, Munger) reports that Oak Ridge National Laboratory nuclear engineer Syd Ball has seen "the anti-nuclear push that followed accidents at Three Mile Island and Chernobyl, and one of the reasons he has stuck around so long is to help design reactors with new and better safety features that, unlike the troubled reactors in Japan, don't require auxiliary power - even in the worst of situations." Regarding any pushback the incident may have against nuclear power, Ball said, "What are you going to do, build more coal plants? Or invade more foreign countries to fix our oil supply?"

Japanese Crisis Prompts Sell Off On Wall Street. The AP (3/15) reports concerns "over the economic impact of the massive earthquake and tsunami in Japan, the world's third-largest economy, led to a broad sell-off in the stock market on Monday." Utilities companies "fell 1.4 percent, the most of any group, as explosions at Japanese nuclear reactors in the wake of the disaster dimmed prospects for the nuclear energy industry. The S&P index, the basis for most US mutual funds, fell 7.89 points, or 0.6 percent, to 1,296.39." The Dow Jones industrial average "lost 51.24, or 0.4 percent, to 11,993.16," while the Nasdaq composite "dipped 14.64, or 0.5 percent, to 2,700.97." Wall Street Journal (3/15, Yesalavich) reports General Electric fell 2.2% to $19.92. The Journal notes GE was the supplier for Fukushima Daiichi reactor No. 1.

House Republicans To Push Cybersecurity Bill. The Financial Times (3/15, Menn) reports House Republicans are committed to passing cybersecurity legislation. Late last year House Speaker John Boehner he tasked Texas Rep. Mac Thornberry with steering legislation through Congress. In an interview, Thornberry told the Times of Boehner, "He is committed to making something happen and he asked me to focus on it. He has been through enough intelligence briefings that he is not willing to let normal jurisdictional standoffs keep this from happening."

Agencies Boost Security On Classified Networks. Steven Aftergood writes on his Secrecy News (3/15) blog that in the wake of the WikiLeaks scandal, Federal agencies "are taking new steps to deter, detect and prevent the unauthorized transfer of information from classified government networks, officials said" at a Senate hearing last week. According to the Defense Department, on the "majority of terminals connected" to SIPRNet, "the capability to write to removable media has now been disabled." Likewise, the intelligence community "plans to increase access control to critical IC information resources," said Corin R. Stone of the Office of the Director of National Intelligence. Technology, she added, "can be used to control usage and limit user capabilities to perform activities such as copying, printing, or exporting data to a device."

INTERNATIONAL NUCLEAR NEWS:

Japan Nears Brink As More Explosions Roil Nuclear Plants. Coverage of the situation in Japan continued to receive saturation coverage from the US media, with front pages devoted to the crisis and the networks devoting a combined 33 minutes and 50 seconds of airtime to the story. The most recent explosion at the Fukushima nuclear plant, together with growing concerns about additional facilities, have added to the sense of urgency. As NBC Nightly News (3/14, lead story, 3:55, Williams) put it, the "crisis has taken yet another turn, and we are covering a full-blown nuclear scare in Japan. ... It's an urgent situation -- the nuclear danger, the desperate human toll that goes on." The CBS Evening News (3/14, lead story, 3:35, Hattan), meanwhile, said that "Japan's nuclear nightmare continues," and ABC World News (3/14, lead story, 5:55, Sawyer) noted that "the Japanese have now called in American nuclear experts and the International Atomic Energy Agency."

The Los Angeles Times (3/15, King, Magnier) recounts that "a hydrogen explosion Tuesday morning destroyed the outer building of a quake-damaged Unit 2 nuclear reactor at the Fukushima No. 1 power plant." The Times adds that "Japan's nuclear crisis had already taken a frightening turn for the worse after officials acknowledged that fuel rods at the Fukushima No. 1 reactor had been exposed to air, heightening the risk of an uncontrolled release of radiation into the environment." The AP (3/15, Talmadge, Yamaguchi) notes that "the latest explosion was heard at 6:10 a.m. Tuesday (2110 GMT Monday), a spokesman for the Nuclear Safety Agency said at a news conference."

The New York Times (3/15, A1, Tabuchi, Bradsher, Wald) reports on its front page, "It was not immediately clear if the blast was caused by the buildup of hydrogen, as occurred at the two other reactors at Daiichi," but "some early reports in the Japanese press suggested the latest explosion amounted to a different and more critical problem than the previous two. ... The new blast came after emergency operations to pump seawater into the same reactor temporarily failed, leaving the nuclear fuel in that reactor dangerously exposed late Monday into early Tuesday morning." USA Today (3/15, Weise), meanwhile, notes that "Japan's chief cabinet secretary, Yukio Edano, said the reactor's inner containment vessel holding nuclear rods is intact, allaying some fears of the risk to the environment and public."

The explosion, says the Los Angeles Times (3/15, Maugh II), was "the most serious development yet in the ongoing crisis at the severely damaged facility." "Japan's nuclear crisis," the Washington Post (3/15, Mufson) reports, "deepened Monday." The Post adds that "the potential size of the area affected by radioactive emissions could be large," and "a state of emergency was declared briefly at another nuclear facility, the Onagawa plant, after elevated radio-activity levels were detected there. Later...authorities blamed the measurement on radioactive material that had drifted from the Fukushima plant."

USA Today (3/15, Vergano) noted the "fears of a fresh, enduring catastrophe of radioactive contamination – a prospect that is particularly alarming in the only nation to be attacked with atomic bombs."

NBC Nightly News (3/14, story 2, 2:45, Williams) interviewed physicist James Acten of the Carnegie Endowment, who said, "If there is substantial core melting, then there is the risk of a large release of radiation into the environment." If that occurred, "the real long-term problem...is in long-term illnesses, particularly cancers." Also reporting on Japan's nuclear woes are the Wall Street Journal (3/15, Hayashi, Dvorak), Washington Times (3/15, Johnson) and Financial Times (3/15, Soble, Nakamoto), among other news outlets.

ABC World News (3/14, story 3, 1:25, Raddatz) reported that "unlike Chernobyl, these Japanese reactors are surrounded by six-foot steel and concrete containment vessels, so even multiple reactor meltdowns would not likely be as bad as Chernobyl." On its front page, the Washington Times (3/15, Waterman) says that "anti-nuclear campaigners have used the Chernobyl reactor...as a rallying point for their all-out opposition to nuclear power and a symbolic warning of its dangers." However, "the nuclear industry's defenders say that modern reactors are built to much more rigorous standards than Chernobyl."

AFP (3/15, Thurston), meanwhile, reports, "California is closely watching the crisis at a Japanese nuclear plant, but officials downplayed the threat that a radioactive cloud blown across the Pacific could pose for the US West Coast." While the NRC said radioactivity "from the quake-hit Fukushima plant...would not be high enough to cause major health problems," other "experts disagreed, notably pointing to the west-east jet stream, but NRC – which was asked by Japan on Monday to send nuclear experts to deal with the crisis – said even the Pacific island state of Hawaii faced little risk."

The Christian Science Monitor (3/15, Grier) asks, "Beyond concerns for people in the immediate area, does this mean that a radioactive cloud is now drifting toward the US mainland? No, it does not. Release of radioactivity from the reactors has been limited so far, according to Japanese authorities. The steel containment vessels remain intact, keeping dangerous materials within."

Obama: "We Will Stand With The People Of Japan." President Obama, the AP (3/15) reports, "said Monday the US will stand by long-time ally Japan as it recovers from last week's earthquake and tsunami and the nuclear crisis that those twin disasters spawned." The President began a speech on education saying "he has offered Japan any assistance the United States can provide as it recovers from the 'multiple disasters.'" AFP (3/15) quotes Obama as saying, "I have said directly to the Prime Minister of Japan (Naoto Kan)...that the United States will continue to offer any assistance we can, as Japan recovers from multiple disasters. ... We will stand with the people of Japan in the difficult days ahead."

The Washington Post (3/15, Mufson, Harlan) reports that "US Ambassador John V. Roos told reporters Monday that Nuclear Regulatory Commission experts are in Japan and have been consulting with their Japanese counterparts." Said Roos, "We are confident that the government of Japan is doing all it can to respond to this serious situation."

Fox News' Special Report (3/14, Rosen) reported, "Officials from the Department of Energy and the Nuclear Regulatory Commission are working onsite with their Japanese counterparts." NRC chairman Gregory Jaczko was shown saying, "In particular, they have asked for additional types of equipment that will help provide water and other resources to ensure that the reactors continue to be cooled." Deputy Energy Secretary Daniel Poneman told reporters, "We also have dispatched subject matter experts, both reactor experts and an expert on emergency response."

Under the headline "US Military Joins In Quake-Relief Effort," the Wall Street Journal (3/15, Dawson) notes the relief work carried out by US Marines stationed in Japan.

Japan's Tokyo Sankei Shimbun (3/14) reported, "The accident at the Fukushima Daiichi Nuclear Power Station will likely affect the United States, which was moving in the direction of promoting nuclear power generation. If a course correction is made to the Clean Energy Strategy of the Obama administration, there will be no avoiding an impact on the nuclear power industry of the United States, which has reinforced its collaborative efforts with Japan." Even though "Japan boasts of the world's highest level of quake-resistance technology, the recent nuclear power accidents" will most "likely shake the industry in the United States, which is strengthening its ties with Japan."

Tokyo Sankei Shimbun (3/14) reported, "Due to an increase in the risk of radiation leaks, the Tokyo Electric Power Company, Inc. [TEPCO] during the night of 12 March began pumping sea water and boric acid into the nuclear reactor vessel of the No. 1 Reactor at the Fukushima Daiichi Nuclear Power Plant in Okumamachi, Fukushima Prefecture,

which was damaged by the massive earthquake that hit Eastern Japan." Since the "sea water and so forth being pumped into the reactor is certain to do damage, the decision was made with the thought in mind that the reactor will in effect be decommissioned." Chief Cabinet Secretary Yukio Edano, "speaking about the sea water that was being pumped into the No. 1 Reactor at the Daiichi Nuclear Plant, stated: 'This decision was taken by TEPCO to prevent possible damage to the reactor vessel and the containment vessel in the future.'"

Tokyo Shimbun: Japan Should Have Anticipated Every Contingency. Under a headline that reads "Nuclear Plant Disaster Shatters Japan's Nuclear Power 'Safety Myth'" Japan's Tokyo Shimbun (3/14) editorialized, "Although the Nuclear and Industrial Safety Agency [NISA] of the Ministry of Economy, Trade and Industry has "provisionally appraised" this latest accident at the Fukushima Daiichi nuclear power plant as a Level 4 incident, there is no predicting what kind of damage will spread from now." Dozens of "residents who fled the town where the Fukushima nuclear power station is located were found to have been exposed to radiation;" the "first time ordinary residents living near a nuclear power plant have been irradiated." The Shimbun adds, "As a greatly earthquake-prone country, Japan should have been ready with various plans to anticipate every contingency."

Japan Faces "Overwhelming" Humanitarian Crisis. ABC World News (3/14, story 6, 2:00, Amanpour) reported that "more than 90 countries are offering aid and assistance but even four days into this disaster, the magnitude is so huge and the desperation overwhelming." The Red Cross "tells us that despite the logistical difficulties the most urgent priority is getting food and water to any who may have survived and after that...the grim task of collecting the bodies."

NBC Nightly News (3/14, story 3, 3:35, Holt) reported that "you get the sense that if it was just the quake, Japan would have quickly gotten back on its feet, but the tsunami seemed to knock it over the edge, over the brink, and now over the last 24 hours, we've seen the sea giving back the dead, those who were cruelly swept out to sea last Friday." Added NBC, "The destruction extends as far as the eye can see – an almost incomprehensible landscape."

Under the headline "Need Overwhelms Japan After Quake and Tsunami," the New York Times (3/15, Fackler, McDonald) paints the picture of "hundreds of bodies...washing up along some shores in northeastern Japan, making clearer the extraordinary toll of the earthquake and tsunami that struck last week and adding to the burdens of relief workers as they ferry aid and search for survivors."

The Washington Post (3/15, Mufson, Harlan) reports that "Japan, a country of paradoxes, seems to be handling its greatest crisis since World War II with decorum, fighting chaos with order." In fact, "there has been virtually no evidence of looting or rising crime levels, and the Japanese have shown stoicism while waiting in long lines. Also on display have been Japan's unrelenting politeness and its love for group consensus."

Broken Containment Vessel Means Reactor Would Have To Be Entombed. In a column from The Nation appearing on NPR's (3/14) website, Christian Parenti wrote, "As day three of this disaster drew to a close, I reached former Nuclear Regulatory Commissioner Peter Bradford by phone at his home in Peru, Vermont." Bradford said "Even now, we still don't know how much radiation was actually released. It was less than was later released at Chernobyl, less than could have been released had the containment vessel failed. But how much was released?" Parenti adds that if the "containment vessel breaks – or is already broken, cracked and leaking due to the earthquake – and if the meltdown keeps going, officials would have to switch from trying to cool the reactor to burying it with [tons] of sand and cement; essentially bombing it with dirt in numerous and very dangerous air sorties by cargo planes and helicopters."

Japan's Nuclear Emergency Seen As Falling Between TMI And Chernobyl. NPR (3/15, Hamilton) compared the Fukushima response and crisis to the two other "benchmarks" nuclear accidents: Three Mile Island and Chernobyl and seemed to agree this one would fall somewhere between them.

Japanese Stocks Plummet. The New York Times (3/15, Wassener) reports that "stock markets plunged in Japan and across the rest of the Asia-Pacific region on Tuesday amid fears of the impact of the nuclear disaster and resulting concerns about radiation exposure." The Times notes that "the Nikkei 225 index, already badly mauled on Monday, plummeted as much as 14.4 percent on Tuesday to its lowest in two years, exacerbating the 6.2 percent slump the previous day."

North Korea Ready To Discuss Uranium Program. AFP (3/15) reports North Korea told Russian Deputy Foreign Minister Alexei Borodavkin during a visit in recent days "that it was willing to discuss its uranium enrichment programme at six-party disarmament talks, state media said Tuesday." In a statement published by Korean Central News Agency, the foreign ministry said Pyongyang is "willing to come to the six-party talks unconditionally" and does not "object to the issue of the uranium enrichment programme" being discussed.

Iran's Revolutionary Guard Launches Cyber Attacks On "Enemies." The AP (3/15, Karimi) reports hackers working for the Iranian Revolutionary Guard's "paramilitary Basij group have launched attacks on websites of the 'enemies,' a state-owned newspaper reported

Monday in a rare acknowledgment from Iran that it's involved in cyber warfare." Gen. Ali Fazli, "acting commander of the Basij, was quoted...as saying Iran's cyber army is made up of university teachers, students and clerics."

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News **6** new results for **Nuclear Regulatory Commission**

Christie administration wants to challenge rule on **nuclear** waste storage
Today's Sunbeam - NJ.com
By Bill Gallo Jr. TRENTON - New Jersey is seeking permission to join a legal action with three other states that challenges a federal **Nuclear Regulatory Commission** rule that extends the time allowed for storing spent fuel at nuclear power plants from **...**
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Calvert Cliffs neighbors able to take some comfort
Washington Post
The **Nuclear Regulatory Commission** also requires plants be built to withstand natural calamities such as tsunamis. Sullivan said the plant plans to deal with "even greater events if warranted." Those plans are reviewed regularly by federal, state, **...**
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Chu Says No Need to Suspend New US **Nuclear** Plant Permits
Bloomberg
The **Nuclear Regulatory Commission** review is long enough that revisions can be made to reflect findings from the examination of failures at Tokyo Electric Power Co.'s Daiichi nuclear station, he said. "If you look at the process in which the **NRC ...**
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Will Japan disaster affect plans for new **nuclear** plant in Pa.?
Allentown Morning Call
It is the only plan for a new nuclear plant in the state, according to the US **Nuclear Regulatory Commission**. The proposed Bell Bend plant, which would sit along the Susquehanna River, across the street from two other nuclear reactors owned by PPL, **...**
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Timing Is Everything
Austin Chronicle
By Nora Ankrum, Fri., March 18, 2011 A week before the earthquake in Japan triggered the world's worst nuclear emergency in 25 years, the nuclear industry had cause for celebration: The US **Nuclear Regulatory Commission** announced March 2 that two **...**
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Bechtel might turn to small, modular **nuclear** plants
San Francisco Chronicle
The first one is scheduled to be deployed in Tennessee in 2020, "depending on regulatory approval and other factors," according to the announcement. The regulatory process, which has barely begun with the **Nuclear Regulatory Commission**, **...**
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NUCLEAR REGULATORY COMMISSION NEWS SUMMARY

WEDNESDAY, MARCH 16, 2011 7:00 AM EDT

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TODAY'S EDITION

NRC NEWS:

Obama Touts NRC's Work, Vows Focus On Nuclear Security At Home. President Obama addressed the crisis in Japan during interviews with local TV stations yesterday. The President's comments, in which he tried to reassure the country about the potential danger from nuclear power, received little attention from major news media outlets, including the network newscasts. In print media, meanwhile, analysts continue to ponder the crisis' impact on the US nuclear industry and the White House's energy policies.

AFP (3/16) notes that Obama "emphasized that the US Nuclear Regulatory Commission 'thinks through all eventualities,'" adding, "I do think it's important for us to think through constantly how can we improve nuclear technologies to deal with additional safety concerns that people have." The AP (3/16) reports that in his local TV interviews, Obama defended "nuclear power as an important source of energy in the US," while warning that "all energy sources have downsides and none are foolproof." Adds the AP, "The president has been doing a series of interviews with local television stations as the White House seeks to get his message beyond the Washington beltway as he prepares to run for re-election in 2012."

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Politico's Matt Negrin and MJ Lee (3/16) report in a blog entry that Obama "granted local reporters...interviews in the Map Room as part of his effort to sell his education agenda. But the earthquake in Japan – and even his NCAA bracket – arose as topics in the interviews."

WVEC-TV Norfolk, Virginia (3/15, 11:05 p.m. EDT) showed Obama telling interviewer Regina Mobley, "I still think nuclear power is an important part of our overall energy mix, but I think, like anything else, we have to do it in a safe and sensible way."

WPCW-TV Pittsburgh, Pennsylvania (3/15, 10:15 p.m. EDT) reported that Obama told anchor Jon Delano, "Our hearts go out to the people of Japan. They are dealing with a triple whammy, the earthquake, tsunami and now this nuclear accident, so we're providing them all the support we can." Obama added, "Each time these kinds of events happen I think it's important for us to examine how we can further improve the safety and performance of these plants."

Under the headline "Obama's Energy Policy Faces Pressure," meanwhile, the Wall Street Journal (3/16, Weisman, Power, 2.09M) reports that the White House is so far resisting proposals by a number of Democrats (including Senate leader Harry Reid, House Minority Whip Steny Hoyer and Rep. Ed Markey) for a review of US nuclear plant safety. White House press secretary Jay Carney said of the Democrats' plans, "He doesn't have to order a review because they're constantly going on." Energy Secretary Steven Chu, meanwhile, appeared before a Hill committee yesterday, and stated that "the United States has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly." Fox News' Special Report (3/15, Baier) showed Chu saying, "We look to what's the maximum size of that particular earthquake that geologists tell could ever happen and we design considerably above that."

USA Today (3/15, Eisler, Schmit, Leinwand, 1.83M) reports, "In the United States, where 104 nuclear power reactors provide about 20% of the nation's electricity, the Japan disaster threatens to undermine a tenuous coalition of industry and environmental groups that support...Obama's push to make nuclear power a significant piece of the nation's long-term push toward energy independence." Moreover, "it...could change the way the government reviews and renews permits for existing plants." NRC officials "have said the commission will review its regulatory posture based on the events in Japan. They have been circumspect, however, about whether or how its rules or approach may change."

Fox News' Special Report (3/15, Baier) reported showed Markey saying, "I think there should be a moratorium on any further permitting for the nuclear power plants in the United States that are in earthquake prone areas." However, according to Fox, Republicans "say there have already been enough delays." Sen. James Inhofe said, "There has been a pause for 15 years now. I think it's time to continue on. ... The majority in here, I think, would agree that we are going to have to have nuclear power."

Sen. Mike Lee, on CNBC's The Kudlow Report (3/15), said, "I intend to stay behind nuclear power as a clean, safe form of electric power generation. Look, we can learn from this, we can improve upon it. And I think they will avert disaster over there. And I think we can learn from what's happening there to make our reactors safer."

Bill O'Reilly, in his opening monologue for Fox News' The O'Reilly Factor (3/15), argued that "the worldwide media is hyping the situation in Japan a bit too much. ... The truth is no one knows how bad this is. However, that doesn't stop the hype," and "all the uncertainty is leading to semi-chaos in the stock markets."

Concerns Raised About GE's Mark 1 Containment System. The New York Times (3/16, A14, Zeller, 1.01M) reports on it the warnings issued "repeatedly" and "as far back as 1972" about the GE Mark 1 design, that if "the cooling systems ever failed," the "primary containment vessel surrounding the reactor would probably burst as the fuel rods inside overheated." With one "Mark 1 containment vessel damaged at the embattled Fukushima Daiichi nuclear plant and other vessels there under severe strain, the weaknesses of the design — developed in the 1960s by General Electric — could be contributing to the unfolding catastrophe." The Times adds the type of "containment vessel and pressure suppression system used in the failing reactors" at the Fukushima Daiichi plant "is physically less robust, and it has long been thought to be more susceptible to failure in an emergency than competing designs."

The Washington Post (3/16, Mufson, Yang, 605K) reports that the crisis in Japan "has spawned new looks at – and revived old debates about – US nuclear plants and how prepared they are for natural or man-made disasters." Because the crisis "started with a loss of grid and generator power, backup electrical systems are being looked at anew." An NRC spokesperson "said all 23 GE boiling water reactors in the United States have satisfied regulators' earlier concerns about the ability to withstand a severe incident," and David Lochbaum of the Union of Concerned Scientists said, "To be fair to General Electric and that design, I don't know of any other designs that would've fared much better," adding the Fukushima plants' biggest problems weren't containment design, but "the loss of power."

The Boston Herald (3/16, McConville, Weir, 123K) NRC Chairman Gregory Jaczko who said at a White House press briefing that the NRC has "a very strong [reactor oversight and approval] program in place," and he added, "As we get more information from Japan, as this immediate crisis ultimately comes to an end, we will look at whatever information we can gain from this event and see if there are

changes we need to make to our system." Indeed, NPR (3/16, Horsley) says Chairman Jaczko "insists the problems at the Fukushima Daiichi reactors have not shaken his confidence. 'Whenever there's any new information, we always make changes, if necessary. But right now we continue to believe that nuclear power plants in this country operate safely and securely.'"

Nuclear industry representatives and government officials in the US are offering assurances that nuclear power is safe, Voice of America (3/16, Bowman) reports, but "industry watchdogs say that simply is not so." Kevin Kamps of Beyond Nuclear said, "Obviously the Japanese, the most prepared for earthquakes and tsunamis than any country in the world, underestimated the potential of a 9.0 earthquake. Obviously there has to be a reappraisal of safety risks," of nuclear power. Meantime, Arjun Makhijani of the Institute for Energy and Environmental Research "wants a thorough re-evaluation of US nuclear power plants in coastal areas and along seismic fault lines."

GE Defends Mark 1 Design. Greenwire (3/15) noted that GE, the "supplier of Japan's now-stricken reactor, defended the design of its product, saying the containment system is safe and reliable." GE dismissed criticism of the design's containment system. "'The BWR Mark 1 reactor is the industry's workhorse with a proven track record of safety and reliability for more than 40 years,' said Michael Tetuan, spokesman for GE Hitachi Nuclear Energy. 'There has never been a breach of a Mark 1 containment system.'"

Lawmakers Ask NRC For Details On Seismic Safety At Nuclear Plants. All Headline News (3/16, Sullivan) says Rep. Ed Markey (D-MA), "who has spent years pushing the Nuclear Regulatory Commission toward stricter enforcement of its safety rules, has called for a reassessment" of nuclear plants that "lie on or near fault lines, and Markey wants to beef up standards for new and existing plants."

Bloomberg News (3/16, Van Loon, Chediak) notes Rep. Markey's call "for a moratorium on permits for reactors in seismically active areas. 'This is going to cause real tremors in the nuclear investment area,' Markey told Peter Cook on Bloomberg Television's 'In the Loop.'" Markey wants "more information on the seismic safety features of US reactors near earthquake-prone zones" and in a letter to the NRC said, "We are concerned that these reactors may not have the features necessary to withstand the sort of catastrophic earthquake and tsunami that has crippled several reactors in Japan."

In a piece appearing on the Noozhawk (3/16) of Santa Barbara, California, Ashley Schapitl, press secretary for Rep. Lois Capps (D-CA), writes that Rep. Capps, "joined colleague Rep. Edward Markey, D-Mass., on Tuesday to call for more information on the seismic safety features that are included in nuclear reactors in operation in the United States." Schapitl said Capps and the other lawmakers sent a letter to NRC Chairman Greg Jaczko "requesting information on the safety-significant structures, systems and components of America's nuclear reactors, including power plants' ability to sustain cooling function during a total station blackout, a situation that is affecting the Japanese reactors in distress."

On its website, Third Age (3/16, Cusimano) notes that while Rep. Markey "called for tougher regulations on US nuclear plants, including requiring more cooling fluids to help shut down reactors if necessary and the distribution of potassium iodide to people who live within a 20-mile radius" of a nuclear plant, "Tony Pietrangelo of the Nuclear Energy Institute insisted that nuclear plants in the US are 'designed to withstand the most severe seismic events or earthquakes, as well as tsunamis where applicable, and flooding.'" Pietrangelo said that in particular, the "West Coast plants are designed to higher standards than the Central and Eastern United States."

AEC Regulator Faulted For Approving Pressure Suppression Containment System. In a post on Huffington Post (3/15), Jim Morris And Aaron Mehta, of the Center For Public Integrity, write, "In the early 1970s, just as a number of reactors were about to be licensed, Stephen Hanauer, a senior member of the Atomic Energy Commission staff, suggested banning 'pressure suppression' methods to contain radiation in the event of a meltdown -- methods built into General Electric's Mark I and Mark II containment designs as well as Westinghouse's ice condenser design." Instead, "regulators ultimately decided that the technology developed by General Electric and Westinghouse was 'firmly embedded in the conventional wisdom.'" The post indicates Joseph Hendrie, then a deputy director with the AEC, made the decision on the pressure suppression technology out of pragmatic concerns rather than for safety reasons, saying Jim Riccio of Greenpeace argued that such rationale is "endemic in the culture of the NRC as it deals with the prevention of low-probability, high-consequence accidents."

Financial Analyst Says Concerns About Disaster Are Overblown. The AP (3/16) reports that in an analysis of the Japanese plant failures and their implications for nuclear power and Entergy Corp. in particular, "Jefferies analyst Debra Bromberg said that concerns stemming from the disaster in Japan are overblown, and that US regulators likely will focus on improving backup systems at US facilities rather than requiring major modifications. The situation in Japan does not 'seem to be terribly significant' for Entergy, Bromberg said."

NRC, DOE Heads To Discuss Japan Nuclear Crisis At Hearing. The Hill's (3/16, Restuccia, Geman) "E2 Wire" blog notes that while NRC Chairman Jaczko "made the rounds on Capitol Hill Monday in an attempt to reassure lawmakers that US nuclear reactors can withstand major natural disasters," Senate Majority Leader Harry Reid (D-

Nev.) "said Tuesday that policymakers must be cautious about nuclear power in light of the disaster in Japan. 'I don't think we should just eliminate the need for nuclear power, but I think it's something we have to look at very calmly and deliberately,' he said." The Hill notes that Chairman Jaczko and Energy Secretary Steven Chu will testify before the House Energy and Commerce Committee. What was originally intended to be a discussion of the NRC and DOE fiscal year 2012 budget plans, will likely become a discussion of the Japanese nuclear crisis.

DOE Secretary Chu Says US Will Learn From Japan, Defends Nuclear Power. The Los Angeles Times (3/16, Muskal, 681K) reports that during testimony Tuesday before a House Appropriations Committee panel that is looking at the Department of Energy's budget requests, Energy Secretary Steven Chu assured that "the United States remains committed to nuclear power...even as Japan sought to contain the nuclear danger at the Fukushima Daiichi plant. ... The secretary, a Nobel Prize winner in physics, reaffirmed the administration's position that the United States will learn from Japan's difficulties but remained committed to safe nuclear power as part of an energy mix." Said Chu, "The American people should have full confidence that the United States has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly," adding, "The administration is committed to learning from Japan's experience as we work to continue to strengthen America's nuclear industry."

The AP (3/16) adds that Secretary Chu said the initial step in responding to the unfolding disaster in Japan "is to help the Japanese government cool down the damaged reactors and to stop the leaking radiation. After the reactors are secure, he said, the next step would be to understand what happened, and then assess whether US reactors have similar vulnerabilities." In response to questions from the panel, "he said that reactors in the US are designed above what would be required to withstand a worst-case earthquake and tsunami."

The Politico (3/16, 25K) "44" blog reports that Chu told the panel, "I still feel that it's probably premature to say anything but to say that we will learn from this," including whether "there is something we have overlooked over in the United States."

In a separate story, the Los Angeles Times (3/16, Hennessey, 681K) reports Chu said of the Administration's commitment to nuclear power, "The administration believes we must rely on a diverse set of energy sources, including renewables like wind and solar, natural gas, clean coal and nuclear power." Regarding "the first wave of four new nuclear projects, just one remains clearly on track – two new reactors at the Vogtle plant near Augusta, Ga., Chu told lawmakers, adding that investors will likely look even harder at whether nuclear plants will be safe." He also pointed out that "all forms of energy do present risks."

According to a story on the CNN (3/16) website, "Members of the House panel expressed a need for caution in moving forward with nuclear power but appeared generally supportive of the administration's stance."

During his testimony, Bloomberg News (3/16, Snyder) reports, Secretary Chu also "said the US doesn't need to suspend work on new nuclear permits while investigating the crisis in Japan," explaining that "the Nuclear Regulatory Commission review is long enough that revisions can be made to reflect findings from the examination of failures at Tokyo Electric Power Co.'s Daiichi nuclear station." Said Chu, "If you look at the process in which the NRC approves going forward with construction projects and nuclear reactors, it's a thoughtful process," adding, "It's a multiyear process and because of its very nature, I think these things can proceed."

Reuters (3/16, Doggett, Mason) adds that Chu said of the NRC review process, "I think we're in good hands."

Chu Says "Essentially No Concern" About Radiation's Effect On US. Secretary Chu also told the panel, AFP (3/16) reports, "that quake-battered Japan's nuclear crisis posed 'essentially no concern' for the health of people in the United States." Said Chu, "I think there's essentially no concern in terms of the health effects on American shores."

In a story discussing why federal officials are so confident that radiation won't reach the US, the Christian Science Monitor (3/16, 48K) reports that Chu told the panel "he was up early Tuesday morning looking at atmospheric models produced by his department to see where radiation might travel."

Chu, Surgeon General At Odds Over Run On Radiation Pills. The CBS Evening News (12/6, lead story, 3:30, Couric, 6.1M) reported that "US officials say it's unlikely dangerous levels of radiation will reach Hawaii or the US mainland." The AP (3/16) similarly says that "there's little chance...that radiation from the shattered reactors could pose a serious threat to the wider world. Experts say the amount of radioactivity emitted by the facility has been relatively minor and should dissipate quickly over the Pacific Ocean." The CBS Evening News (12/6, story 7, 2:05, Couric, 6.1M) went on to report, however, that "there's still a lot of understandable concern" on the West Coast.

ABC World News (3/15, story 5, 2:15, Harris, 8.2M) reported that "across the country...the radiation fears are palpable: There's a run of iodide pills, Geiger counters, and emergency kits on Amazon.com." NBC Nightly News (3/15, story 5, 2:20, Welker, 8.37M) also noted that "the pills used to protect the thyroid from the effects of radiation are in high demand," and "in San Francisco" on Tuesday, "even the US Surgeon General said it's a good idea." Regina Benjamin

was shown saying, "It's definitely appropriate, we have to be prepared."

The Wall Street Journal (3/16, Weisman, Power, 2.09M), meanwhile, notes that appearing before a congressional panel, Energy Secretary Chu commented on the runs on potassium iodine pills, saying, "There's really no concern in terms of the health effects on American shores. ... I think they really shouldn't be doing those things, quite frankly. But it's a free country."

The AP (3/16) reports that "even on the East Coast, some health departments reported increased interest from power-plant neighbors Tuesday: A Pennsylvania hotline that normally gets five to 10 calls a week about storing the pills has fielded 85 such inquiries in the past two days."

McClatchy (3/16, Hotakainen, Schoof) reports that "on Capitol Hill," Rep. Markey "called on the Obama administration to supply all US citizens living within 20 miles of a nuclear plant with emergency pills."

Potassium Iodide Quantities Running Short In US. Greenwire (3/16, Northey) reports, "US manufacturers of potassium iodide pills are reporting 'overwhelming demand' and some temporary shortages, even though federal regulators say radiation from Japan's crippled Fukushima Daiichi nuclear plant is not expected to reach America." Manufacturer Anbex Inc., of Virginia, said its supply was exhausted until April. KI, is "one of three FDA-approved drugs that block human and animal thyroid glands from absorbing excessive amounts of radiation." The "Food and Drug Administration (FDA) issued a final guidance on potassium iodide in 2001 to inform decisions by regulatory agencies, including the NRC and state and local governments, on the safety of the pills." After studying the Chernobyl plant disaster, FDA found that KI "effectively blocks the thyroid from taking up radioiodine."

Conservatives Question Obama's Level Of Engagement. At the opening of Fox News' Glenn Beck (3/15), Glenn Beck listed the various major crises around the world and then asked, "So what is our president doing?" According to Beck, the President "went off to...a Stevie Wonder private concert at the White House, and then he went to play golf the Saturday before last and then this Saturday. And before he went to golf he gave a Saturday radio address" on "women's history." Beck continued, "Has somebody hit this man with a stupid stick or a tranquilizer dart? ... On the radio I said at least he isn't giving predictions for 'March madness' this year. I'm sorry, I have to lead with my mistake. He taped it today for air tomorrow on ESPN."

Sean Hannity, on Fox News' Hannity (3/15), said the President's "response to the situation in Japan is raising some eyebrows. ... On Saturday, hours after the quake struck he went golfing. And later he attended a dinner with members of the...media, and" on Tuesday "spent his afternoon filling out his NCAA brackets for ESPN. Sadly, none of this is a joke."

EPA Poised To Deploy More Electronic Radiation Monitors In Western US, Territories. The San Jose Mercury News (3/16, Rogers) reports that "the US Environmental Protection Agency on Tuesday announced that it will deploy more electronic monitors that measure radiation levels in the air," though agency officials, "refused to answer questions or make staff members available to explain the exact location and number of monitors, or the levels of radiation, if any, being recorded at existing monitors in California. Margot Perez-Sullivan, a spokeswoman at the EPA's regional headquarters in San Francisco, said the agency's written statement would stand on its own." Meantime, critics, including Sierra Club California director Bill Magavern said the public needs more information. "I have a strong suspicion that EPA is being silenced by those in the federal government who don't want anything to stand in the way of a nuclear power expansion in this country, heavily subsidized by taxpayer money."

California Officials Have Not Checked Monitors. The San Jose Mercury News (3/15, Rogers) reports that while the public health threat from the crisis in Japan "probably remains very small" for Californians, that "didn't stop some worried California residents from rushing to buy potassium iodide, which blocks the uptake of radioactive material to thyroid glands." State health officials meantime, "said Monday that they haven't checked radiation monitors around the state for any rise in levels. 'We're not being told there's any reason to check the monitors,' said Michael Sicilia, spokesman for California Department of Public Health. 'We generally pull them once a month. If we're told by the feds we need to test them, we'll test them.'"

California Plants More Vulnerable To Onshore Faults. Greenwire (3/16, Sullivan) reports, "California's coast and its nuclear power plants are unlikely to experience the kind of massive offshore earthquake or sustained tsunami that rocked Japan last week, but more local tsunamis from submarine landslides are possible, according to experts who study West Coast tectonics." Greenwire notes that Diablo Canyon and San Onofre plants "are built to withstand earthquakes of 7.0-7.5 magnitude, and both have tsunami walls that are 25 to 30 feet tall," but both facilities "are more threatened by onshore faults than offshore, with Diablo Canyon especially vulnerable given its proximity to the San Andreas Fault."

Napolitano: US "Constantly" Preparing For Major Disaster. DHS Secretary Janet Napolitano's speech yesterday at a Denver conference on fusion centers was largely overshadowed by her comments on the country's ability to respond to a major disaster similar to the one that continues to take its toll on Japan. Napolitano "said the

United States was already planning a drill based on a hypothetical major earthquake along the New Madrid fault in the central US when the earthquake, tsunami and nuclear-reactor crisis struck Japan," the AP (3/15) reported. She said the US is "constantly practicing, using scenarios that are worst-case scenarios, to make sure we are as prepared and as up-to-date and as ready to go as we can be in any kind of a crisis." She noted that her department works with the Nuclear Regulatory Commission to prepare for a potential crisis at a nuclear reactor. Napolitano also "cited NRC assurances that any fallout from the Japanese reactors would not put the US at risk."

The Denver Post (3/16, Cardona, 364K) reports that "while the focus of the gathering was to discuss sharing intelligence in communities to prevent terrorist attacks, Napolitano answered questions about America's preparedness for a major disaster." Napolitano said that "just as we have learned from Hurricane Katrina and the BP oil spill, I am sure in the aftermath, we will learn something from the tragedy in Japan." However, "Napolitano said the threat Americans need to be most concerned with are homegrown terrorists who are plotting attacks within our borders." She told the audience that "homeland security begins with hometown security, and our national network of fusion centers plays a critical role in improving our collective ability to protect our communities."

Fox News (3/15, Burke) reported on its website that Napolitano said DHS "[practices] with the guidance and participation of the NRC...what would happen if something were to occur to one of the nuclear power plants in the United States." Fox added, "While not a specific response to the crisis in Japan, the planned National Level Exercise in the New Madrid Seismic Zone is timely, as there are several nuclear power plants in the region."

"We constantly think about, prepare, exercise, work with our states, our localities, our utilities and the private sector on thinking about what would occur and exercise to the point of failure," Napolitano told ABC News (3/15, Bingham, Sandell) following the Tuesday conference. She also "sought to quiet fears of radiation drifting from Japan to California shores," noting that "the level of radiation coming out of Japan does not put the United States at risk."

On its website, KMGH-TV Denver (3/15) reported, "US emergency agencies constantly rehearse for a disaster like the one unfolding in Japan, and American first responders will learn from the experience of their Japanese counterparts, [Napolitano] said Tuesday." Meanwhile, the New Madrid drill, "scheduled for May, coincides with the bicentennial of a series of three quakes on the New Madrid fault in 1811-1812, which were estimated to have ranged from 7.5 to 7.7 magnitude – some of the largest ever in the United States."

NRC Delays Issuing Vermont Yankee License Extension. The Boston Globe's (3/16, Daley) "Green Blog" notes that the NRC "put a temporary hold on a 20-year license extension for the controversial Vermont Yankee nuclear power plant." NRC spokesman "Neil Sheehan attributed the delay to the fact that manpower is short while the agency focuses resources on helping Japan deal with the unfolding nuclear crisis triggered by the natural disaster." But plant opponents are calling attention to the fact that Yankee plant is "the same design as the most compromised reactor in Japan," and they urged that the delay "be far longer – until the agency can assure the public the plant is safe." James Moore, of the Vermont Public Interest Research Group said he thought it "prudent to take a step back and say this reactor design is having serious problems in Japan," adding, "The last thing we should do is say it is good to go for another 20 years past its expiration date."

The AP (3/16) reports on NRC's mention that "Yankee's license renewal is still coming, but will be delayed because agency workers are busy with events in Japan." NRC Chairman Gregory Jaczko said Yankee "had satisfied his agency that it was fit to operate for 20 years past the expiration date of its original license next March." The relicensing paperwork had been expected this week, but with "NRC deploying staff members to help with the nuclear emergency in Japan, the NRC now is going to take a bit more time to finish the paperwork."

Decision On New Reactor Fuel May Determine Yankee's Immediate Future. In a commentary from the Bennington (VT) Banner (3/14, 6K), John McClaughry, vice president of the Ethan Allen Institute, "Three months from now, Entergy Nuclear Vermont Yankee will be forced to make a fateful decision: whether to give in to the furious anti-nuclear campaign led for years by Vermont's anti-nuclear new governor, and abandon a safe, reliable, low-cost, nuclear plant that generates about a third of Vermont's electrical consumption." Given the apparent refusal by leaders in the state House and Senate to allow a vote on whether Yankee plant should continue to operate, plant officials have to decide soon whether to order new nuclear fuel for an expected refueling outage sometime around November. Yankee would have to "place its order in June" for new fuel. "What company is going to spend millions of dollars on 18 months' worth of new fuel, when thanks to anti-nuclear politicians the plant would have only three months of operation left?"

On its website, State Column (3/16) reports, "Vermont state law says the Legislature has to approve the plant before regulators can give the plant a new state license," and the "increasingly dire situation in Japan has prompted politicians worldwide to reconsider the risks associated with nuclear power."

Vermont Yankee, Fukushima Plants Are GE Mark 1 BWRs. The Keene (NH) Sentinel (3/16, Jarvis, Eisenstadter, 11K) notes that the "reactor at the Vermont Yankee nuclear power plant is the same design as those damaged by the earthquake and tsunami in Japan, but officials at the Vernon, Vt., plant say that's where the similarities end." Yankee spokesman Larry M. Smith, said the Vermont plant "which has a General Electric Mark 1 boiling water reactor, would safely shut down at or above a 6.2 magnitude earthquake, and the cooling systems would kick in." The plant would continue to operate normally after quake up to 5.5 magnitude. The Fukushima plant reactors appear to have shut down properly following the earthquake, but they couldn't "survive the devastating tsunami that followed."

Reuters (3/16, Dillon) reports that nuclear engineer and critic, Arnold Gundersen said that plants in the US, including Vermont Yankee are vulnerable to the same type of cascade of events that has befallen Japan's Fukushima Daiichi plant facility. Speaking about Yankee plant, Gundersen said "We're not going to have a tsunami in the Connecticut River," but he noted that a offsite power failure combined with a flood could create a scenario in which the pumps that draw cooling water from the river are disabled. "We really need to go back and evaluate what really is the worst case."

Keene Sentinel Questions NRC's Wisdom In Relicensing Vermont Yankee. In an editorial, the Keene (NH) Sentinel (3/16, 11K) says that while it would "inappropriate, or at least premature, to draw safety parallels between Vermont Yankee and the troubled reactors in Japan," it should be "noted that Vermont Yankee is a General Electric boiling water nuclear plant, as is Fukushima Daiichi Unit I, the first of the plants in Japan to lose its cooling power and then explode." The Sentinel adds that as Japan tries "desperately to deal with the dark underside of nuclear power," in this "country, regulators have just renewed the 63rd consecutive license renewal request."

Dominion To Seek License For Third North Anna Reactor Despite Japan Crisis. On its "All Opinions Are Local" blog the Washington Post (3/15, Galuszka, 605K) reports, "Despite Japan's nuclear disaster, Dominion Virginia Power intends to proceed with seeking a license for a third nuclear unit at its North Anna nuclear power station about 70 miles southwest of Washington." Dominion "hasn't decided if it would proceed with a third North Anna unit, but is getting its ducks in a row just in case."

The "Virginia Politics" blog of the Washington Post (3/15, Helderman, 605K) reports, "Virginia Gov. Bob McDonnell said Tuesday that it would be 'foolhardy' to abandon the construction of nuclear reactors in Virginia and elsewhere in the United States because of the unfolding nuclear crisis at earthquake and tsunami-damaged plants in Japan." McDonnell said in an interview that he is "a longtime supporter of nuclear power" and "characterized the problems in Japan as the result of 'historic' and 'cataclysmic' events." The blog also notes, "Dominion Virginia Power has applied to build a third reactor at one of its two plants at North Anna in Louisa; the company has confirmed it will proceed with its application despite the events in Japan."

WWBT-TV Richmond (3/15, Morgan) reports, "Meanwhile people who live near the nuclear power plant said they're not fearful, despite the disaster in Japan." Tara Woods resident Shirley Jones said, "One thing I do think about, and I think that probably everybody that lives in an area around any of those nuclear plants think about, the property values and will this scare people."

The Virginia Gazette (3/16, Langley) reports, "The Surry station earns high safety marks among federal regulators and even among private nuclear watchdogs." Union of Concerned Scientists nuclear safety analyst David Lochbaum "reviewed all public information on 10 reactors for a special report on plant safety" and said, "The Surry plant was the safest plant of the 10 we monitored."

WTKR-TV Norfolk (3/16) reports on its website that the asked Dominion the question "Are we safe?" Dominion's Rick Zuercher responded, "We are safe here. Our nuclear power plants are among the top operators in the industry." He adds, "I don't think that we would see a tsunami, necessarily, at the Surry Power Station, but we could see a surge in a big storm and we evaluated that and fixed the station to be able to withstand that."

In the "Wednesday's Last Word On Tuesday" section of the Virginia Gazette (3/16) a reader wrote, "Most of us are unaware that we are a stone's throw from the Surry Nuclear Power Station. Those of us who live outside the 10-mile radius no longer receive the Surry calendar, which gives information on drills, evacuation policies. In light of the damage to Japan's power plants, this might be a good time to make residents aware of the unlikely but potential danger and state of preparedness."

A blog posting about iodide pills on the Fredericksburg Free Lance Star (3/15, Hall) notes, "The Health Department has a supply of the pills at its local offices and is offering them free to those who live within 10 miles of the North Anna plant." But a blog posting on the Newport News Daily Press (3/15) website says that the NRC's "current position is that iodine pills don't make sense beyond a 10-mile radius."

An article by the IDG News Service (3/16, Vijayan) reports notes that the Surry Power Station is one of at least two plants to participated in the NRC's State of the Art Reactor Consequence Assessment. SOARCA was developed "to better understand how a nuclear reactor would behave in a severe accident, as well as what sort of radioactive release it would cause." The Charlottesville Daily

Progress (3/15, McKenzie) and the Charlottesville-area website The Hook (3/15, Ward) also reported on the North Anna Power Plant.

Despite Crisis In Japan, Top Maryland Officials Express Support For Calvert Cliffs. The "Inside Politics" blog of the Washington Times (3/15, Lengell, 77K) reports, "While Japan holds its collective breath as earthquake-damaged nuclear power plants there teeter on the brink of meltdown, House Minority Whip Steny H. Hoyer said Tuesday he remains a supporter of nuclear power in the US" Hoyer told reporters yesterday, "As one who has a reactor in my community in Calvert County and who is a strong supporter of nuclear power, I share the views that we have to look very carefully at the safe operation of those plants and the security of those plants." He added, "But, you know, what has happened in Japan clearly ought to motivate us to look very carefully at present facilities, including Calvert Cliffs." Dow Jones Newswires (3/15) also reports on Hoyer's statements and notes that Constellation has made financial contributions to his last two political campaigns.

The website of WMAL-AM Washington, DC (3/16) reports, "Brew Barron, CEO of Constellation Energy says residents of Lusby and Calvert County can be confident of the nuclear safety measures at Calvert Cliffs, which has more layers of backup protection systems than the ones in Japan."

On its website WBAL-TV Baltimore (3/16) reports, "A new reactor at Calvert Cliffs in Maryland is part of the plan for the future." On Tuesday, Gov. Martin O'Malley "expressed his support for a new reactor." WBAL notes, "At one time, the Calvert Cliffs III plan was thought to be a model for nuclear power expansion in the US, but then Constellation Energy backed away from the deal with a French partner, leading to a whole new round of uncertainty." WYPR-FM Eastern Shore (3/15) also notes Gov. O'Malley's support for the Calvert Cliffs 3 project.

Constellation's Wallace Says Plants Are Prepared For Natural Disasters. In an interview on CNBC (3/15, 8:55 EST), Michael Wallace, Constellation Energy's chief operating officer and Nuclear Energy Group chairman, said that the company's nuclear plants test against the "very stringent standards" provided by the Nuclear Regulatory Commission on "seismicity, tsunamis, and other natural disasters." Wallace added that these tests, in combination with the design of the plants, gives him "confidence" that their plants will operate "safely against any natural hazard, even when combined with other events." Wallace also said that he doesn't believe that the "appetite" for nuclear plants in the US will go away due to Japan's nuclear crisis.

Kewaunee, Point Beach Can Withstand Disasters, Officials Say. In Wisconsin, the Pierce County Herald (3/16) reports, "Officials say Wisconsin won't have to worry about radiation spilling from its nuclear plants, after a release in Japan in the wake of the tsunami." According to the NRC "the Kewaunee and Point Beach nuclear plants on Wisconsin's eastern shore were made to survive the worst natural disasters on record" and "have pressurized water reactors – while the Japanese units have reactors with boiling water.

According to the Milwaukee Journal Sentinel (3/16, Content, 206K), "The Kewaunee and Point Beach nuclear plants have underground fuel tanks for diesel generators that would kick in if there were a loss of power and cooling systems needed to keep running, plant representatives said Tuesday."

The AP (3/16) adds, "Kewaunee spokesman Mark Kanz says there are lessons to be learned from the tragedy in Japan, so officials are re-evaluating all safety measures they have in place. WLUK-TV says managers of both plants work closely with surrounding communities to make sure everyone is up to date with emergency plans." WISC-TV Madison, WI (3/16) is covering this story on its website. The Green Bay Press-Gazette (3/15, Phelps) notes that the NRC recently renewed Kewaunee's operating license.

Spent Fuel Pool Fire Points To Similar Vulnerabilities In US Plants, Experts Say. Greenwire (3/15, Northey, Mandel) reports on the apparent fire at Fukushima Daiichi Station's Unit 4 spent fuel pool, which "released radiation directly into the air before the fire was brought under control and extinguished, according to the International Atomic Energy Agency (IAEA)." The spent fuel pool is located next to the plant's containment building "and is normally under the roof of an outer building," but the "outer building may have blown off, as the IAEA reported that the pool was open to the atmosphere and that 'Japanese authorities are saying that there is a possibility that the fire was caused by a hydrogen explosion.'" Greenwire adds Natural Resources Defense Council, nuclear physicist, Thomas Cochran thought that "the occurrence of a fire indicates some sort of damage to the pool itself, to have allowed the water level to so quickly fall low enough for the used fuel to overheat."

NRC Using SOARCA Modeling To Gain Better Understanding Of Accidents. On its website, Network World (3/16, Vijayan) reports that the NRC has long been engaged in an effort to "gain a better and more realistic picture of precisely what would happen if a similar accident occurred in this country." Under a "project called State of the Art Reactor Consequence Assessment (SOARCA)," the NRC hopes to "better understand how a nuclear reactor would behave in a severe accident, as well as what sort of

radioactive release it would cause." Network World adds, "What's different with SOARCA, says the NRC, is that it uses modern computing resources and modeling software to generate more accurate and realistic accident simulations" and is able to examine "extremely rare, 'one-in-a-million'-type accidents that could have a significant impact."

Risk Experts Say Costs Of Similar Accident In US Could Be "Unimaginable". Government Executive/National Journal (3/16, Tankersley) reports, "An American nuclear power-plant accident similar to the ongoing disaster in Japan would leave taxpayers on the hook for billions, and perhaps hundreds of billions, of dollars in health and economic damage claims, risk experts estimate." In a 2009 paper warning of excessive taxpayer exposure to the risks of nuclear catastrophe, Geoffrey Heal and Howard Kunreuther assert that the "regulators have not enforced safety standards vigorously enough to fully safeguard against" the significant risks of an accident. Heal is a Columbia University professor, and Kunreuther serves at the Risk Management and Decision Processes Center at the University of Pennsylvania's Wharton School of Business. While acknowledging that the risks and costs of a nuclear accident in the US are "difficult to quantify," Heal and Kunreuther say "the upper-end damage estimates of a full core meltdown are almost 'unimaginable.'"

USA Today: Nuclear Energy Still Viable Alternative. A USA Today (3/16, 1.83M) editorial portrays the "out of control" situation at the Fukushima Dai-Ishi nuclear plant in Japan, noting that the situation there "has to make even strong supporters of nuclear power, including us, wonder just how vulnerable US plants are, and whether building more makes sense." The piece notes that the failures at the "meticulously engineered" plant beg the question of how vulnerable US reactors are, but notes that the US "doesn't have the option to walk away from nuclear power, which supplies almost 9% of the nation's energy and about 20% of its electricity." Moreover, all major systems of electric generation have drawbacks and create pollution. The piece concludes that until clean renewable energy sources are perfected, "the best approach to energy disasters is the same one applied to air crashes: Study the causes carefully, learn from the mistakes, and adopt changes to make the systems as safe as humanly possible."

Speculation Considers Future Of Nuclear Energy. NPR's (3/16) "Talk of the Nation" featured a segment on the Japanese crisis's impact on "the renewed push for nuclear energy" in the United States and other countries. The piece begins with an update on the current situation at the Fukushima plant, including a "spike" in radiation levels. Science correspondent Jon Hamilton addresses speculation about a potential full meltdown and the impact of the weather, and the piece segues into a discussion on what the disaster could mean for the future of nuclear power in the US and elsewhere. Host Neil Conan noted that "administration officials in a briefing at the White House dismissed calls for a freeze on nuclear power," and discusses how the impact on solar and wind energy.

Duke, Progress Energy Remain Steadfast On Plans To Bring Nuclear Plants To North Carolina. On its website, WRAL-TV Raleigh, NC, (3/15), an affiliate of CBS, reported that "despite a nuclear crisis looming in Japan, officials with North Carolina's two largest utilities said they remain focused on bringing new nuclear plants to the state." The TV station said "Duke officials appeared before the North Carolina Utilities Commission on Tuesday requesting approval to spend $459 million in development costs for a two-unit nuclear plant near Gaffney, S.C." Progress Energy, which is in the process of completing a merger with Duke, "has plans to build two reactors at the Shearon Harris nuclear site in Wake County."

North Carolina Nuclear Bill Faces Delay Due To Japan Crisis. The Charlotte Business Journal (3/16, Downey) reports, "N.C. legislators had planned to introduce a bill this week making it easier for utilities to recover financing costs for nuclear plants during construction, but they delayed the filing because the still-unfolding nuclear accident in Japan." Duke Energy Chief Executive Jim Rogers Tuesday told the N.C. Utilities Commission: "They were going to introduce (the legislation) this week," but "the decision was made that this would not be the best week to do it, but it will be done before the end of the session."

Entergy Offers Assistance To Japanese Nuclear Industry. The Mississippi Business Journal (3/15) reports, "Entergy Corporation reports its nuclear employees are closely monitoring the situation in Japan in coordination with the US Nuclear Regulatory Commission, the Nuclear Energy Institute (NEI), the Institute of Nuclear Power Operations and industry peers." Notably, Entergy says "it has offered its support and assistance to the Japanese nuclear industry."

Progress Energy Delays Restart Of Crystal River Nuclear Plant. The Tampa Bay Business Journal (3/16) reports, "Progress Energy Florida will delay the planned April restart of the Crystal River Nuclear Plant, which has been shut down since September 2009." The company said in a statement that "there's an indication of additional damage at the plant."

Dow Jones Newswires (3/16, Malik) reports the reactor is encased in a concrete structure, with steel tendons embedded in it. But some portions of the concrete structure may have separated, hence the need for more repairs. The company originally wanted to reopen the plant in April, but it is now uncertain when the repairs will be completed, the Journal adds.

Millstone Plant To Review Emergency Procedures. In Connecticut, the website of WFSB-TV New Haven (3/15) reports, "After the recent nuclear emergency in Japan following a devastating earthquake and tsunami, emergency plans at Dominion Power's Millstone Nuclear Power Plant in Waterford are being reviewed." Dominion's Ken Holt said, "(Millstone) is designed to withstand earthquakes, tornadoes and flooding. We have been watching the events in Japan very closely, trying to learn what we can. As lessons are learned, as lessons come out, we will apply them to our own systems and make any improvements we need to make." WWBT-TV Richmond, VA (3/15, 11:05 p.m. EST), WTKR-TV Norfolk (3/15, 11:05 p.m. EST), WVEC-TV Norfolk (3/15, 12:10 p.m. EST) and WRIC-TV Richmond (3/15, 12:05 p.m. EST) aired segments on the local nuclear plants.

NRC Holding Hearings In Texas. The Victoria (TX) Advocate (3/16) reports the NRC today and tomorrow will conduct "Atomic Safety and Licensing Board Hearing on Exelon's Early Site Permit" in Victoria. "The sessions will be open to the public, but only authorized representatives for the groups taking part in the hearings will be involved in the proceedings."

New Jersey Joining Lawsuit Against New Spent Fuel Rules. The AP (3/15) reports that New Jersey may join a Federal lawsuit that lets "nuclear plants to keep their used fuel onsite for up to 60 years after the reactor is shut down, up from 30 years." According to the New Jersey Department of Environmental Protection, "the decision is not related to the Japanese earthquake and resulting nuclear emergency." A NJDEP spokesperson, however, said that that Wednesday was the filing date to join the lawsuit and the state had been studying whether to join the lawsuit "long before the crises." Bob Martin, NJDEP commissioner, "said the state is concerned about the potential impact of the waste storage on New Jersey's environment."

Bloomberg (3/16, Schoenberg) adds that New Jersey joined the suit because it believed NRC "failed to consider health and safety risks" of the extension. New Jersey, and the other suitors – New York, Vermont, and Connecticut – "claim the government didn't produce an environmental impact statement before changing the standard." In an email, Martin contended, "The federal government has an obligation to develop a permanent plan for nuclear waste storage, and cannot avoid an answer by extending the time that radioactive waste is allowed to remain on sites in New Jersey and across the nation." A DOJ spokeswoman, Nana Efua Embil, didn't return a call for comment.

Dow Jones Newswire (3/16, Malik) quotes NJDEP spokesman Lawrence Ragonse, who says that the 60-year storage limit is "too long." David McIntyre, a NRC spokesman, countered that the agency's "waste confidence rule" is misunderstood and that it disallows permitted storage of waste.

NRC Safety Exemption For Indian Point Upheld By Federal Judge. The AP (3/16) reports that US District Judge Loretta Preska upheld a NRC exemption that allowed Indian Point's operator, Entergy, to use materials that protect critical electrical wires with a range of only 27 to 48 minutes. The industry standard is one hour. Preska ruled that NRC did not come to exemption arbitrarily. One plaintiff, former New York Assemblyman Richard Brodsky, said the ruling illustrates continued a failure by courts to scrutinize the NRC.

Energy Northwest Set To Shut Down Columbia Station For Refueling, Maintenance. The Tri-City (WA) Herald (3/15, Cary) reported "Energy Northwest is planning the longest refueling outage in the history of its nuclear power plant starting April 6," which means "temporary work for about 600" local workers and "more than 1,000 workers who will be coming to the Tri-Cities for short-term jobs." The "outage workers don't spend as much as leisure travelers, but the [Tri-Cities Visitor and Convention Center] estimates that they still will spend $8.5 million to $11 million here, including money on lodging, meals and gas." Most workers who are not from the area will will likely lodge in hotels or R.V. parks. "For the past decade, Energy Northwest has shut down the Columbia Generating Station every other year to add fresh fuel, do maintenance and make improvements that are difficult or impossible when the plant is generating nuclear power."

Columbia Operators Confident Plant Is Prepared For Disaster Like What Happened In Japan. The AP (3/16) reports briefly that an Energy Northwest spokesman said Columbia Generating Station "operators are confident the Hanford plant is prepared for a disaster. Spokesman Mike Paoli told KVEW it has multiple backup systems to cool the core during a power failure. He says the plant was built to withstand a magnitude 6.9 quake within 12 miles."

Traversing Iowa, Barbour Discusses Nuclear Power. The Quad-City Times (3/16, Tibbetts, 53K) reports

that during a speech in Davenport last night, Barbour said "that there's a lot to learn from what's happening to Japan's nuclear plants in the wake of the earthquake and tsunami there, but the US still needs to boost its reliance on nuclear power." The Governor also "accused the Obama administration of ignoring the need to boost domestic energy production," and "said the White House is hurting the economy by boosting government spending and crowding out private investment."

Politico (3/16, Hunt, 25K) notes Barbour's comments on nuclear power, then adds that in his Davenport speech, Barbour "said Republicans have to win the presidency in 2012 because America is worse off now than it was during Watergate and at the height of the Vietnam War. 'Until about two years ago, there was an expression, a statement that I had never heard made,' Barbour said. 'However every day, every week for the last year and half I've heard, 'I'm concerned my children and grandchildren are not going to inherit the same country that I inherited.' I never heard that in the depths of Watergate, at the height of Vietnam, in Ronald Reagan's administration, Bill Clinton's administration.'"

Obama Stresses Importance Of Nuclear Research Labs. On its website, KOAT-TV Albuquerque (3/16) reports, "In an exclusive one-on-one interview, President Barack Obama told Action 7 News that the country needs to ensure the safety of nuclear facilities, including Sandia National Laboratories and the Los Alamos National Laboratory." Obama added that "the focus in America is on our plants and the labs that conduct vital nuclear research after the nuclear events in Japan over the last week." Said Obama, "One of the things that 'it' reminds us of is that the safety and the constant monitoring and oversight that we're providing to our nuclear facilities here in the United States has to be maintained."

Oak Ridge Emergency Response Team Prepared To Help. Tennessee's Oak Ridger (3/16, Huotari) reports that the Radiation Emergency Assistance Center/Training Site, or REAC/TS, a team of 13 full-time staff managed for DOE by Oak Ridge Associated Universities, "trained to respond to radiation emergencies is ready to travel overseas within six hours if Japanese officials ask for help as they struggle to control nuclear power plants damaged by Friday's devastating earthquake and tsunami." REAC/TS director Albert Wiley said that "if deployed, the REAC/TS staff would be sent overseas by the National Nuclear Security Administration...primarily in response to requests from the Japanese government." The team "could include a physician, health physicists, and nurse paramedic armed with radiation detector equipment and emergency medical supplies, including DTPA, which is used to treat people who are internally contaminated with actinides such as plutonium, and Prussian blue, used to treat cesium isotope contamination."

White House Intellectual Property Official Calls For Tougher Penalties. Politico (3/16, Martinez, 25K) reports Victoria Espinel, "the White House's top intellectual property official," wants "stiffer prison sentences for those found guilty of crimes such as selling counterfeit goods for military or law enforcement use, and she also wants illegal streaming of online content to be made a felony level crime when appropriate." The recommendations "were among a set of 20 suggestions" Espinel "made to Congress on Tuesday." Espinel "called on lawmakers to pass legislation requiring tougher sentences for organized crime groups and gangs that deal in counterfeit goods or commit other IP crimes, as well as for repeat offenders."

IN THE BLOGS:

TSA Cites "Calculation Error" In Body Scanner Radiation Tests. Wired (3/15, Kravets, 743K) reports the TSA "is re-analyzing the radiation levels of X-ray body scanners installed in airports nationwide, after testing produced dramatically higher-than-expected results." The agency said Tuesday that the machines "machines meet all safety standards and would remain in operation despite a 'calculation error' in safety studies. The flawed results showed radiation levels 10 times higher than expected."

INTERNATIONAL NUCLEAR NEWS:

Fire At Japanese Reactor Adds To Fears Of Nuclear Catastrophe. The nuclear crisis in Japan continued to receive saturation coverage on US media outlets last night and this morning, with 31 minutes and 40 seconds of combined airtime on the network newscasts and front-page stories in major dailies. Major news outlets focused on the risk of a major nuclear disaster in Japan, while downplaying fears of the ensuing radiation reaching the US West coast.

"Japan's nuclear crisis verged toward catastrophe," says the New York Times (3/15, A1, Tabuchi, Sanger, Bradsher, 1.01M) on its front page, "after an explosion damaged the vessel containing the nuclear core at one reactor and a fire at another spewed large amounts of radioactive material into the air, according to statements from Japanese government and industry officials." The AP (3/16, Talmadge, Yuasa), meanwhile, reports that "a fire broke out at a nuclear reactor again Wednesday, a day after the power plant emitted a burst of radiation that panicked an already

edgy Japan and left the government struggling to contain a spiraling crisis."

The Los Angeles Times (3/16, Williams, 681K) notes that "authorities" also said that "about 70% of another reactor's fuel rods had been damaged by the spate of accidents and breakdowns since Friday's earthquake and tsunami." This "ominous disclosure...compounded a sense of escalating hazards and fear."

"Japan's nuclear emergency grew more dire" Tuesday, reports the Washington Post (3/15, Mufson, Harlan, 605K). ABC World News (3/15, story 2, 1:50, Raddatz, 8.2M) asked, "How bad could it get? The big fear is nuclear meltdown. Meaning the reactor core gets so hot, it turns into a radioactive molten mass, breaks through the containment vessel, spewing radioactivity through the air, ground and water." Joe Cirincione, a nuclear expert, told ABC, "This is way past Three Mile Island and we are heading into Chernobyl territory." On the CBS Evening News (12/6, story 2, 2:45, Couric, 6.1M), however, James Acton of the Nuclear Policy Program said, "I think is important to emphasize is that the possibility of a catastrophic release of radiation equivalent to Chernobyl is still very low."

On NBC Nightly News (3/15, story 4, 2:20, Williams, 8.37M) reported, Princeton physicist Professor Frank von Hippel said of the situation in Japan, "It could potentially approach a Chernobyl-type situation. I think the releases from the reactors probably won't approach that scale. Chernobyl was all basically blown out in the atmosphere. Here it's basically, I would say, 99% of it is perhaps been absorbed in the water, in the basements of these reactors."

ABC World News (3/15, lead story, 4:15, Muir, 8.2M) reported that "for the first time, 750 workers at the Fukushima plant were told to leave to seek safe shelter. Only about 50 now remain. They are the last line of defense, willing to stay and continue what so far has been a difficult mission. ... Nuclear experts tell us those workers are likely wearing full body suits with air packs rotating in and out, resting in some sort of armored control room or safe room. Bravery beyond measure." ABC World News (3/15, story 4, 3:35, Sawyer, 8.2M) also reported, "We now have 3,500 confirmed dead...in the disaster area in Japan. And at least 7,400 reported still missing. That undoubtedly will rise."

NBC Nightly News (3/15, lead story, 3:25, Bazell, 8.37M) said that "the nuclear danger here remains ominous," though "Japan's Prime Minister Naoto Kan urged calm and said there was no evidence the amount of radiation released so far threatened anyone outside the evacuation zone. The one bit of encouraging news from the government, the radiation levels have been dropping in recent hours." The Wall Street Journal (3/16, Hayashi, Morse, 2.09M), USA Today (3/16, Vergano, 1.83M) and Financial Times (3/16, Soble, Nakamoto, 448K) run similar pieces on the latest developments.

Bloomberg News (3/16, Srivastava, Narayan) reports that S.K. Malhotra, a scientist at India's Department of Atomic Energy in Mumbai, said that "averting a full-scale meltdown – which scientists say isn't likely – depends on cooling the uranium-containing rods at Fukushima Dai-Ichi's Reactor No. 2," and that "a worst-case outcome may occur if overheating in the reactor culminates in the rupture of the steel lining protecting radioactive material."

USA Today (3/16, Macleod, 1.83M) reports from Ishinomaki, "In the beleaguered town, where almost 40,000 evacuees take refuge, food is scarce, just one rice ball a day, but not the social discipline and courtesies of regular Japanese life. City Hall has transformed into a processing zone for survivors, who pore quietly, and often sadly, over regular registration updates from the 106 separate emergency shelters citywide."

The Washington Post (3/16, Harlan, 605K) reports from Tokyo, "With Japan in the throes of a three-pronged disaster, foreigners began fleeing the country in larger numbers Tuesday, as millions of people endured another frigid night with little food, water or heat." China "announced it was organizing an evacuation of its citizens from northeastern Japan," while the US "urged Americans to avoid travel to Japan, Austria moved its embassy from Tokyo to Osaka, and Lufthansa diverted its two daily Tokyo-bound flights to other Japanese cities." The Washington Times (3/16, Johnson, 77K) also remarks on the "quiet exodus from Tokyo" that "began on Tuesday after another explosion and a fire at a nuclear-power plant in Fukushima sent radiation levels above normal in the capital and in other prefectures in the north and east of Japan."

ISIS Says Fukushima Plant Emergency Has Risen To Level 6 Event. Kyodo News (3/16) says the situation at "the quake-hit Fukushima No. 1 nuclear plant in northeastern Japan 'has worsened considerably,' the Institute for Science and International Security said in a statement released Tuesday." After "fresh explosions" and a fire in a spent fuel pool storing spent nuclear fuel rods, ISIS said, "This accident can no longer be viewed as a level 4 on the International Nuclear and Radiological Events scale that ranks events from 1 to 7." It said "the ongoing crisis is 'now closer to a level 6, and it may unfortunately reach a level 7' – a worst case scenario with extensive health and environmental consequences."

Warnings About Reactor Design Reportedly Ignored. The New York Times (3/16, Zeller, 1.01M) reports, "The warnings were stark and issued repeatedly as far back as 1972: If the cooling systems ever failed at a 'Mark 1' nuclear reactor, the primary containment vessel surrounding the reactor would probably burst as the fuel rods inside

overheated. ... Now, with one Mark 1 containment vessel damaged at the embattled Fukushima Daiichi nuclear plant and other vessels there under severe strain, the weaknesses of the design – developed in the 1960s by General Electric – could be contributing to the unfolding catastrophe."

More Soldiers Exposed To Radiation As US Military Steps Up Relief Efforts. The CBS Evening News (12/6, story 3, 1:20, Couric, 6.1M) reported that in Japan, "rescue and relief workers have no choice but to work outside in the elements," and "more members of the US Navy were exposed to radiation while delivering supplies." CBS (Martin) added, "What started as a humanitarian relief operation has become hazardous duty for the US military."

The AP (3/16) also reports that "more US military crews were exposed to radiation Tuesday as the Pentagon ramped up relief flights over a Japan reeling from an earthquake, tsunami and nuclear crisis." DOD "said the Navy started giving anti-radiation pills to some of those exposed, and Americans on two military bases south of Tokyo were advised to stay indoors as much as possible." The Wall Street Journal (3/16, Hodge, 2.09M) also reports the story under the headline "US Military Steps Up Quake Relief Efforts."

NBC Nightly News (3/15, story 7, 1:55, Williams, 8.37M) reported, "US plans for a massive relief operation have...been overshadowed by Japan's escalating nuclear crisis." Marine Corps Lt. Col. Michael Coletta was shown saying, "I know they're looking at several different options. Something a little bit closer but not too close to obviously what's going on with the reactor plants."

DOE Sends Team, Equipment To Assist With Response. In its coverage of the threat of radiation exposure to members of the US military and other relief workers, the AP (3/15) reports that Secretary Chu said the DOE "has assembled a team of 34 people and sent 7,200 pounds of equipment to Japan to help monitor and assess the situation with the nuclear reactors."

In its "E2 Wire" blog, The Hill (3/16, Geman, 21K) reports that Chu told the House panel that "officials sent to Japan include a nuclear engineer who speaks Japanese and an emergency response representative deployed as part of the US Agency for International Development Disaster Assistance Response Team." Chu said, "We are positioning Consequence Management Response Teams at US consulates and military installations in Japan. These teams have the skills, expertise and equipment to help assess, survey, monitor and sample areas. They include smaller groups that could be sent out to gather technical information in the area," adding, "We have sent our Aerial Measuring System capability, including detectors and analytical equipment used to provide assessments of contamination on the ground."

Reuters (3/16, Doggett) reports that during his testimony Tuesday, Chu said that the equipment was scheduled to arrive in two hours.

Competitive Enterprise Institute VP Critical Of Chu's Response. Iain Murray, a Vice President at the Competitive Enterprise Institute, writes in an opinion piece appearing on the FOX News (3/16) website, says that the unfolding crisis in Japan "should be a time for the country's most important physicist, Energy Secretary Steven Chu, to step up to the plate and explain to Americans why he is not worried. Instead, the Secretary is missing in action." After citing Chu's academic credentials and his Nobel honor, Murray adds that "Secretary Chu has shown no willingness to tackle public fears regarding the crisis in Japan, beyond a few words of boilerplate at a House hearing on the Energy Department budget on Tuesday morning."

Damage To Japan From Recent Disasters "Close To $200 Billion." The CBS Evening News (12/6, story 4, 2:45, Couric, 6.1M) reported, "Offers of aid have been pouring into Japan from around the world. One hundred and sixteen governments and organizations have pledged their support with more than $59 million in overall donations." However, "some estimates of the damage in Japan are close to $200 billion."

Crisis In Japan Threatens Global Economy. The CBS Evening News (12/6, story 6, 0:25, Couric, 6.1M) reported, "The economic fallout from this crisis continues. In the past two days, Japanese stocks have lost 16% of their value and on Wall Street today the Dow fell nearly 300 points before recovering most of that, ending with a loss of 137 points or just over 1%. Oil also fell sharply, down $4 to close at about $97 a barrel." NBC Nightly News (3/15, story 9, 0:30, Williams, 8.37M) also reported that in Japan, "the nuclear fears spread to the trading floor. At one point the market was down a staggering 14% of all its value, closed down 10% in the end. It's down 16% in just two open trading days."

Fox News' Special Report (3/15, Baier) noted that Japan "has been the second largest lender to the US. Now it will be spending more money at home and presumably lending less. So credit markets could tighten, and the US may face higher interest rates on its insatiable appetite for borrowed money."

The AP (3/16, Kinetz) reports, "Japan's earthquake and nuclear crisis have put pressure on the already fragile global economy, squeezed supplies of goods from computer chips to auto parts and raised fears of higher interest rates." However, adds the AP, "the damage to the US and world economies is expected to be relatively moderate and short-lived. Oil prices are falling, helping drivers around the world. And the reconstruction expected along Japan's northeastern coast could even provide a jolt of economic growth."

McClatchy (3/16, Hall), meanwhile, reports that "most experts think Japan's production problems will be short-lived, but not without economic dislocations felt around the globe." Chief US Chamber of Commerce economist Martin Regalia said, "Natural disasters tend to cause short-term displacements that tend to reverse." The Wall Street Journal (3/16, Barta, Takahashi, Davis, 2.09M) runs a similar story under the headline "Japan Adds To Global Economy Woes."

The Los Angeles Times (3/16, Petruno, Popper, 681K) reports that "amid the turmoil in global financial markets, hiding out at home has been a decent strategy for US investors." In fact, "in recent days, while most major stock markets around the world have been battered in the aftermath of Japan's devastating earthquake and tsunami, US stocks have held up surprisingly well." AFP (3/16) says that "panic selling hit the US stock market Tuesday as traders worried that a nuclear meltdown in quake-hit Japan could threaten the global economy," but the AP (3/16) that the Dow "recovered somewhat later in the day," though it "still closed down 138 points, or more than 1 percent."

The New York Times (3/16, Bowley, 1.01M) runs a similar story under the headline "World Markets Dive As Investors Retreat To Safety." The Financial Times (3/16, Milne, Blas, 448K) also reports the story.

Germany Shuts Down Seven Plants; Switzerland, Austria To Reassess Security. The Washington Post (3/16, Richburg, 605K) reports that "the crisis in Japan has revived anti-nuclear passions around the world, putting governments on the defensive and undermining the nuclear power industry's recent renaissance as the clean energy of the future." The Post adds that "in the most dramatic move, German Chancellor Angela Merkel announced Tuesday that all seven of the country's nuclear power plants built before 1980 would be shut down, at least for now, as safety checks are conducted." Switzerland, "with five reactors, announced Monday that it would freeze plans to build or replace nuclear power plants, and Austria called for new stress tests on plants across Europe."

The New York Times (3/16, Dempsey, 1.01M) notes that Germany's move "came as European energy ministers in Brussels considered the introduction of stress tests in order to see how the bloc's 143 nuclear plants would react in emergencies. Construction procedures too might be reassessed, according to Olivier Bailly, a spokesman for the European Union Commission."

More Commentary. Harold Meyerson, in his column for the Washington Post (3/16, 605K), writes, "What the systemic failures...in Japan should teach us is that the need for active, disinterested governmental regulation is rooted not in any radical impulse, as the American right continually contends, but in a sober, conservative assessment of the human capacity for mistake and self-delusion, not to mention avarice and chicanery."

Holman Jenkins, in his column for the Wall Street Journal (3/16, 2.09M), makes the case that the media has been overly fixated on the potential of a nuclear disaster in Japan, and, consequently, has failed to emphasize that the overwhelming majority of the loss of life so far is attributable to immediate damage from the quake and tsunami.

NNSA Deploys Team To Track Radiation Risk To US. The National Journal (3/16, Brownstein, 12K) reports that the National Nuclear Security Administration "has deployed a team of stateside supercomputer experts to gauge the radiation risks posed by the nuclear crisis in Japan." The NNSA, "which is regarded as the chief responder to any radiological incident within the United States," said Monday that "they have activated the National Atmospheric Release Advisory Center -- staffed by computer scientists, nuclear scientists and meteorologists -- to provide US authorities with real-time estimates on the spread of radioactive materials in the atmosphere." Stanley C. Ahalt director of the Renaissance Computing Institute said, "NNSA has probably the world's premier set of codes that are capable of doing advanced simulations on all things nuclear."

Japanese MOX Fuel Poses Extra Risk. The Augusta (GA) Chronicle (3/16, Pavey) reports, "Scientists warned this week of yet another wrinkle to Japan's evolving nuclear crisis: one of the doomed reactors is loaded with mixed-oxide fuel that contains plutonium." Arjun Makhijani, a nuclear scientist and president of the Institute for Energy and Environmental Research, explained, "This sort of plutonium fuel is more difficult to control than uranium fuel." The article explains that the fuel in question was made by AREVA, which is "also part of Shaw AREVA MOX Services—the group building the National Nuclear Security Administration's $4.86 billion MOX plant at Savannah River Site." However, "the facility at Savannah River Site is designed to use weapons grade plutonium from dismantled nuclear warheads to make fuels usable in commercial nuclear power reactors," compared with a mix of uranium and plutonium reprocessed from spent uranium used by Japanese reactors.

Japan Disaster Likely To Thwart Efforts To Build New UK Nuclear Plants. Selina Williams writes at the Wall Street Journal (3/16, 2.09M) "The Source" blog that nuclear energy companies in the UK have been silent in the wake of the Japan disaster, and the lingering impressions from the accident have yet to be seen. However, Williams notes that public sentiment is likely to blunt recent attitudes of openness to the construction of new nuclear plants in Great Britain. Williams suggests that political efforts

to garner support for more nuclear power in the UK are likely to be stymied.

Many Chinese Nuclear Plants In Seismic Hot Zones. The Wall Street Journal (3/16, A15, Areddy, Spegele, 2.09M) reports seismic activity in China, coupled with that nation's reputation for safety issues and government obfuscation raise concerns about nuclear power there. Officials in China have vowed to learn from Japan's misfortune and defend the local nuclear power industry as being inherently safer, but the 25 plants in construction and 13 in operation there raise concerns.

EU To Conduct "Stress Tests" On Nuclear Plants. The Wall Street Journal (3/16, A15, Torello, Norman, 2.09M) reports that the Japanese crisis has prompted EU nuclear safety officials to promise extensive testing on European nuclear plants in the near future. The piece quotes EU energy chief Guenther Oettinger, "There is general agreement...on the carrying out of common stress tests on the basis of common, strict standards."

Germany Shuts Down All Plants Built Before 1980 For Safety Tests. Bloomberg News (3/16, Czuczka, Comfort) reports that according to Chancellor Angela Merkel, "Germany will halt nuclear reactors accounting for 25 percent of its atomic energy capacity as part of a safety review after explosions at reactors in Japan." Bloomberg notes that the seven plants will be kept offline through June. "Germany, which relies on reactors for 23 percent of its power, is the first European country to take such measures after" the Japanese crisis. "German electricity, a European benchmark, rose on the outlook for lower supply while European Union carbon dioxide permits gained as utilities may burn more fossil fuels to meet demand."

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Divided FERC Says 'Negawatts' Equal Megawatts

BY JEFF BEATTIE

Over lawsuit threats from merchant generators and a strong dissent from Commissioner Philip Moeller, the Federal Energy Regulatory Commission approved a final rule Tuesday that will compel U.S. grid operators when power prices are high to ensure that power customers are paid the same amount for cutting a megawatt as a generator would get for providing one.

Approved 4-1, the rule requires the nation's organized power markets to pay power customers full locational marginal prices (LMP)—in other words the same prices generators are fetching for producing a megawatt—for cutting demand by a megawatt at times when the grid is strained.

The rule contains an important new requirement, however: That grid operators on a monthly basis identify market conditions when the new

(Continued on p. 4)

Japanese Nuke Crisis Deepens With Explosion, Spent Fuel Fire, Releases

BY GEORGE LOBSENZ

Japan's nuclear crisis went into a sickening downward spiral Tuesday, with Japanese officials telling the International Atomic Energy Agency that an explosion may have damaged the primary reactor containment vessel of Unit No. 2 at the runaway Fukushima Daiichi nuclear power plant complex, and that a fire in the spent fuel storage facility for the plant's Unit 4 had resulted in radioactivity being released directly into the atmosphere.

Meanwhile, congressional Democrats Tuesday raised questions about whether U.S. reactors were capable of withstanding earthquakes of the magnitude that devastated core cooling capability at the Japanese reactors. They said 35 reactors are located in seismically active zones in California and the Midwest.

The lawmakers also questioned whether the U.S. Nuclear Regulatory Commission has tough enough rules in place to ensure that U.S. reactors have adequate backup power supplies to operate cooling water pumps if an earthquake were to knock out grid power to a nuclear plant—the nightmare scenario that has become reality at the Daiichi nuclear complex in northeast

(Continued on p. 3)

GOP Escalates Attacks On EPA Climate Regulations

BY CHRIS HOLLY

In an escalation of GOP attacks on the Environmental Protection Agency's climate change rules, Senate Republican Leader Mitch McConnell Tuesday introduced an amendment to small business legislation pending on the Senate floor that would strip EPA of its Clean Air Act authority to regulate greenhouse gases.

McConnell's amendment came as the House Energy and Commerce Committee debated amendments to identical legislation introduced March 3 by committee Chairman Fred Upton (R-Mich.). At press time the Republican-controlled House committee appeared poised to approve Upton's bill, likely on a party-line vote.

The Republican legislation would mandate that carbon dioxide, the main greenhouse gas, is not a "pollutant" as defined by the Clean Air Act; repeal the agency's science-based finding that greenhouse gases endanger public health and welfare; prevent EPA and the state of California from setting new greenhouse gas emissions limits for post-model year 2016 motor vehicles; and void an EPA regulation requiring major greenhouse gas emitters to report their emissions to the agency annually.

The measure also would prevent the agency from issuing regulations, announced by EPA in January, to impose Clean Air Act "new source performance standards" for greenhouse gas emissions from power plants and oil refineries.

While Upton's bill is certain to clear the GOP-controlled House, the fate of EPA's regulations lies in the Senate, where nearly two dozen Democratic seats are to be contested in the 2012 election and at least half a dozen Democrats are viewed as highly vulnerable to Republican challengers.

McConnell's amendment is the first of what in all likelihood will be many attempts by Senate Republicans to force Democrats to vote on whether to up-

(Continued on p. 2)

CCC/198

NARUC Establishes Pipeline Safety Panel

Amid anticipated congressional action this year to reauthorize federal pipeline safety regulations and programs, the National Association of Regulatory Utility Commissioners Tuesday announced the creation of a new task force on pipeline safety.

The announcement follows a succession of gas pipeline failures in recent months, including the September 9 San Bruno incident in which eight people were killed after a distribution pipeline owned by Pacific Gas & Electric Co. ruptured and burst into flames.

NARUC said Arkansas Public Service Commission Chair Colette Honorable will lead the association's new pipeline safety panel. NARUC said Honorable will be joined by four other NARUC members representing four of the association's regions, including: NARUC Gas Committee Chair Timothy Simon of California (West); Commissioner John Coleman of Pennsylvania (Mid-Atlantic); Commissioner Paul Roberti of Rhode Island (New England); and Commissioner Swain Whitfield of South Carolina (Southeast).

Honorable represents the Mid-America Regulatory Conference region of NARUC.

Honorable said in a statement the panel will support the association's ongoing work on pipeline safety, including the NARUC Staff Subcommittee on Pipeline Safety, headed by New Hampshire Public Utilities Commission Safety Division Director Randy Knepper.

The association said while the panel's charter will "evolve," it initially will "analyze pipeline safety issues, discuss best practices, and lead the association's advocacy before Congress and the federal agencies."

On January 31, Sens. Jay Rockefeller (D-W.Va.), chairman of the Senate Commerce, Science and Transportation Committee, and Frank Lautenberg (D-N.J.), chairman of that panel's Subcommittee on Surface Transportation, re-introduced legislation reauthorizing federal pipeline safety regulations and programs managed by the Pipeline and Hazardous Materials Safety Administration, the Transportation Department's pipeline safety agency, through fiscal year 2014. The programs expired September 30.

GOP Escalates Attacks On EPA Regulations... *(Continued from p. 1)*

hold the EPA regulations. With many states still struggling with crippling job losses and declining tax revenues, Republicans will attack the EPA rules as job-killers that will crash the nation's slow recovery from the economic recession by raising prices on gasoline and other energy commodities.

"Imposing a backdoor national energy tax through the EPA is a strange way to respond to rising gas prices," McConnell said, laying out the Republican line of attack. "Fourteen million Americans are looking for work. Gas prices are approaching $4 per gallon. And the Obama administration wants unelected and unaccountable bureaucrats to impose new regulations that will destroy even more jobs—and drive gas prices even higher."

Sources on and off Capitol Hill said Tuesday McConnell's amendment likely won't face a vote during debate on the small business bill, predicting that Senate Majority Leader Harry Reid (D-Nev.) would soon file a procedural motion to end debate on the legislation. If the motion fails, Reid likely would pull the bill from the floor, but if it succeeds, all amendments that have not been approved—including McConnell's—would be dropped from further consideration.

Nevertheless, McConnell and other Republicans are likely to bring up the legislation again and again as Reid brings other bills to the floor. That means vulnerable Democrats, such as Sens. Claire McCaskill (Mo.), Ben Nelson (Neb.) and Sherrod Brown (Ohio), eventually may have to vote on whether to allow the EPA rules to stand.

"Republicans will have so many bites at this apple that one way or another Democrats are going to have to suck it up and vote on it," a veteran energy lobbyist said Tuesday.

If the legislation clears Congress, the White House has already signaled that President Obama would veto the measure, setting up a Republican attempt to override the veto.

During the House committee debate on Upton's legislation, Republicans easily dispatched three Democratic amendments that would have added affirmations of the scientific research that led EPA to issue its regulations.

One amendment by Rep. Henry Waxman (Calif.), the panel's senior Democrat, would have inserted language to the bill stating that Congress accepts EPA's scientific finding that the warming of the global climate system is "unequivocal." Waxman's amendment was defeated by a party-line vote of 30-21.

A second amendment, by Rep. Diane DeGette (D-Colo.), would have added language acknowledging that the global warming observed to date was due to human activities. That amendment also failed by a vote of 30-21.

An amendment by Rep. Jay Inslee (D-Wash.) would have added language stating that Congress accepts EPA's findings that global warming endangers the public health of current and future generations of Americans. Inslee's amendment was defeated by a vote of 31-21.

A clearly frustrated Waxman, the principal author of greenhouse gas cap-and-trade legislation that cleared the House in 2009 but died in the Senate, said that Upton's bill would ignore years of peer-reviewed research by thousands of prominent U.S. and foreign scientists.

"This is science denial," Waxman said. "It's not worthy of this committee."

Rep. Joe Barton (R-Texas), however, dismissed EPA's findings as "pseudo-science," while other Republicans argued that EPA's regulations would have little effect on global temperatures while imposing severe costs on the U.S economy.

"I defy you to show me a scientist that will say the EPA regulations will solve the problem," Rep. Brian Bilbray (R-Calif.) said. "I am frustrated by those who deny the problem, but I am also tired of those who refuse to acknowledge what it will take to solve the problem."

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Japanese Nuke Crisis Deepens With Explosion... (Continued from p. 1)

Japan, where the news kept getting worse Tuesday.

While plant operator Tokyo Electric Power Co. (TEPCO) struggled to keep cooling water flowing to the plant's Units 1, 2 and 3 to prevent a catastrophic fuel meltdown, Japanese authorities acknowledged that alarmingly high radioactivity levels had been measured around the plant Tuesday, indicating that there already been significant releases from melting of the fuel left uncovered by low water levels in the reactor.

TEPCO evacuated most of its personnel at the plant after radiation levels above 400 millisieverts per hour were measured between Units 3 and 4 at the plant—hundreds of times higher than the 2.4 millisieverts absorbed by the average person in a year from natural radiation sources, such as cosmic rays and radon gas from soil.

The International Atomic Energy Agency (IAEA) called the 400 millisievert reading "a high dose-level value," but added that it was "a local value at a single location and at a certain point in time." Later Tuesday, the agency noted that much lower radioactivity levels—11.9 millisieverts and 0.6 millisieverts—had been measured subsequently at the main gate of the plant.

Much of the radiation released from the plant appears to be blowing out to sea due to easterly winds, but Japanese authorities also disclosed that elevated radiation levels also had been detected near Tokyo, 170 miles to the south of the Daiichi plant.

Meanwhile, in one of several ominous developments at the Daiichi complex, the IAEA expressed concern that a hydrogen explosion that occurred late Monday at Unit 2 may have damaged its primary containment vessel—the thick shell of steel and concrete that surrounds the reactor and provides the last line of defense against heavy radioactive releases from melting fuel.

"After explosions at both Units 1 and 3, the primary containment vessels of both units are reported to be intact," the IAEA said Tuesday. "However, the explosion that occurred... [early Tuesday Japan time] at the Fukushima Daiichi Unit 2 may have affected the integrity of its primary containment vessel."

All three explosions occurred due to the accumulation of hydrogen gas inside the reactors' secondary containment buildings. The hydrogen gas was generated by the reaction of zirconium cladding on the fuel rods with steam created as cooling water boiled away inside the stricken reactors. Plant operators have vented hydrogen from the reactors to the secondary containment buildings to ease pressure levels inside the reactors, but that led to hydrogen explosions that destroyed the secondary containment buildings, apparently resulting in some releases.

However, Japanese authorities said that the explosion within Unit 2 also may have caused internal damage, including to the torus, a donut-shaped water reservoir located under the reactor that is needed to help with core cooling.

Meanwhile, another grave problem was disclosed by TEPCO and Japanese officials Tuesday when they revealed that the spent fuel storage pool for Daiichi Unit 4 had caught on fire. It was not clear whether the fire was due to overheating of fuel caused by falling cooling water levels in the facility or whether it was caused by a hydrogen explosion. Documents distributed by the U.S. Nuclear Energy Institute Tuesday indicate the fire was caused by an oil leak in a cooling water pump.

"Japanese authorities... [Tuesday] informed the IAEA... that the spent fuel storage pond at the Unit 4 reactor of the Fukushima Daiichi nuclear power plant is on fire and radioactivity is being released directly into the atmosphere," the Paris-based agency said.

The IAEA said it was informed that TEPCO had managed to put out the fire within two hours, but the agency did not characterize the severity of the direct releases from the spent fuel pool.

"The IAEA is seeking clarification on the nature and consequences of the fire," the agency said Tuesday.

While some of the older spent fuel in the storage facility is cooler than fuel in operating reactors, certain radioisotopes in older fuel can be more dangerous to humans, such as when plutonium-241 in spent fuel decays over time to americium-241, which emits more gamma radiation.

Further, there are reports that reprocessed plutonium-uranium—or mixed oxide—fuel was being used at some Daiichi reactors; MOX fuel is hotter than conventional uranium fuel and contains a number of additional radionuclides of concern.

News reports said the spent fuel facility that burned was relatively full, making it harder to cool and posing the threat of large releases if it cannot be kept under control and a big conflagration breaks out.

The dire Japanese crisis had worldwide ripples, with televised pictures of plant explosions and mass evacuations of people living within 20 miles of the Daiichi complex fueling public anxieties over nuclear safety in numerous other countries. Germany and Switzerland were among those promising sweeping reviews of their facilities.

Meanwhile, Reps. Edward Markey (D-Mass.), a leading nuclear power opponent, and Lois Capps (D-Calif.) Tuesday sent a letter to Nuclear Regulatory Commission Chairman Greg Jaczko raising concerns about whether U.S. reactors could withstand potential earthquake damage similar to that which devastated the Japanese reactors.

The lawmakers said there are eight U.S. reactors located on the seismically active West Coast, and 27 located near the New Madrid fault line in the Midwest. They said 12 of the reactors in those seismically active areas are of the same design as the damaged Daiichi reactors—General Electric's Mark 1 or Mark 2 boiling water reactors, which some experts have suggested have less robust containment systems than other types of existing reactors.

Markey said an analysis by his staff also found that the San Onofre and Diablo Canyon reactors in California were designed to withstand 7.0 and 7.5 magnitude earthquakes, respectively, less than the 9.0 earthquake that rocked Japan, although in line with current understanding of seismic risks in California.

The lawmakers also questioned whether NRC has adequate requirements in place for emergency backup generators at nuclear plants to ensure they could continue to run cooling water pumps if they lost offsite power due to an earthquake or widespread blackout.

Markey and Capps said U.S. reactors only have 4 to 8 hours of backup battery power, which they noted was not enough for the Daiichi plants affected by the Japanese earthquake and tsunami.

The accident at the Daiichi complex comes only four years after Japan suffered a similar but much less severe nuclear scare when a July 2007 earthquake knocked TEPCO's Kashiwaza-Kariwa reactor complex off line and caused a fire in a transformer needed to access grid power. The fire was put out after several hours, and Japanese officials downplayed the safety threat after the incident.

BP Expands Biofuels Business in Brazil

In what the global oil giant said was its alternative energy segment's largest investment yet, BP plc last week announced an agreement to acquire majority control of Companhia Nacional de Acucar e Alcool, an ethanol and sugar producer in Brazil, for $680 million

BP said the deal, under which BP also agreed to finance 100 percent of Companhia Nacional de Acucar e Alcool's (CNAA) existing long-term debt, will give BP an 83-percent stake in CNAA, Brazil's National Sugarcane and Alcohol Co.

A statement on CNAA's website says the company is controlled by the Sugarcane and Alcohol Investment and Participation Fund, which is made up of investment funds from Goldman Sachs, Discovery Capital, Global Foods, The Carlyle Group and others.

Once its deal with CNAA is finalized, BP will become the operator of two producing ethanol mills owned by CNAA located in the states of Goias and Minas Gerais as well as a third mill currently under development in Minas Gerais state. Combined, the plants are expected to produce more than 4 million barrels of ethanol per year. The plants are also slated to supply roughly 340 gigawatt-hours of electricity per year to Brazil's power grid.

Divided FERC Says 'Negawatts' Equal Megawatts... (Cont'd from p. 1)

compensation system would impose net costs—rather than benefits—on customers. Under those conditions, demand response would not have to be paid at the same level as generators.

FERC says the rule will drive down power prices—by effectively introducing a new class of competition to generators in the supply of products to balance U.S. power markets—while reducing emissions and providing other societal benefits.

Currently, regional transmission organizations (RTO) and independent system operators (ISO) treat demand response in different ways and pay widely varying prices for the cuts in consumption.

Tuesday's final rule was a strong priority for FERC Chairman Jon Wellinghoff—a strong demand response advocate—even as FERC received criticism on a draft version of the rule issued one year ago.

There have been clear signs—even before the release Tuesday of a strong dissent from Commissioner Moeller—that the commission was divided on how demand response should be paid.

The rule was scheduled for discussion at FERC's Feb. 17 monthly meeting, but was struck from the agenda hours before that meeting began.

Generators and many economists said a megawatt of production is not economically equal to a so-called "negawatt" of reduced demand.

Alongside many other reasons, they say reduced demand slows economic activity and does not contribute to system reliability to the extent that added supply does.

Some critics add that FERC's rule also permits customers to "double-count" by getting full LMP payment for shedding load in addition to reaping the savings of not having to buy the megawatts in the first place.

In a partial concession to those criticisms, the final version released Tuesday contains an important new provision: That RTOs and ISOs must pay full LMP for demand response only if they conclude that the benefits of doing so exceed the cost to wholesale power customers.

To decide that, the rule orders RTOs and ISOs to determine, on a monthly basis, the break-even LMP price above which LMP payments to demand response providers would produce "net benefits" to wholesale power customers.

That provision is based on the idea that demand response is most effective at lowering prices when the market is strained and power prices are high.

Under FERC's rule, demand response offered onto the market when the prevailing LMP price is below the threshold level would not have to be compensated at full LMP.

Merchant generators, however, say they hate the rule even with the addition of the new benefits test, and strongly suggested they might sue FERC over it.

The net benefits test "does nothing to mollify our overall concern with the underlying premise of the rule," said Dan Dolan, a spokesman for the Electric Power Supply Association (EPSA), which represents merchant generators. Dolan said the rule might have the short-term effect of reducing wholesale prices but over time could reduce incentives for new power plants and create system reliability problems.

In a press release, EPSA President John Shelk said "payment to demand response providers at the full clearing price set by supply resources is simply a double payment subsidy and is likely to have troubling consequences for electricity markets.

"EPSA raised numerous procedural, legal and economic objections to FERC's proposed rule in extensive comments. Because these concerns do not appear to have been addressed, we preserve our rights to request rehearing of the rule as well as review in the courts," Shelk said.

In a lengthy and critical dissent, Commissioner Philip Moeller echoed some of the same complaints.

Moeller called the rule "a preferential compensation scheme that conflicts both with the commission's efforts to promote competitive markets and with its statutory mandate to ensure" just, reasonable and non-discriminatory rates.

Moeller blasted the net benefits test as "nothing more than a fig leaf that provides little protection against the long-term potential for unintended market damage.

"The characteristics of a megawatt and a 'negawatt' are different, both in terms of physics and in economic impact," Moeller said.

The clear winners from Tuesday's rule are large power customers, who now have more assurance of higher payments if they decided to cut demand at time of high usage. Also on the right side of the new rule are demand response aggregators like Boston-based EnerNoc Inc., who collate demand reductions on behalf of large power-customer clients.

Officials representing the nation's largest power customers called FERC's new rule "a long overdue fix for one of the more egregious design flaws in the so-called 'organized markets.'"

"Generators have long fought efforts to realize the potential of demand response, because they knew it would almost assuredly reduce their profits while lowering consumers' electric bills," said John Anderson, president The Electricity Consumers Resource Council.

"Now those generators will face some serious degree of competition."

NUCLEAR REGULATORY COMMISSION NEWS CLIPS

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US Must Learn From Japan Nuclear Crisis: Obama (AFP)

AFP, March 16, 2011

WASHINGTON (AFP) – President Barack Obama said Tuesday he was "deeply worried" about the potential human cost of quake-hit Japan's nuclear crisis and vowed to "further improve" the safety of US atomic facilities.

"Nuclear plants are designed to withstand certain levels of earthquakes, but having said that, nothing's completely failsafe, nothing is completely foolproof," he said in an interview with a CBS television station in Pennsylvania.

"So each time these kinds of events happen, I think it's very important for us to examine how we can further improve the safety and performance of these plants," said the president.

But he emphasized that the US Nuclear Regulatory Commission "thinks through all eventualities" as part of its oversight of US atomic power and noted "all energy sources have their downside" -- citing the catastrophic Gulf of Mexico oil spill of 2010.

"I do think it's important for us to think through constantly how can we improve nuclear technologies to deal with additional safety concerns that people have," he said.

The US government has thus far rebuffed relatively muted calls for a nuclear moratorium amid the crisis at Japan's Fukushima power plant, which has suffered explosions and a fire in the wake of Friday's devastating earthquake and tsunami.

Obama said he was not worried that any radiation seeping out the plant might reach US shores, but emphasized: "I'm deeply worried about radiation effects in Japan."

"Our hearts go out to the people of Japan. They are dealing with a triple whammy -- the earthquake, the tsunami, and now this nuclear accident. So we're providing them all the support that we can. We want to make sure that they know that we have their backs and are one of our closest allies and closest friends."

"There are some dangers for radiation release that could affect the immediate vicinity of nuclear plants and potentially could drift over other parts of Japan," he told KDKA.

"But I've been assured that it -- any nuclear release dissipates by the time it gets even to Hawaii, much less the mainland of the United States," he said.

Obama Defends Nuclear Power Amid Japan Crisis (AP)

Associated Press, March 16, 2011

WASHINGTON – President Barack Obama is defending nuclear power as an important source of energy in the US, even as new questions are raised about its safety following radiation leaks from an earthquake and tsunami-damaged nuclear plant in Japan.

In interviews Monday with Pittsburgh television station KDKA and Albuquerque's KOAT, Obama said nuclear facilities in the US are closely monitored and are designed to withstand certain levels of earthquakes.

"I've already instructed our nuclear regulatory agency to make sure that we take lessons learned from what's happened in Japan and that we are constantly upgrading how we approach our nuclear safety in this country," the president said on KOAT.

However, Obama said that all energy sources have downsides and none are foolproof. He said the US learned that last summer during the massive oil spill in the Gulf of Mexico.

Obama says he has been assured that Hawaii and the US West Coast will not be affected by radiation released from the damaged plant in Japan.

The president has been doing a series of interviews with local television stations as the White House seeks to get his message beyond the Washington beltway as he prepares to run for re-election in 2012.

Obama Seeks 'Lessons' On Energy (POLITCO)

By Matt Negrin

Politico, March 16, 2011

President Obama said Tuesday that he's asked the country's nuclear regulatory agency to identify "lessons learned" from the earthquake in Japan that has prompted a crisis among its reactors.

Obama told an Albuquerque news station, in an interview at the White House, that he asked the agency to see that "we are constantly upgrading how we approach our nuclear safety in our country."

In another interview, with a Pittsburgh station, Obama said flatly that he's not worried about radiation reaching US soil from Japan.

He also stood by plans to generate nuclear energy in the United States. "Nuclear plants are designed to withstand certain levels of earthquakes, but having said that, nothing's completely failsafe," he said. "Nothing's completely foolproof. And so each time these kinds of events happen, I think it's very important for us to examine how we can further improve the safety and performance of these plants."

Obama granted local reporters three interviews in the Map Room as part of his effort to sell his education agenda. But the earthquake in Japan — and even his NCAA bracket – arose as topics in the interviews.

Obama's Energy Policy Faces Pressure (WSJ)

White House Resists Calls From Democrats for a Review of Nuclear-Plant Safety; Official Cites Rigorous Regulations

By Jonathan Weisman And Stephen Power

Wall Street Journal, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Japan's Nuke Threat 'A Wake-up Call' For The US (USAT)

By Peter Eisler, Julie Schmit, And Donna Leinwand

USA Today, March 15, 2011

In the world of nuclear power, it turns out the "worst-case scenario" wasn't bad enough.

The concept of the worst case underpins everything from the way reactors are designed to the way emergency response plans are crafted. Now it's being redefined in the scramble to avert massive radiation releases from crippled reactors in Japan. When the radioactive steam and smoke have cleared, engineers, regulators and policymakers in the United States and across the globe will have a new reference point in the debate over how to build and operate nuclear power plants — or whether to have them at all.

"This was a wake-up call for anyone who believed that, after 50 years of nuclear power in this world, we have figured it out and can go back to business as usual," said Mark Hibbs, a senior associate at the Carnegie Endowment's Nuclear Policy Program. In countries worldwide that have nuclear power plants or plan to build them, "There is definitely going to be a reassessment."

Already, the threat of partial meltdowns of uranium fuel rods in three Japanese reactors have forced engineers to try new, unproven tactics to prevent a runaway atomic reaction that could bring horrific environmental, economic and public health consequences. As a result, regulators in the USA and abroad have acknowledged that their safety protocols and emergency response plans will have to be revisited based on what is learned from the event.

In the United States, where 104 nuclear power reactors provide about 20% of the nation's electricity, the Japan disaster threatens to undermine a tenuous coalition of industry and environmental groups that support President Obama's push to make nuclear power a significant piece of the nation's long-term push toward energy independence. It also could change the way the government reviews and renews permits for existing plants.

One early test will be whether federal officials approve plans by Southern Co. to build a $14 billion nuclear plant in Georgia. That reactor would be the first constructed in the United States since the partial meltdown at the Three Mile Island plant in Pennsylvania in 1979.

Southern CEO Tom Fanning said Monday that his company does not expect any delays in the project, which would rely on $8 billion in federal loan guarantees backed by the Obama administration.

Officials at the Nuclear Regulatory Commission, which licenses and oversees the operation of nuclear power plants, have said the commission will review its regulatory posture based on the events in Japan. They have been circumspect, however, about whether or how its rules or approach may change.

"As we get more information from Japan, as this immediate crisis ultimately comes to an end, we will look at whatever information we can gain from this event and see if there are changes we need to make to our system," NRC Chairman Gregory Jaczko said at a White House briefing Monday.

A new scenario

The double whammy of an earthquake of enormous force followed by a massive tsunami has created emergencies at as many as nine reactors situated across three power plant complexes in Japan.

Though all the reactors shut down, the loss of power at some sites incapacitated cooling systems that pump water needed to keep the reactors' radioactive uranium fuel rods from superheating and melting. Officials pumped seawater into some of the reactors to cool them, accepting that the move will leave them forever inoperable.

If such efforts don't keep the reactors under control, the most feared outcome is that the molten fuel rods could burn through steel and concrete containment structures, escaping into the environment. The resulting release of high levels of radiation could pose health risks across a large swath of territory for many years. At the same time, officials are concerned that the quake and tsunami may have damaged on-site storage facilities holding "spent" reactor fuel rods, which can catch fire and spread high levels of radiation if exposed to air for an extended period.

While that scenario is seen by the Japanese government and many independent experts as highly unlikely, the prospect of a reactor meltdown in conjunction with a spent fuel fire would result in a catastrophe beyond the scope of Three Mile Island or even Chernobyl, the 1986 meltdown of a Ukrainian reactor that was the worst nuclear power accident in history.

"I do not believe this scenario has ever been written," said Arjun Makhijani, president of the Institute for Energy and Environmental Research. Makhijani, an engineer, specializes in nuclear fusion and has written extensively on nuclear power.

Scenarios that are considered highly improbable, such as those considered to have less than a one-in-a-million chance of occurring, typically are not considered by the NRC when reviewing nuclear plants' emergency plans, regardless of potential consequences, Makhijani said.

But in light of the events in Japan, he said, "We've got to revisit this idea of 'highly unlikely' and how we deal with it."

Nuclear power advocates note that existing safety requirements have a strong track record and dispute the notion that the disaster in Japan should automatically prompt tougher regulations.

"Thus far, from what we know, (the Japanese) have done what they need to do" to control the reactors and stave off disaster, said Steve Kerekes of the Nuclear Energy Institute, which does research in support of nuclear power. "We can anticipate that there will be lessons learned," he adds, but "whether that appropriately should manifest itself in industry practices vs. regulatory standards, it's too soon to know."

US reactors have run for 3,500 combined reactor years without causing public harm, Kerekes said. That history demonstrates that the nation's nuclear power plants are safe and should be part of any long-term strategy to lessen the country's dependence on foreign oil, he said.

Yet even US plants that were designed to withstand major earthquakes have not been tested in an event as severe as the one in Japan.

In 2003, the Diablo Canyon Nuclear Power Plant in Avila Beach, Calif., withstood the magnitude 6.5 San Simeon earthquake, which was centered about 31 miles from the plant.

Throughout the quake, both reactors maintained full power. But the facility is designed only to withstand ground movement generated from quakes with a magnitude of 7.5 on the Richter scale — well short of the magnitude 9.0 quake that hit Japan.

Going forward

With the outcome of the Japanese reactors still unfolding, moves to reassess the viability of nuclear power are beginning.

In Germany, for example, the government announced a three-month suspension of a decision to extend the life of nuclear power plants. That means two older ones will be taken off the grid, pending safety probes. German energy agency Dena is recommending that nuclear power be phased out and reactors in the country that are similar to those crippled in Japan be switched off, the German newspaper Handelsblatt reported.

In the United States, the NRC is weighing 12 applications to add 20 reactors in the next 15 to 20 years, according to the Nuclear Energy Institute. An additional six reactors have been put on hold in some cases as sponsors struggled financially with the effects of the recession and a drop in natural gas prices that made nuclear power less competitive.

One of the chief hurdles facing companies seeking to build power plants is paying for them. Many investors have been unwilling to shoulder the financial uncertainty associated with getting such projects approved — a costly process that can take years. And once a plant is approved, there are more monetary risks if a plant runs into safety problems.

President Obama is pushing Congress to supply $54 billion in loan guarantees to the nuclear industry, a big increase over previous levels. That would likely help fund 10 or so reactors, including the plant scheduled for Georgia, said Mark Cooper, senior fellow at the Vermont Law School's Institute for Energy and the Environment.

However, in light of events in Japan, many independent experts say political support for the initiative is sure to diminish.

"This is yet another example of how a multibillion-dollar investment can turn into a multibillion-dollar liability within minutes," Cooper said. "The only way that new reactors will be built in the United States is if the economic risk is put upon the taxpayer through federal loan guarantees and/or upon ratepayers through advanced cost recovery."

The prospects for the loan guarantee program are now "very dim," said Robert Alvarez, a scholar at the Institute for Policy Studies and former senior adviser at the Energy Department.

Contributing: Mimi Hall, Dan Vergano, Associated Press, Bloomberg News

Experts Had Long Criticized Potential Weakness In Design Of Stricken Reactor (NYT)

By Tom Zeller Jr.

New York Times, March 16, 2011

The warnings were stark and issued repeatedly as far back as 1972: If the cooling systems ever failed at a "Mark 1" nuclear reactor, the primary containment vessel surrounding the reactor would probably burst as the fuel rods inside overheated. Dangerous radiation would spew into the environment.

Now, with one Mark 1 containment vessel damaged at the embattled Fukushima Daiichi nuclear plant and other vessels there under severe strain, the weaknesses of the design — developed in the 1960s by General Electric — could be contributing to the unfolding catastrophe.

When the ability to cool a reactor is compromised, the containment vessel is the last line of defense. Typically made of steel and concrete, it is designed to prevent — for a time — melting fuel rods from spewing radiation into the environment if cooling efforts completely fail.

In some reactors, known as pressurized water reactors, the system is sealed inside a thick steel-and-cement tomb. Most nuclear reactors around the world are of this type.

But the type of containment vessel and pressure suppression system used in the failing reactors at Japan's Fukushima Daiichi plant is physically less robust, and it has long been thought to be more susceptible to failure in an emergency than competing designs. In the United States, 23 reactors at 16 locations use the Mark 1 design, including the Oyster Creek plant in central New Jersey, the Dresden plant near Chicago and the Monticello plant near Minneapolis.

G.E. began making the Mark 1 boiling-water reactors in the 1960s, marketing them as cheaper and easier to build — in part because they used a comparatively smaller and less expensive containment structure.

American regulators began identifying weaknesses very early on.

In 1972, Stephen H. Hanauer, then a safety official with the Atomic Energy Commission, recommended that the Mark 1 system be discontinued because it presented unacceptable safety risks. Among the concerns cited was the smaller containment design, which was more susceptible to explosion and rupture from a buildup in hydrogen — a situation that may have unfolded at the Fukushima Daiichi plant. Later that same year, Joseph Hendrie, who would later become chairman of the Nuclear Regulatory Commission, a successor agency to the atomic commission, said the idea of a ban on such systems was attractive. But the technology had been so widely accepted by the industry and regulatory officials, he said, that "reversal of this hallowed policy, particularly at this time, could well be the end of nuclear power."

In an e-mail on Tuesday, David Lochbaum, director of the Nuclear Safety Program at the Union for Concerned Scientists, said those words seemed ironic now, given the potential global ripples from the Japanese accident.

"Not banning them might be the end of nuclear power," said Mr. Lochbaum, a nuclear engineer who spent 17 years working in nuclear facilities, including three that used the G.E. design.

Questions about the design escalated in the mid-1980s, when Harold Denton, an official with the Nuclear Regulatory Commission, asserted that Mark 1 reactors had a 90 percent probability of bursting should the fuel rods overheat and melt in an accident.

Industry officials disputed that assessment, saying the chance of failure was only about 10 percent.

Michael Tetuan, a spokesman for G.E.'s water and power division, staunchly defended the technology this week, calling it "the industry's workhorse with a proven track record of safety and reliability for more than 40 years."

Mr. Tetuan said there are currently 32 Mark 1 boiling-water reactors operating safely around the globe. "There has never been a breach of a Mark 1 containment system," he said.

Several utilities and plant operators also threatened to sue G.E. in the late 1980s after the disclosure of internal company documents dating back to 1975 that suggested that the containment vessel designs were either insufficiently tested or had flaws that could compromise safety.

The Mark 1 reactors in the United States have undergone a variety of modifications since the initial concerns were raised. Among these, according to Mr. Lochbaum, were changes to the torus — a water-filled vessel encircling the primary containment

vessel that is used to reduce pressure in the reactor. In early iterations, steam rushing from the primary vessel into the torus under high pressure could cause the vessel to jump off the floor.

In the late 1980s, all Mark 1 reactors in the United States were also retrofitted with venting systems to help reduce pressure in an overheating situation.

It is not clear precisely what modifications were made to the Japanese boiling-water reactors now failing, but James Klapproth, the chief nuclear engineer for General Electric Hitachi, said a venting system was in place at the Fukushima plants to help relieve pressure.

The specific role of the G.E. design in the Fukushima crisis is likely to be a matter of debate, and it is possible that any reactor design could succumb to the one-two punch of an earthquake and tsunami like those that occurred last week in Japan.

Although G.E.'s liability would seem limited in Japan — largely because the regulatory system in that country places most liability on the plant operator — the company's stock fell 31 cents to $19.61 in trading Tuesday.

Japan Crisis Spawns New Look At US Reactors' Design And Preparedness (WP)

By Steven Mufson and Jia Lynn Yang

Washington Post, March 16, 2011

This week, as Tokyo Electric Power Co. struggled to pump seawater into a high-pressure, ultra-hot reactor core, a US utility decided to buy a firetruck with high-pressure pumping capacity for its nuclear plant.

Separately, NextEra Energy, a Florida-based utility, prepared a slide presentation explaining the Japanese nuclear crisis in detail - and noting similarities between the General Electric design used in Japan and the GE design used for NextEra's Duane Arnold plant near Cedar Rapids, Iowa.

"Extensive evaluations are underway to validate design capabilities and vulnerabilities... for events such as earthquakes, flooding, and extended Station Blackouts," the slides said. It noted that after the Sept. 11, 2001, attacks, the company had bought diesel-driven pumps and figured out how to inject water from nearby sources into the reactor.

The crisis in Japan has spawned new looks at – and revived old debates about – US nuclear plants and how prepared they are for natural or man-made disasters. The GE boiling-water reactor design, found in 23 US nuclear plants, has come under new scrutiny. And because the Japanese crisis started with a loss of grid and generator power, backup electrical systems are being looked at anew.

"Any time something like this happens, you have to be an idiot not to look at lessons learned," said Michael W. Golay, professor of nuclear engineering at the Massachusetts Institute of Technology. "It comes down to what level you want to set performance standards to provide against a rare event. Every society sets a limit, and the question is just where you want to set the limit."

Five out of the six reactors at the Fukushima Daiichi nuclear complex share the design GE created decades ago to serve as a smaller, less expensive alternative to what competitors were offering.

Officials have called on plant operators to make major improvements to the GE model -- known as Boiling Water Reactor Mark 1 -- to help it hold up in an extreme accident.

In 1975, a Nuclear Regulatory Commission report cast doubt on the strength of the system used to capture excess steam inside the reactor or hot materials in an emergency. In response, regulators required each Mark 1 plant operator to fortify the reactor's torus -- the donut-shaped tube at the bottom of the reactor that condenses steam and other substances into a pool of water.

Japanese officials have said that Tuesday's explosion at Fukushima Daiichi unit 2 occurred in or near the torus and seems to have opened a route for water and radioactive substances to escape the thick-walled primary containment vessel.

In 1979, the Three Mile Island accident prompted another look at the Mark 1. Regulators examined the reactor's ability to handle a buildup of hydrogen gas - which led to an explosion inside the Three Mile Island containment structure - and ordered plant operators to install vents.

At Fukushima Daiichi, those vents led to an outer building. In three of those buildings, filters and fans failed; in two of them, hydrogen-fueled explosions have destroyed the outer buildings.

An NRC spokesperson said all 23 GE boiling water reactors in the United States have satisfied regulators' earlier concerns about the ability to withstand a severe incident.

Entergy, based in New Orleans, runs three reactors with the BWR Mark 1 design.

"Obviously, I think they can hold up over time," said John Herron, president, chief executive and chief nuclear officer of Entergy Nuclear. "They're an excellent design."

Herron added that Entergy's plants have several backup power sources, including diesel generators.

"We drill on that," Herron said. "We make sure our plants are absolutely ready."

"To be fair to General Electric and that design, I don't know of any other designs that would've fared much better," said David Lochbaum, director of the Nuclear Safety Project at the Union of Concerned Scientists. "Their biggest problem wasn't the containment design. It was the loss of power."

Harold Denton, the top safety official at the NRC who raised questions about the Mark 1 in the 1980s, said he was monitoring the events at the Fukushima Daiichi plant from his home in Knoxville, Tenn.

"It's only after [Three Mile Island] that I and everyone else got serious," said Denton, who has since retired. "Suppose it's a really severe accident. How do these [reactors] compare?"

Denton said the industry made adjustments after the NRC raised questions. "They accepted what was proposed, and there were changes made," Denton said. The reactors "just weren't designed to deal with a core meltdown because that seemed to be too unlikely a proposal at the time."

The Japan crisis, which began with an electricity outage, has also drawn attention to backup power. Experts say that the tsunami either waterlogged backup diesel generators, destroyed fuel tanks or flooded switch gears needed to hook up the generators - or all three.

Then there's the human element.

"I worry about human errors in the ordinary running of the plants because that tends to be how you get into trouble," said Golay, the MIT professor.

Federal, State Officials: US Reactors Safe (BOSH)

By Christine Mcconville And Richard Weir

Boston Herald, March 16, 2011

Federal and state leaders scrambled yesterday to reassure Americans that American nuclear reactors are safe, even as terrifying images of radiation contamination in Japan flooded television screens and computer terminals.

"All our plants are designed to withstand significant natural phenomena like earthquakes, tornadoes and tsunamis," said US Nuclear Regulatory Commission Chairman Gregory Jaczko yesterday at a White House press briefing.

"Right now we believe we have a very strong program in place," he said.

"As we get more information from Japan, as this immediate crisis ultimately comes to an end, we will look at whatever information we can gain from this event and see if there are changes we need to make to our system."

Early today in Japan, a third explosion rocked the earthquake-damaged Fukushima Dai-ichi nuclear plant.

Officials acknowledged that fuel rods at the reactor had been temporarily exposed to the air — heightening the risk of an uncontrolled release of radiation into the environment.

In Boston, US Homeland Security Secretary Janet Napolitano said of the Nuclear Regulatory Commission, "Right now they don't see any danger of radiation from Japan some- how coming to the United States at any kind of dangerous level."

She also stressed that the nation's nuclear power plants are "highly, highly regulated by the NRC, particularly in respect to construction and security.

"Nuclear power plants are required to have extensive plans and exercises, should there need to be an evacuation," she said.

There are important differences between the leaking plant in Japan, and Massachusetts' nuclear plant in Plymouth, noted Massachusetts Lt. Gov. Tim Murray.

"In Japan, it's water-cooled," he said, while in Massachusetts, "this is air-cooled by diesel engine."

US Power Plants Should Withstand Natural Disasters (NPR)

Morning Edition

By Scott Horsley

NPR, March 16, 2011

The Obama administration is not backing away from nuclear power. That's despite the danger facing Japan, as that country tries to cool several reactors following last week's earthquake. The White House is offering reassurance that US plants are built to withstand natural disasters.

LINDA WERTHEIMER, host:

The Obama administration is not backing away from nuclear power, despite the dangers now facing Japan. The White House is offering reassurance that plants in the United States are built to withstand natural disasters. NPR's Scott Horsley reports.

SCOTT HORSLEY: Officials who oversee nuclear plants in the US are keeping a close eye on what's happening in Japan. But Greg Jaczko, who chairs the Nuclear Regulatory Commission, insists the problems at the Fukushima Daiichi reactors have not shaken his confidence.

Mr. GREG JACZKO (Nuclear Regulatory Commission): Whenever there's any new information, we always make changes, if necessary. But right now we continue to believe that nuclear power plants in this country operate safely and securely.

HORSLEY: And for an administration determined to address the challenge of climate change, nuclear power is hard to turn down. As Deputy Energy Secretary Dan Poneman notes, nuclear is by far the biggest source of electricity that doesn't contribute to greenhouse gases. It produces twice as much electricity in the US as wind, solar and hydro power combined.

Mr. DAN PONEMAN (Department of Energy Deputy Secretary): It's 20 percent of the electricity of this country, 70 percent of the carbon-free electricity. We view nuclear energy as a very important component to the overall portfolio we're trying to build for a clean energy future.

HORSLEY: Poneman says lessons learned at Three Mile Island eventually resulted in safer nuclear plants, but that accident also brought nuclear development in the US to a near-standstill, something the administration hopes to avoid with this latest disaster.

Nuclear Industry Watchdogs In US Raise Safety Concerns (VOA)

By Laurel Bowman

Voice of America, March 16, 2011

The ongoing nuclear crisis in Japan has sparked renewed debate around the world about the safety of nuclear power.

The earthquake and tsunami in Japan devastated the island nation. Thousands are dead. Whole communities washed away. Now a new danger looms: nuclear meltdown.

Many Japanese are panicked. "Nobody is telling us, the citizens, what is really happening," one Japanese said.

What, by most accounts, has happened is this: Multiple reactors at the Fukushima Daiichi nuclear power plant have malfunctioned, with radiation leaking as a result.

Japan's prime minister said on national television that radiation levels seem very high, and Japan's chief government spokesman added this:

"Now we are talking about levels that can impact human health," said cabinet secretary Yukio Edano.

Government authorities urged those close to the reactor sites to stay indoors.

As this new nightmare unfolds in Japan, nuclear industry representatives and government officials in the US are offering assurances that nuclear power is safe.

"The American people should have full confidence that the US has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly," said US Energy Secretary Steven Chu.

But industry watchdogs say that simply is not so. They concede safety has improved at nuclear power plants in recent years, but they say Americans still should prepare for the worst.

"Obviously the Japanese, the most prepared for earthquakes and tsunamis than any country in the world, underestimated the potential of a 9.0 earthquake. Obviously there has to be a reappraisal of safety risks," said Kevin Kamps of the radioactive waste watchdog group

Beyond Nuclear. Kamps opposes license extensions at more than 20 nuclear power plants in the US

"Fukushima Unit One at the Daiichi Plant was a 40-year reactor. It was the first one to go into crisis. We have 23 reactors in the United States of the very same design," he said.

And Arjun Makhijani of the Institute for Energy and Environmental Research wants a thorough re-evaluation of US nuclear power plants in coastal areas and along seismic fault lines. He also wants to know who will pay for a clearnup if a nuclear disaster occurs."

"The nuclear industry is not required to even cover more than $11 billion in costs, and at a time when we are saying how are we going to minimize government exposure and so on this is an item that should be put back on the table," Makhijani said.

Makhijani says it could cost hundreds of billions of dollars. He would like to see nuclear energy phased out over time.

"Making plutonium and fission products which last for tens of thousands of years or millions of years just to boil water isn't sensible. We can do it much better. We can do it more cleanly," Makhijani said.

Since the earthquake and tsunami in Japan, authorities have scrambled to cool the core of those reactors with sea water. But the water appears to be evaporating more quickly than it can be pumped in.

NUCLEAR: GE Defends Design Of Japanese Reactors (GWIRE)

Greenwire, March 15, 2011

General Electric Co., the supplier of Japan's now-stricken reactor, defended the design of its product, saying the containment system is safe and reliable.

The Fukushima Daiichi nuclear power plant is equipped with a boiling water reactor containment system provided by GE 40 years ago. Critics of the product, called Mark 1, said it is not as robust as later models.

GE dismissed the criticism.

"The BWR Mark 1 reactor is the industry's workhorse with a proven track record of safety and reliability for more than 40 years," said Michael Tetuan, spokesman for GE Hitachi Nuclear Energy. "There has never been a breach of a Mark 1 containment system."

Japanese engineers are working to cool the cores of three reactors at the plant, two made by GE and one by Toshiba Corp., after last week's earthquake.

The Toshiba reactor was damaged during a separate explosion overnight. It appears to have sustained damage only to the concrete building outside the reactor container.

The Japanese government and Jeffrey Immelt, chief executive of GE, have said the steel containers surrounding their reactors have not been affected (Andrew Dowell, Wall Street Journal, March 15). -- PK

Can US Nuclear Plants Handle A Major Natural Disaster? (AHN)

By John Sullivan

All Headline News, March 16, 2011

As engineers in Japan struggle to bring quake-damaged reactors under control, attention is turning to US nuclear plants and their ability to withstand natural disasters.

Rep. Ed Markey, a Massachusetts Democrat who has spent years pushing the Nuclear Regulatory Commission toward stricter enforcement of its safety rules, has called for a reassessment. Several US reactors lie on or near fault lines, and Markey wants to beef up standards for new and existing plants.

"This disaster serves to highlight both the fragility of nuclear power plants and the potential consequences associated with a radiological release caused by earthquake related damage," Markey wrote NRC Chairman Gregory Jaczko in a March 11 letter.

Specifically, Markey raised questions about a reactor design the NRC is reviewing for new plants that has been criticized for seismic vulnerability. The NRC has yet to make a call on the AP1000 reactor, which is manufactured by Westinghouse. But according to Markey, a senior NRC engineer has said the reactor's concrete shield building could shatter "like a glass cup" under heavy stress.

The New York Times reported last week that the NRC has reviewed the concerns raised by the engineer, John Ma, and concluded that the design is sufficient without the upgrades Ma recommended. Westinghouse maintains that the reactor is safe.

Boiling water reactors, like the ones hit by the Japanese earthquake, are built like nested matroyshka dolls.

The inner doll, which looks like a gigantic cocktail shaker and holds the radioactive uranium, is the heavy steel reactor vessel. It sits inside a concrete and steel dome called the containment. The reactor vessel is the primary defense against disaster -- as long as the radiation stays inside everything is fine.

The worry is that a disaster could either damage the vessel itself or, more likely, damage equipment that used to control the uranium. If operators cannot circulate water through the vessel to cool the uranium it could overheat and burn into radioactive slag -- a meltdown.

Reports say a partial meltdown is suspected in two of three reactors at the Fukushima Daiichi Nuclear Power Station in Japan, which was hit by the 8.9 magnitude quake and ensuing tsunami.

Reactors have multiple layers of equipment to make sure this never happens. But last year, Markey asked Congress's investigative agency, the Government Accountability Office, to look into a long list of nuclear safety issues, including earthquake and flood protection.

Markey cited the 2007 Chuetsu earthquake (6.6 magnitude) that hit the Kashiwazaki-Kariwa nuclear plant. The quake started a fire, spilled some low-level radioactive waste and damaged equipment that was not critical to the reactor. It led Japanese regulators to reassess earthquake danger near the plant, and Markey wanted GAO to see whether NRC had been on top of earthquake risk in the US

Reactors In US Quake Zones May Be Key To Nuclear Plans (BSWK/BLOOM)

By Jeremy Van Loon and Mark Chediak

BusinessWeek/Bloomberg News, March 16, 2011

(Updates with US Representative Edward Markey's comments in thirteenth paragraph. See EXT2 for Japan quake coverage.)

March 15 (Bloomberg) -- The future of President Barack Obama's plans to redesign the US energy system with low-emission nuclear plants may hinge on reactors across the Pacific Ocean as Japan's nuclear disaster renews a debate about the safety of plants.

Engineers are battling to prevent a meltdown at the Fukushima Daiichi power station crippled last week by a tsunami and the 9.0 magnitude temblor off Japan's coast. US regulators may first closely scrutinize San Francisco-based PG&E Corp.'s Diablo Canyon seaside nuclear plant in earthquake-prone California, Hugh Wynne, an analyst at Sanford Bernstein & Co. wrote in a note to clients yesterday.

"Nuclear, long term, will be decided over the next couple of weeks," said Abel Mojica, who manages energy-related limited partnerships at Tortoise Capital Advisors in Leawood, Kansas. "If there are decisions after the post mortem, that there are additional safety features required, that could add to costs."

Obama's energy plan relies heavily on nuclear power to reduce carbon-dioxide emissions harmful to the climate as well as to reduce dependence on imported oil. The president proposed tripling federal loan guarantees to $54.5 billion to help build new reactors in the 2012 budget plan he sent to Congress.

'Lot of Chaos'

As the 1979 Three Mile Island accident near Harrisburg, Pennsylvania, brought investment in nuclear power to a standstill for three decades, the disaster in Japan probably will have a similar effect as safety-related costs rise, said Marin Katusa, chief energy investment strategist at Casey Research in Phoenix. The company oversees about $100 million in energy-related assets.

"There is going to be a lot of chaos," Katusa said. "Nuclear is going nowhere. A lot of these plants are over 40 years old and should be replaced. But the costs are going to be high."

Around the globe, governments are probing the safety of operating reactors and delaying steps to keep them going. German Chancellor Angela Merkel today halted the country's seven oldest nuclear plants, some of which were already offline, as part of a nationwide review to run through June. Switzerland yesterday suspended efforts to renew three of the country's five power stations, while China, India and Britain also paused new plant development pending a review of Japan's events.

Regulator's Comments

In Washington, officials indicated no official change in energy policy has been made because of the crisis in Japan.

Nuclear power "remains a part of the president's overall energy plan," Jay Carney, the White House press secretary, told reporters yesterday at a briefing.

The Nuclear Regulatory Commission remains confident that plants operating in the US are safe, Gregory Jaczko, the NRC chairman, said at the same briefing. The agency sets safety rules for the industry and must approve new-plant construction.

"If we do get information that will cause us to take action, we will take action," Jaczko said. "All our plants are designed to withstand significant natural phenomena, like earthquakes, tornadoes and tsunamis."

Representative Edward Markey of Massachusetts, the top Democrat on the Natural Resources Committee of the US House of Representatives, called for a moratorium on permits for reactors in seismically active areas. "This is going to cause real tremors in the nuclear investment area," Markey told Peter Cook on Bloomberg Television's "In the Loop."

Necessary Features

Markey requested today more information on the seismic safety features of US reactors near earthquake-prone zones in a letter sent to the Nuclear Regulatory Commission.

"We are concerned that these reactors may not have the features necessary to withstand the sort of catastrophic earthquake and tsunami that has crippled several reactors in Japan," wrote Markey and Representative Lois Capps of California, a Democrat.

Regulators in the US have been asked to extend the operating licenses of 13 plants with 20 reactors, according to government figures. Companies run 104 nuclear power stations to supply about 20 percent of US electricity.

The most active earthquake zones in the US include California's San Andreas fault and the New Madrid seismic zone in Arkansas, Missouri and Tennessee, according to the US Geological Survey. There is a "continuing concern for a major destructive earthquake" along the New Madrid fault, while California registered the greatest number of temblors in the country during the past week, the agency said.

'Robust Enough'

"Nuclear power plants should not be built in seismically active areas," said Liz Apfelberg, a spokeswoman for Mothers for Peace. The San Luis Obispo, California-based group opposes extending PG&E's license to run the nearby Diablo Canyon plant about 185 miles (298 kilometers) northwest of Los Angeles.

"No nuclear plant can be built robust enough in an earthquake zone," Apfelberg said, citing the events in Japan.

Her group is challenging PG&E's application for a 20-year license extension, based on seismic issues. In 2008, US scientists discovered a new fault line near the plant that raised additional safety concerns, the Nuclear Regulatory Commission said.

'Unique Concerns'

In February, a group of California lawmakers cited the seismic threats to Diablo Canyon in a letter to a federal commission examining the issue of handling nuclear waste.

"We believe the seismicity, and remaining uncertainty, of California creates unique concerns which deserve to be more closely examined," said the lawmakers, including Senator Sam Blakeslee, a Republican whose district includes San Luis Obispo.

"New evidence has emerged about previously undiscovered faults that may exist near or even beneath" the Diablo Canyon plant, said Blakeslee, a geophysicist who has studied earthquakes, in a separate statement. "The devastating events in Japan underscore the importance of addressing the seismic uncertainty surrounding California's nuclear power plants."

Diablo Canyon has been built to withstand "all environmental hazards in the region," including a tsunami and an earthquake with a magnitude of as much as 7.5 on the Richter scale, Kory Raftery, a PG&E spokesman, said by telephone.

Buildings Reinforced

All of the plant's equipment and buildings have been reinforced and tested to ensure it can withstand "far above the largest credible earthquake that could happen in our area," Raftery said. US scientists and regulators have determined that to be 6.0 to 6.5 in Richter magnitude, he said.

The California power station is one of a handful across the US that may pose seismic safety risks. Plants in the Northeast and South are also within known fault zones.

In Arkansas, two pressurized-water reactors at the Russellville Nuclear One plant supply 30 percent of the state's power, US Energy Information Administration data show. The plant is about 180 miles from the New Madrid fault line.

The power station employs about 950 people in the area and holds a significant place in the community, according to state Representative Andrea Lea, a Republican whose district includes the Russellville plant and whose husband works there.

"You'll never see a Kiwanis, Rotary or Lion's club without an employee of Arkansas Nuclear One involved," Lea said by telephone.

Less Powerful

The damage resulting from the Japanese temblor and tsunami isn't likely to be repeated in the area, said Haydar Al-Shukri, the director of the state earthquake center at the University of Arkansas at Little Rock. The most severe quake generated by the New Madrid fault would be no more than a magnitude of 8 on the Richter scale, about one tenth as powerful as the one that caused the disaster in Japan, he said.

In New York, Entergy Corp.'s two Indian Point reactors, about 24 miles north of New York City, are near the intersection of two seismic zones, identified in 2008 by scientists at Columbia University's Lamont-Doherty Earth Observatory. A magnitude 7 earthquake in the region is possible, based on features of the faults, according to the scientists.

The reactors, which supply 25 percent of the power used by New York City and suburban Westchester County, are designed to withstand at least a magnitude 6 temblor, said Jerry Nappi, a plant spokesman. Entergy and the NRC determined that the power station "is still safe under the worst-postulated earthquake" after the seismic study, he said.

Years of Inquiry

More inquiries by nuclear regulators in other countries are likely to follow the Japanese accident and will take years, said James Acton, an associate in the Nuclear Policy Program at the Carnegie Endowment in Washington.

"It's necessary to have a sober and careful reassessment of the seismology," he said in an interview. "There are valid safety concerns and it will be hard for the industry to rebut those arguments. But if additional safety costs become an economic issue, investors may not be willing to cough up the extra money."

Design similarities with the Daiichi reactors and the nature of the disaster that caused the problems there may ratchet up risks for US reactor operators, according to Hugh Wynne of Bernstein Research in New York.

'Potential Hazard'

"Regulators, politicians and activist groups are likely to view power plants of any design faced with similar risks to constitute a potential hazard," Wynne said yesterday in a report. PG&E's Diablo Canyon and the San Onofre plant operated by Southern California Edison, a unit of Rosemead, California- based Edison International, are "particularly at risk" because of their seaside locations, Wynne said.

The San Onofre plant is designed to withstand a 7.0 magnitude earthquake, greater than the maximum "credible threat" for the region as determined by federal regulators and scientists, said Gil Alexander, a spokesman for Southern California Edison. The power station north of San Diego is protected by a seawall to deal with tsunamis as high as 30 feet, he said.

Cameco Corp., Canada's largest uranium producer, and power- plant builder Shaw Group Inc. yesterday fell the most in more than a year, after paring drops of 28 percent each. Shaw has a 20 percent stake in Westinghouse Electric Co., a nuclear-power technology provider controlled by Tokyo-based Toshiba Corp.

Uranium Drops

Uranium for immediate delivery fell $7.49, or 11 percent, to $60.75 a pound, according to MF Global data, the biggest one-day drop since at least July 2007. Cameco executives said uranium prices may fall further.

Many US plants rely on batteries to maintain reactor cooling systems in the event of a blackout, David Lochbaum, of the Union of Concerned Scientists, said today on a conference call with reporters. The back-up power supplies are less capable than those at the Daiichi plant, he said.

"We're more vulnerable" said Lochbaum, who has worked in US nuclear power stations for 17 years. "Many of our reactors are also vulnerable to hurricanes or ice storms."

--With assistance from Bradley Olson in Houston, Aaron Clark and Jim Polson in New York, Kim Chipman in Washington, Christopher Palmeri in Los Angeles.

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Capps Queries NRC On Nuclear Reactor Seismic Safety (NWZHAWK)

Congresswoman co-signs a letter requesting information on the features of US reactors

By Ashley Schapitl, for Rep. Lois Capps

Noozhawk, March 16, 2011

Rep. Lois Capps, D-Santa Barbara, joined colleague Rep. Edward Markey, D-Mass., on Tuesday to call for more information on the seismic safety features that are included in nuclear reactors in operation in the United States.

In the wake of the 9.0-magnitude earthquake and tsunami in Japan, the lawmakers sent a letter to Nuclear Regulatory Commission Chairman Greg Jaczko requesting information on the safety-significant structures, systems and components of America's nuclear reactors, including power plants' ability to sustain cooling function during a total station blackout, a situation that is affecting the Japanese reactors in distress.

"We are concerned that these reactors may not have the features necessary to withstand the sort of catastrophic earthquake and tsunami that has crippled several reactors in Japan and caused a meltdown and release of the highly radioactive materials contained within them," Capps and Markey wrote in the letter. "We are concerned that San Onofre, Diablo Canyon and possibly other nuclear reactors located in seismically active areas are not designed with sufficient levels of resiliency against the sort of earthquakes scientists predict they could experience."

According to analysis prepared by Markey's staff, there are eight nuclear reactors on the seismically active West Coast of the United States, and 27 nuclear reactors located near the New Madrid fault line in the Midwest. Additionally, there are 31 nuclear reactors in the United States that are of the same Mark 1 or Mark 2 design as those imperiled in Japan, and 12 of these are located in seismically active zones.

— Ashley Schapitl is press secretary for Rep. Lois Capps, D-Santa Barbara.

Nuclear Power Plants Are Safe, US Officials Say (THIRDAGE)

By Kathryn Cusimano

Third Age, March 16, 2011

Nuclear power plants are safe, US officials are saying today amid concerns over unstable power plants in Japan.

"All our plants are designed to withstand significant natural phenomena, like earthquakes, tornadoes, and tsunamis," Nuclear Regulatory Commission Chairman Gregory Jaczko said during a press conference at the White House.

Jaczko also insisted that the US is not likely to be affected by the problems at nuclear power facilities in Japan.

"[There is] a very low probability that there's any possibility of harmful radiation levels in the United States or in Hawaii or any other US territories," Jaczko said.

However, lawmakers continue to express concerns about established nuclear plants in the US, as well as potential legislation regarding new nuclear power projects.

"We just have to call a time out and examine whether or not those safety features necessary in the future are built into new nuclear power plants in our country," Democratic Rep. Ed Markey of Massachusetts told CNN. "Any plant that is being considered for a seismically vulnerable area in the United States should be reconsidered right now."

Markey called for tougher regulations on US nuclear plants, including requiring more cooling fluids to help shut down reactors if necessary and the distribution of potassium iodide to people who live within a 20-mile radius of a nuclear plant. Potassium iodide is taken to help block radiation. The Obama administration has yet to institute such regulations.

Tony Pietrangelo of the Nuclear Energy Institute insisted that nuclear plants in the US are "designed to withstand the most severe seismic events or earthquakes, as well as tsunamis where applicable, and flooding."

"The West Coast plants are designed to higher standards than the Central and Eastern United States," Pietrangelo said. "It is based on a historical look at what has happened in those areas, what soil or rock they sit in. They are very robust. I think, as we have seen in Japan, despite the magnitude of that earthquake, they hold up quite well."

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Reactors At Heart Of Japanese Nuclear Crisis Raised Concerns As Early As 1972, Memos Show (HUFFPOST)

By Jim Morris And Aaron Mehta, The Center For Public Integrity

Huffington Post, March 16, 2011

In the early 1970s, just as a number of reactors were about to be licensed, Stephen Hanauer, a senior member of the Atomic Energy Commission staff, suggested banning "pressure suppression" methods to contain radiation in the event of a meltdown -- methods built into General Electric's Mark I and Mark II containment designs as well as Westinghouse's ice condenser design. The advice was considered and disregarded.

"Steve's idea to ban pressure suppression containment schemes is an attractive one in some ways," Joseph Hendrie, then a deputy director with the AEC, wrote in a Sept. 25, 1972, memo. Hendrie acknowledged that alternative, "dry" containments -- featuring the towers or domes commonly associated with nuclear plants -- had the "notable advantage of brute simplicity in dealing with a primary blowdown, and are thereby free of the perils of bypass leakage."

But regulators ultimately decided that the technology developed by General Electric and Westinghouse was "firmly embedded in the conventional wisdom." Banning it, Hendrie wrote, "would generally create more turmoil than I can stand." His memo was obtained by the Union of Concerned Scientists through a Freedom of Information Act request.

The 85-year-old Hendrie, reached at his home on Long Island, N.Y., told the Center for Public Integrity that "there were some serious questions about the pressure suppression scheme, but it seemed in many ways like a good way to deal with a loss-of-coolant accident. To have declared it unacceptable when we'd already been licensing [plants] with it seemed more of a tearing up of a regulatory structure than was justified. When I said it would create more tumult than I can stand, I think I really meant it."

Hendrie's pragmatism eventually earned him a promotion as he later became the third chairman of the Nuclear Regulatory Commission, a position he held during the Three Mile Island accident, and regulators' sentiments allowed the design to proliferate around the world. He is now retired.

Today, three of six GE reactors at the Fukushima Daiichi plant in northeastern Japan are in danger of meltdown after a catastrophic earthquake and tsunami. And 31 aging GE reactors of the same design – 23 of them with Mark I containment systems and eight of them with Mark II–continue to operate in the US, raising concerns among both politicians and scientists. The Mark I containment is rectangular, the Mark II cylindrical. This NRC document explains the two in more detail.

The nuclear industry and the NRC said Monday they remain confident that the GE reactors, as well as the nine Westinghouse ice condenser reactors, are safe given the risks they face, and that Japan's crisis represents a worst-case scenario.

"The BWR Mark 1 reactor is the industry's workhorse with a proven track record of safety and reliability for more than 40 years," GE said in a statement. "Today, there are 32 BWR Mark 1 reactors operating as designed worldwide. There has never been a breach of a Mark 1 containment system."

NRC Chairman Gregory B. Jaczko told reporters Monday that all US nuclear plants "are designed to withstand significant natural phenomena like earthquakes, tornadoes and tsunamis. We believe we have a very solid and strong regulatory structure in place right now."

But industry watchdogs see the fateful decision regulators made almost 40 years ago -- to choose political and economic pragmatism over tougher safety standards -- as endemic in the culture of the NRC as it deals with the prevention of low-probability, high-consequence accidents.

The decision was based largely on cost, said Jim Riccio, a nuclear policy analyst with Greenpeace. The pressure suppression containment systems, which use water or extreme cold to keep radiation from leaking into the environment, were cheaper than dry systems, which require construction of the massive domes or towers. But they were inherently less safe, Riccio said.

"They were designed to withstand a pipe break, not a meltdown," he said. It wouldn't take a major earthquake or a tsunami to knock out primary and backup power and push the systems to the breaking point; a hurricane or tornado could suffice.

VULNERABLE TO SEISMIC EVENTS

A 1975 report for GE by a team of scientists and engineers found that the company's boiling water reactors were more vulnerable to seismic events than pressurized water reactors -- such as Three Mile Island – designed by Westinghouse and other firms.

"The PWR [pressurized water reactor] design is inherently more seismic resistant because of lower reactor vessel placement and the need to design for larger LOCA loadings," the report said. LOCA is an acronym that stands for loss of coolant accident – the type of accident triggered by the earthquake and tsunami in Japan. GE's research team said it would push to make the company's newer reactors more able to withstand earthquake-related stresses.

The report added that "because of phenomena recently discovered all BWR [boiling water reactor] containment types are undergoing extensive additional analyses to evaluate structural adequacy." It said Mark I and Mark II containments "are likely to be redesigned and retrofitted."

In 1986, former NRC official Harold Denton told a group of utility executives that, according to commission studies, GE Mark I reactors had "something like a 90 percent probability of that containment failing" under accident conditions.

On top of concerns about the boiling water reactors are worries about relicensing, the storage of spent fuel, and the design of the next generation of plants.

Relicensing: On March 10, one day before the earthquake in Japan, the NRC voted to relicense one of the GE Mark I plants -- the 39-year-old Vermont Yankee Nuclear Power Station near Brattleboro, Vt. -- for an additional 20 years. Last year, the Vermont Senate voted overwhelmingly against licensing of the plant beyond 2012, noting that it has suffered a litany of safety problems, including leaks of radioactive tritium and the collapse of a cooling tower. Vermont is the only state that has the authority to approve a reactor operating license.

Riccio said the NRC's action was predictable. About 20 years ago, he said, the agency "lowered the bar [for relicensing] so low you can't even trip over it. We're renewing aged reactors' licenses with a rubber stamp."

NRC spokesman Scott Burnell said the decision to extend Vermont Yankee's life through March 2032 came after lengthy NRC reviews. "In the case of Vermont Yankee, not only did we have more than two years of intense technical review, we also had a very deliberate, very appropriate legal review that lasted until last Thursday," he said. "That would not meet most people's definition of a rubber stamp." It was during that review that some of the most serious tritium leaks at the plant occurred.

Burnell added that the decision does not guarantee that the plant, operated by Entergy Nuclear Operations, "has a blank slate to continue running" for two more decades. It will have meet rigorous safety standards at all times, he said.

Spent Fuel: Spent fuel rods at Fukushima Daiichi may have burned during the most recent fire at the plant, releasing radiation, Japanese officials reported Monday. Critics in the US say that too much spent fuel at reactors is packed tightly into onsite pools – awaiting a permanent storage site – rather than being moved as quickly as possible into "dry casks," which are less vulnerable to accidents or terrorist attacks.

"Current onsite storage plans place spent fuel in wet pools until the pools are essentially filled and then intermittently transfer spent fuel to dry casks when needed to free up space for the next discharge from the reactor," David Lochbaum, director of the Union of Concerned Scientists' Nuclear Safety Project, wrote in a submission to the Blue Ribbon Commission on America's Nuclear Future last August. "Responsible onsite storage accelerates the transfer of spent fuel to dry casks to maintain the inventory within the wet pools near minimal amounts."

Burnell said the NRC believes the current method of spent fuel storage is safe. "The combination of both spent fuel pools and dry-cask storage is an appropriate and acceptable means of safely and securely storing spent fuel until such time as there is a national destination for that material," he said.

New Reactors: Just days before the earthquake in Japan, Rep. Edward Markey of Massachusetts, the top Democrat on the House Natural Resources Committee, sent a letter to NRC chairman Jaczko, asking the agency to withhold final approval of a new Westinghouse reactor design due to "serious safety concerns." Markey wrote that an NRC expert had identified "potential loopholes, which, if left open, allow designs for unsafe reactors to go forward despite the risk that an earthquake or aircraft impact could result in a catastrophic core meltdown."

Fourteen reactors based on the design – which has never been built – are under development in Alabama, Florida, North Carolina, South Carolina and Georgia.

The Nuclear Energy Institute, a trade association for the nuclear power industry, said in a statement that "Japan is facing what can literally be considered a 'worst case' disaster and, so far, even the most seriously damaged of its 54 reactors has not released radiation at levels that would harm the public. That is a testament to their rugged design and construction, and the effectiveness of their employees and the industry's emergency preparedness planning."

In a conference call with reporters on Monday, Lochbaum, of the Union of Concerned Scientists, hinted at another possible problem. "The primary problem the [Fukushima] plant faced was loss of power and backup power," he said. "The situation that plant faced was having eight hours of battery [capacity] and losing that."

"In this country, most of our reactors are only designed with battery capacity for four hours, so we're more vulnerable in those situations. While many of our plants may not be vulnerable to the one-two of earthquake and tsunami, many of them are in situations where hurricanes or tornadoes or ice storms or a tree in Cleveland could cause a blackout that would put us in the same situation."

German and Swiss reactors have had the most redundant emergency systems for an accident involving an uncooled core.

In 1975, a team of engineers and scientists attempting to limit the risks of GE's containment systems noted that the NRC requires that for any single accident "which might result in an uncooled core, two emergency cooling systems must be available, either of which could by itself cool the shutdown core, and both of which have considerable internal redundancy."

Similarly, Japanese authorities allowed nuclear plants with only two emergency cooling systems – both of which have proven unreliable in the events triggered by the earthquake and tsunami.

But German and Swiss authorities as far back as the early 1970s required three backups. "The argument runs that one backup system could at any time be out of action, because of repair work, or surveillance testing, that a second could fail to work because of an unknown defect, and that a third would then be available if needed," the team working for GE noted.

On Tuesday, Germany decided to shut down its seven oldest nuclear power plants at least temporarily, pending a safety review.

Hendrie, the former NRC chairman, remains a believer in nuclear power. All technologies have some risk, he said. "The Japanese experience is apparently going to be pretty bad, but mankind over the centuries has devised technologies that turned out to be very useful to mankind, developed them, taken some lumps from accidents and mishaps, made corrections to the technology and moved ahead," he said. "A lot of coal miners die. We pollute the Gulf of Mexico. So, all these technologies have their unhappy connections. And I wouldn't slight the need for strong regulations. But I think it's reasonable and, indeed, essential for us to move ahead and keep on with nuclear energy development."

Entergy Shares Slide On Nuclear Energy Concerns (BSWK)

BusinessWeek, March 16, 2011

Shares of nuclear power plant owner Entergy Corp. fell Tuesday as Japan's worsening nuclear crisis raised safety concerns about the industry.

THE SPARK: Radiation has leaked from a crippled nuclear plant in tsunami-ravaged northeastern Japan after a third reactor was rocked by an explosion Tuesday and a fourth caught fire. The government warned anyone nearby to stay indoors to avoid exposure. Some 70,000 people have already been evacuated from a 12-mile (20-kilometer) radius and 140,000 remain in the zone for which the new warning was issued.

Prime Minister Naoto Kan said radiation has spread from four reactors of the Fukushima Dai-ichi nuclear plant in Fukushima province, one of the hardest-hit in Friday's 9.0-magnitude earthquake and the ensuing tsunami that has killed more than 10,000 people.

THE BIG PICTURE: The nuclear crisis in Japan has raised global concerns about the safety of nuclear power at a time when it has seen a resurgence as an alternative to fossil fuels. Switzerland has ordered a freeze on new plants, while Germany has suspended a decision to extend the life of its nuclear plants. The United States has said it will try to learn from the Japanese crisis but that events will not diminish the US commitment to nuclear power.

New Orleans-based Entergy owns or manages 12 nuclear plants in the US, including the Vermont Yankee nuclear facility in Vermont. Earlier this month, federal regulators approved its request for a 20-year license extension that would allow it to operate until 2032.

THE ANALYSIS: Jefferies analyst Debra Bromberg said that concerns stemming from the disaster in Japan are overblown, and that US regulators likely will focus on improving backup systems at US facilities rather than requiring major modifications. The situation in Japan does not "seem to be terribly significant" for Entergy, Bromberg said.

Bromberg raised Entergy's rating to "Buy" from "Hold" and increased her price target to $77.50 from $75 per share.

SHARE ACTION: Entergy shares lost $1.44, or 2 percent, to $68.65 in morning trading. That decline is on top of the stock's nearly 5 percent drop on Monday.

OVERNIGHT ENERGY: Top Nuke Regulator Faces Congress (HILL)

By Andrew Restuccia and Ben Geman

The Hill, March 16, 2011

State of Play: Lawmakers will publicly question the country's top nuclear energy regulator Wednesday for the first time since a massive earthquake and resulting tsunami led to a nuclear crisis in Japan.

The Obama administration and pro-nuclear lawmakers have for the most part stood behind calls to expand US nuclear power, while emphasizing that policymakers will learn from the Japanese crisis.

But frenzied efforts to prevent large-scale radiation releases from stricken reactors in Japan are creating questions about the safety of US reactors and the industry's push to build new plants.

Nuclear Regulatory Commission Chairman Gregory Jaczko made the rounds on Capitol Hill Monday in an attempt to reassure lawmakers that US nuclear reactors can withstand major natural disasters. He also appeared at the daily White House press briefing.

"Right now, we continue to believe that nuclear power plants in this country operate safely and securely," Jaczko said during the White House briefing.

But Senate Majority Leader Harry Reid (D-Nev.) said Tuesday that policymakers must be cautious about nuclear power in light of the disaster in Japan.

"I don't think we should just eliminate the need for nuclear power, but I think it's something we have to look at very calmly and deliberately," he said.

Expect Republicans and Democrats to clash over nuclear safety.

Top Democrats on the House Energy and Commerce Committee have called for an investigation into whether the country's nuclear plants can withstand major earthquakes and tsunamis.

But House Republicans on the panel, who largely support a major expansion of nuclear power, have warned against a rush to judgment on the safety issue. The lawmakers have called for streamlining nuclear power licensing at the NRC. Rep. Ed Whitfield (R-Ky.), the chairman of the panel's Energy and Water subcommittee, told The Hill Monday that he plans to push Jaczko on the issue in a hearing Wednesday.

Jaczko will testify alongside Energy Secretary Steven Chu at the House hearing.

Chu on Tuesday said US standards are robust. "The American people should have full confidence that the United States has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly," Chu told a House panel Tuesday.

ON TAP WEDNESDAY:

Senate briefing on Japanese nuclear crisis

The Senate Environment and Public Works Committee will hold a briefing to hear from Nuclear Regulatory Commission Chairman Gregory Jaczko. He will discuss the "the ongoing crisis associated with nuclear power facilities in Japan, as well as the potential ramifications for the United States," an advisory states.

The committee will also hear from officials with the Nuclear Energy Institute, the industry's main trade group, and the Union of Concerned Scientists.

House panel to talk nukes too

Jaczko and Energy Secretary Steven Chu will testify before the House Energy and Commerce Committee. The hearing was initially planned to discuss the two agencies' fiscal year 2012 budget plans, but look for discussion of the Japanese nuclear crisis to dominate.

US Committed To Nuclear Power But Wants To Learn From Japan Crisis, Top US Official Says (LAT)

As Japan deals with leaking radiation and crippled reactors following an earthquake and tsunami, Energy Secretary Steven Chu says the US is set on including nuclear power in its energy mix. 'But the administration is committed to learning from Japan's e

By Michael Muskal, Los Angeles Times

Los Angeles Times, March 16, 2011

The United States remains committed to nuclear power, Energy Secretary Steven Chu said on Tuesday even as Japan sought to contain the nuclear danger at the Fukushima Daiichi plant.

Speaking before a House Appropriations Committee panel that is looking at the department's budget requests, Chu said his department had sent 34 people and 7,200 pounds of equipment to the scene of the crippled reactors from which radiation had leaked.

The secretary, a Nobel Prize winner in physics, reaffirmed the administration's position that the United States will learn from Japan's difficulties but remained committed to safe nuclear power as part of an energy mix.

"The American people should have full confidence that the United States has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly," Chu said. "Information is still coming in about the events unfolding in Japan, but the administration is committed to learning from Japan's experience as we work to continue to strengthen America's nuclear industry.

"To meet our energy needs, the administration believes we must rely on a diverse set of energy sources including renewables like wind and solar, natural gas, clean coal and nuclear power," he said. "We look forward to a continued dialogue with Congress on moving that agenda forward."

Chu told the panel that US officials had included the danger from earthquakes and tsunamis in formulating their energy and safety plans.

The administration is seeking to add $36 billion to the Energy Department's loan-guarantee authority to help finance the development of the first new US reactors in decades. The Obama administration has pledged an $8.3-billion guarantee to Southern Co. for two planned reactors in Georgia. But that project still needs Nuclear Regulatory Commission approval.

Chu also expressed the administration's support for Japan's efforts to deal with last week's magnitude 9.0 earthquake and ensuing tsunami.

As part of the US help, Chu said, the department is "positioning Consequence Management Response Teams at US consulates and military installations in Japan. These teams have the skills, expertise and equipment to help assess, survey, monitor and sample areas. They include smaller groups that could be sent out to gather technical information in the area.

"We have sent our Aerial Measuring System capability," he said, "including detectors and analytical equipment used to provide assessments of contamination on the ground."

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Energy Chief: US Will Learn From Japan Disaster (WP/AP)

Associated Press, March 16, 2011

WASHINGTON – The Obama administration's most vocal advocate for nuclear power said Tuesday that the nuclear disaster unfolding in Japan will eventually help the United States strengthen safety at its 104 reactors.

Energy Secretary Steven Chu told a House panel that "the American people should have full confidence that the United States has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly." But he said that the administration "is committed to learning from Japan's experience."

Chu said the initial step is to help the Japanese government cool down the damaged reactors and to stop the leaking radiation. After the reactors are secure, he said, the next step would be to understand what happened, and then assess whether US reactors have similar vulnerabilities. Under questioning, he said that reactors in the US are designed above what would be required to withstand a worst-case earthquake and tsunami.

The Energy Department has sent 34 people and 17,150 pounds of equipment to Japan to help monitor and assess the situation at a Japanese nuclear plant damaged by the earthquake and tsunami.

Chu said he was up early Tuesday morning evaluating atmospheric models produced by his department's national laboratories that predict where radiation could migrate.

Chu: US Can 'Learn' From Japan (POLITCO)

By MJ LEE

Politico, March 16, 2011

Energy Secretary Steven Chu defends the administration's stance on nuclear energy in light of the disaster in Japan ...In a hearing that was meant to focus on President Obama's budget proposal, Energy Secretary Steven Chu found himself defending the administration's stance on nuclear energy in light of the disaster in Japan.

Chu told a House panel that the United States "needs a diverse supply of energy" Tuesday morning. "We cannot depend on a single source of energy both for electricity, and, might I add, for transportation fuel," he said.

He also said that the United States can "learn a lesson" from Japan by reviewing the safety of nuclear reactors. "I still feel that it's probably premature to say anything but to say that we will learn from this," he said.

The energy secretary sought to reassure members of Congress that when the earthquake hit Japan, the Energy Department examined what impact might be felt on the West Coast, where nuclear plants are in seismically active areas.

Chu said that after Japan investigates the cause of failures at its nuclear reactors, the United States "will proceed and try to design or look at [whether] there is something we have overlooked over in the United States."

Energy Secretary Steven Chu Says Obama Administration Remains Committed To Nuclear Power (LAT)

Steven Chu, testifying before a House subcommittee, says it's too early to assess how the crisis at a Japanese nuclear plant will affect plans to develop more US nuclear power facilities. But, the Energy secretary says, 'the administration believes we m

By Kathleen Hennessey, Washington Bureau

Los Angeles Times, March 16, 2011

WASHINGTON – Energy Secretary Steven Chu on Tuesday restated the Obama administration's commitment to keeping nuclear power in the mix of energy sources under development in the US, but declined to discuss how the evolving nuclear disaster in Japan might affect that effort.

"The administration believes we must rely on a diverse set of energy sources, including renewables like wind and solar, natural gas, clean coal and nuclear power," Chu said in testimony before a House subcommittee. "The administration is committed to learning from Japan's experience as we work to continue to strengthen America's nuclear industry."

Chu echoed assurances made by the White House on Monday that nuclear facilities in the US are maintained at the highest safety standards. Those near the fault lines and the coasts are designed to withstand the double blow of an earthquake and tsunami that rocked reactors in Japan and led to the release of radioactive material, he said.

More than 30 experts from the Department of Energy have been deployed to assist Japanese officials still struggling to stabilize reactors and assess potential fallout, Chu said. Emergency response experts stationed at US consulates and military installations will assist with surveying and sampling. The US has sent more than 17,000 pounds of monitoring equipment intended to provide early detection of contamination on the ground.

"We can be assured that whatever does get released, we can give people fair warning," Chu told the energy and water subcommittee of the House appropriations committee.

The disaster in Japan vividly illustrates public fears about the safety of nuclear power at a time when the Obama administration is accelerating its push for nuclear expansion. No new reactors have been developed since 1979, when investors and the public veered away from nuclear power after the partial meltdown at the Three Mile Island facility in Pennsylvania.

But spurred by a shift in policy, the industry has seen a recent revival. That expansion was always on uncertain footing and the incident in Japan would likely further complicate those efforts.

Of the first wave of four new nuclear projects, just one remains clearly on track – two new reactors at the Vogtle plant near Augusta, Ga., Chu told lawmakers, adding that investors will likely look even harder at whether nuclear plants will be safe.

Asked whether he thought the crisis at the Japanese reactor would put the brakes on nuclear expansion, Chu demurred.

"I still feel it's probably premature to say anything other than, 'We will learn from this and all forms of energy do present risks,'" Chu said.

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Energy Secretary Defends US Nuclear Industry (CNN)

CNN, March 16, 2011

Washington (CNN) – Energy Secretary Steven Chu sought to reassure Congress on Tuesday that America's nuclear power plants are sufficiently protected against the kind of disaster now facing Japan.

He also insisted that, contrary to assertions of many skeptics within the environmental movement and elsewhere, nuclear power needs to play a key role in the development of a more balanced US energy policy.

Chu said federal authorities responsible for overseeing US nuclear plants have accounted for combined earthquake and tsunami scenarios similar to what led to the crisis in Japan.

"The American people should have full confidence that the United States has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly," Chu told members of a House subcommittee. Officials are "committed to learning from Japan's experience as we work to continue to strengthen America's nuclear industry."

The secretary said that "whenever there is a reactor near a (potential) earthquake site, we look to what's the maximum size of that particular earthquake that geologists (say) can ever happen, and we design considerably above that."

President Barack Obama's fiscal year 2012 budget request includes $36 billion in loan guarantee authority to help spur growth in nuclear industry. The push to expand such power has gained significant momentum in recent years, a reversal in attitudes adopted after the 1979 Three Mile Island disaster in Pennsylvania.

Members of the House panel expressed a need for caution in moving forward with nuclear power but appeared generally supportive of the administration's stance.

"As a country, I can't imagine how we go forward ... if we don't have nuclear in the mix," said Rep. Chakah Fattah, D-Pennsylvania.

Other countries have reacted to the Japanese disaster with a greater sense of alarm. Thousands of German demonstrators urged their leaders Monday night to shut down nuclear power plants in their country. Chancellor Angela Merkel has announced a three-month moratorium on the extension of the operation periods for nuclear plants in her country.

Chu noted Tuesday that his department has more than 30 people on the ground in Japan to assist with disaster response operations.

"Officials from the Department of Energy, the Nuclear Regulatory Commission and other agencies have maintained close contact with Japanese officials and have provided the Japanese government with expertise in a variety of areas," he said.

The secretary indicated that US authorities are closely monitoring radioactive emissions in Japan and analyzing potential outcomes "based on a variety of scenarios."

Washington has sent "a great deal" of monitoring equipment to Tokyo in order to help track radiation and provide "fair warning" if major metropolitan areas are endangered, he said.

CNN's Alan Silverleib contributed to this report.

Chu Says No Need To Suspend New US Nuclear Plant Permits (BLOOM)

By Jim Snyder

Bloomberg News, March 16, 2011

Energy Secretary Steven Chu said the US doesn't need to suspend work on new nuclear permits while investigating the crisis in Japan, where officials are struggling with reactors damaged by an earthquake and tsunami.

The Nuclear Regulatory Commission review is long enough that revisions can be made to reflect findings from the examination of failures at Tokyo Electric Power Co.'s Daiichi nuclear station, he said.

"If you look at the process in which the NRC approves going forward with construction projects and nuclear reactors, it's a thoughtful process," Chu told reporters today after appearing before the House Appropriations subcommittee on energy and water development. "It's a multiyear process and because of its very nature, I think these things can proceed."

Lawmakers set aside plans today to review the Energy Department's 2012 budget and focused on how US nuclear reactors withstand what Chu referred to as the "double-barrel whammy" that crippled reactors at the Fukushima Daiichi plant and raised the threat of a catastrophic radiation leak.

"We need to take a hard look at any lessons learned from this tragedy that can further improve the safety of our reactors," Chu said during the subcommittee hearing.

US power-plant developers are required by regulators to design plants that can survive worst-case scenarios, such as earthquakes and tsunamis, said Chu, who won the Nobel Prize for physics in 1997.

The administration sent equipment and nuclear experts to Japan to provide advice and technical assistance, Chu said.

White House press secretary Jay Carney said the NRC is constantly reviewing safety at currently operating plants and has the authority to order a shutdown of any facility that doesn't meet standards or to upgrade safety procedures.

He declined to comment on the German government's decision to take its seven oldest nuclear reactors offline as part of a nationwide safety review. The NRC is "constantly" evaluating standards, "and that would apply to old reactors as well as newer ones."

Nuclear power was defended by members of the energy and water development subcommittee, including Representative Rodney Frelinghuysen, a New Jersey Republican and chairman of the panel.

Chu reiterated the administration's support for nuclear power and said new reactor designs similar to Southern Co. (SO)'s Vogtle unit are safer because they rely less on electric power to pump cooling water to prevent overheating.

The planned Vogtle plant, which received $8.3 billion in loan guarantees from the Energy Department, would use the AP 1000 reactor design by Toshiba Corp. (6502)'s Westinghouse Electric Co.

The reactor "relies on the natural forces of gravity, natural circulation and compressed gases to keep the core and containment from overheating," according to the company's website.

Chu said the new design doesn't require "numerous backup systems."

The Nuclear Regulatory Commission is reviewing the permit application for the Vogtle plant.

Carney said Obama "believes that we need to proceed responsibly with the safety and security of the American people in mind and, if we do that, that nuclear can continue to be an element in our energy arsenal."

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UPDATE 2-US Energy Chief: Don't Delay New Nuclear Plants (REU)

By Tom Doggett and Jeff Mason

Reuters, March 16, 2011

Full-text stories from Reuters currently cannot be included in this document. You may, however, click the link above to access the story.

US: Japan Nuke Crisis 'No Concern' For US Health (AFP)

AFP, March 16, 2011

WASHINGTON (AFP) – US Energy Secretary Steven Chu said Tuesday that quake-battered Japan's nuclear crisis posed "essentially no concern" for the health of people in the United States.

"I think there's essentially no concern in terms of the health effects on American shores," Chu told reporters after testifying to a key congressional committee on a range of issues including Japan's damaged Fukushima atomic plant.

He had been asked about report of people in the United States fearfully buying up medicine designed to stave off radiation poisoning.

"I think they really shouldn't be doing those things, quite frankly, (but) it's a free country," said Chu.

Radiation Exposure: Why US Is Confident West Coast Isn't In Danger (CSM)

Christian Science Monitor, March 16, 2011

Radiation exposure fears appear to have led to a run on iodine tablets in the US. But federal officals say that is an overreaction. They say weather patterns would disperse radiation from Japan to the point that it would present no health risk by the time it hits American shores.

Washington

Japan's nuclear crisis has made many people in the US concerned that radioactive contamination might reach American shores. Potassium iodide – a compound that if ingested guards against some of the most dire side effects of radiation exposure – is in short supply in some areas, particularly the West Coast.

Anbex Inc., a Virginia firm that is a leading supplier of potassium iodide, sold out its stockpile of tablets over the weekend. The company's website notes that new product is not expected until April 18.

But US officials on Tuesday said that they believe the worry driving this demand is an overreaction.

"I think there's essentially no concern in terms of the health effects on American shores," Secretary of Energy Steven Chu told reporters after testifying before the House Energy and Commerce Committee on his department's budget.

At the White House, spokesman Jay Carney made the same point, repeating a statement made earlier by a top Nuclear Regulatory Commission official.

"You aren't going to have any radiological material that, by the time that it traveled those large distances, could present any risk to the American public," said Mr. Carney.

Still, radiation emitted by the stricken Fukushima Daiichi nuclear plant has been detected by US Navy ships 100 miles northeast of ground zero. Tokyo, to the south, has seen an increase in radiation levels. How can US officials be so certain that San Francisco won't feel the after effects if things get worse?

The answer to that question may be time, and distance. It would take days for prevailing winds to blow radioactive material from Japan to the US. Over that period, with that far to travel, rain and wind would disperse the radioactivity, according to the NRC.

Using an atmospheric modeling tool developed by the National Oceanic and Atmospheric Administration, weather expert Jeff Masters has attempted to predict where any potential radioactive plume from the Fukushima Daiichi plant might go. The vast majority of times he runs the data, the plume stays over water for five to seven days prior to landfall. On his blog, "Weather Underground," he writes that such a long time spent over the ocean means that the vast majority of radioactive particles would settle naturally or be washed out of the sky by precipitation.

"It is highly unlikely that any radiation capable of causing harm to people will be left in the atmosphere after seven days and 2000+ miles of travel distance," Dr. Masters writes.

The Chernobyl disaster, which involved a release of much more radiation than has been the case so far in Japan, spread significant contamination about 1,000 miles, notes Masters.

Of course Chernobyl, in what is now Ukraine, occurred in the heart of Europe, so that contamination had serious health repercussions for nearby populations.

In his congressional testimony, Secretary Chu said he was up early Tuesday morning looking at atmospheric models produced by his department to see where radiation might travel. He added that the crisis in Japan will eventually help the US strengthen the safety of its own reactors.

The administration "is committed to learning from Japan's experience," he said.

Chu and other officials have said that the White House remains committed to the development of a diverse set of energy sources, including nuclear power. No new US reactors have come online since the Three Mile Island accident of 1979.

Pressed as to whether Japan's troubles could stall nuclear power's resurgence in the US, Chu said "I still feel it is probably premature to say anything other than, 'We will learn from this all forms of energy do present risks.' "

Japanese Plant Poses Little Threat To US — For Now (AP)

Associated Press, March 16, 2011

It's a big ocean between northeastern Japan and the United States and thousands of miles from the crippled nuclear power plant to much of Asia. That means there's little chance — at least for now — that radiation from the shattered reactors could pose a serious threat to the wider world.

Experts say the amount of radioactivity emitted by the facility has been relatively minor and should dissipate quickly over the Pacific Ocean.

"Every mile of ocean it crosses, the more it disperses," said Peter Caracappa, a radiation safety officer and clinical assistant professor of nuclear engineering at Rensselaer Polytechnic Institute in Troy, N.Y.

The only people at immediate risk are workers inside the plant and the people living closest to it. The danger of radiation exposure elsewhere is minuscule — unless the plant sustains a complete meltdown, which would sharply escalate the dangers.

Japanese officials told the International Atomic Energy Agency on Tuesday that a fire had broken out in a fuel storage pond where used nuclear fuel is kept cool and that radiation had been "released directly into the atmosphere."

If the water level in such storage ponds drops to the level of the fuel, a worker standing at the railing looking down on the pool would receive a lethal dose within seconds, according to a study by the Millstone nuclear plant in Connecticut.

Such intense radiation can prevent workers from approaching the reactor or turn their tasks "into suicide missions," said David Lochbaum, a nuclear engineer who heads the nuclear safety program of the Union of Concerned Scientists.

Next in the line of danger would be those who live within a 20-mile radius. Areas around the plant have been evacuated for that reason.

"The odds of someone outside the plant getting an acute injury — sick in the next couple of weeks — is close to zero," said John Moulder, a professor of radiation oncology at the Medical College of Wisconsin in Milwaukee who studies the effects of radiation exposure.

The radioactive particles probably contain materials linked to cancer in high doses, including cesium and iodine. The long-term cancer risk for nearby residents will depend on exposure and cleanup efforts, Moulder said.

Radioactive cesium and iodine also can combine with the salt in sea water to become sodium iodide and cesium chloride, which are common elements that would readily dilute in the wide expanse of the Pacific, according to Steven Reese, director of the Radiation Center at Oregon State.

Winds in the area are currently blowing toward the coast because of a winter storm. But that will change to a brisk wind blowing out to sea at least through Wednesday, he said by telephone.

Still, the forecast offered little comfort to those living in the area — and in nearby countries such as Russia.

The Russian Emergencies Ministry said it was monitoring radiation levels and had recorded no increase.

Many Russians, however, distrust the reassurances, perhaps remembering the Chernobyl disaster 25 years ago and how long it took the Soviet government to reveal the true dangers of the radiation.

"The mass media tells us that the wind is blowing the other way, that radiation poses no threat. But people are a mess," Valentina Chupina, a nanny in Vladivostok, said in a comment posted on the website of the newspaper Delovoi Peterburg. "They don't believe that if something happens we'll be warned."

The news portal Lenta said that in addition to potassium iodide and instruments used to measure radiation, people in the Far East also were stocking up on red wine and seaweed, which they believed would offer protection from radiation.

Even so, many experts here say that this emergency is nowhere near the level of Chernobyl, the worst nuclear disaster in history.

For one, that reactor's core contained graphite that caught fire, which blasted radiation high into the air and into wind currents that carried it long distances. The Japanese core is metal and contains no graphite, experts said.

The Chernobyl plant also lacked a heavy shell around the reactor core. And the incident there happened quickly, with little time to warn nearby residents.

So far, the radiation released in Japan has not reached high altitudes, said Kathryn Higley, director of the Oregon State University Department of Nuclear Engineering and Radiation Health Physics.

"In addition, radioactive material is sticky. It has a static charge," she said, so it will stick to the sides of buildings, and "rain is going to knock it down."

As a precaution, the World Meteorological Organization has activated specialized weather centers to monitor the situation. Those centers, in Beijing, Tokyo and Obninsk, Russia, will track any contaminants.

Meanwhile, the International Atomic Energy Agency said a single reading at one location in the Japanese plant recorded levels of 400 millisieverts, or 40 rems, per hour.

"You start getting radiation sickness at around 100 rems" — nausea and vomiting. Damage to blood cells can show up two to four weeks later, said Dr. Fred Mettler, a University of New Mexico radiologist and adviser to the United Nations on radiation safety. He led an international study of health effects after the Chernobyl disaster.

Levels were much lower at a plant gate, and "if you get further away from that, the population got a very small dose if anything," said Kelly Classic, a radiation physicist at the Mayo Clinic and a representative for the Health Physics Society, an organization of radiation safety specialists.

The US Nuclear Regulatory Commission says doses of less than 100 millisieverts, or 10 rems, over a year are not a health concern.

By comparison, most people receive about three-tenths of a rem every year from natural background radiation, according the US Environmental Protection Agency. A chest X-ray delivers about .1 millisieverts, or .01 rem of radiation; a CT scan of the abdomen and pelvis is about 14 millisieverts, or 1.4 rems.

If a full meltdown occurs at the Japanese plant, the health risks become much greater — with potential release of uranium and plutonium, said Dan Sprau, an environmental health professor and radiation safety expert at East Carolina University in Greenville, N.C.

"If that escapes," Sprau said, "you've got a whole new ball game there."

Japan Crisis Spikes Demand For Radiation Pills (AP)

Associated Press, March 16, 2011

WASHINGTON – Japan's nuclear crisis is spiking demand in the US and a few other places for a cheap drug that can protect against one type of radiation damage — even though the risk is only in Japan.

Health agencies in California and western Canada warned Tuesday that there's no reason for people an ocean away to suddenly stock up on potassium iodide. Some key suppliers say they're back-ordered and are getting panicked calls from potential customers.

"Tell them, `Stop, don't do it,'" said Kathryn Higley, director of radiation health physics at Oregon State University.

"There's a lot of mythology about the use of potassium iodide," added Dr. Irwin Redlener, a pediatrician and disaster preparedness specialist at Columbia University. "It's not a radiation antidote in general."

The pill can help prevent radioactive iodine from causing thyroid cancer, for which children are most at risk in a nuclear disaster.

Japan's Nuclear Safety Agency has stored potassium iodide to distribute in case of high radiation exposure, and the US Navy is giving it to military crews exposed to radiation as they help with relief efforts in Japan. But government and independent experts say that Americans have little to fear from any radiation released by the damaged Japanese nuclear plant.

"You just aren't going to have any radiological material that, by the time it traveled those large distances, could present any risk to the American public," said Nuclear Regulatory Commission Chairman Greg Jazcko.

Other governments echoed that warning.

"We do not expect any health risk following the nuclear reactor releases in Japan, nor is the consumption of potassium iodide tablets a necessary precaution," British Columbia's health ministry told the public Tuesday.

In Russia, where memory of the very different Chernobyl disaster 25 years ago is strong, media reports said pharmacies in Vladivostok, a major port just west of Japan, had run out of the pills.

"The mass media tells us that the wind is blowing the other way, that radiation poses no threat. But people are a mess," Valentina Chupina, a nanny in Vladivostok, said in a comment posted on the website of the newspaper Delovoi Peterburg. She said people don't believe the government will warn them if something goes wrong so potassium iodide is being bought up in the pharmacies.

In the US, whether people fear fallout from Japan or a nuclear accident here, potassium iodide seems to have become something of a hot commodity.

"I feel strongly there is a high likelihood we will have radiation coming from Japan," said Tammy Lahutsky as she waited at the Texas Star Pharmacy in Plano, Texas on Tuesday. There's not, but she bought six bottles for herself and a friend, anyway.

"I can't tell you how many women are calling up in tears," said Alan Morris, president of Anbex Inc., a leading supplier. His order line ringing in the background, Morris said the company had sold out of more than 10,000 14-pill packages and doesn't expect more supply until April.

Internet seller NukePills.com donated 50,000 potassium iodide tablets to a physician-run disaster-relief team in Japan, pills not suitable for US retail sale because of packaging issues and expiration dates. Regardless, "these pills really needed to go where people were in the most dire need," said company president Troy Jones. Meanwhile, he said he's taken over 6,000 orders since Friday and is selling a liquid version until more pills become available.

What does this drug do?

Potassium iodide, a salt also known as KI, has just one use: It shields the thyroid from radioactive iodine. It blocks no other type of radiation, and protects no other body part.

The drug, either pill or liquid form, is sold over-the-counter and is considered safe, although some people may experience allergic reactions.

Potassium iodide is most important for children and pregnant women, because a growing thyroid is much more active and more likely to absorb radioactive iodine, said Columbia's Redlener. It should be given within a few hours of radiation exposure — but isn't considered that useful for people over age 40.

At the same time, the crisis renews a question that the US government has debated for years: Should people keep small supplies of potassium iodide on hand in case of a local radiation emergency?

The federal government already stockpiles the drug, and offers enough for states also to keep on hand to treat every resident within 10 miles of a nuclear reactor. About 22 states have requested or received some of those doses, and localities periodically offer free supplies for nearby residents to store themselves.

But radiation health specialists debate whether a 10-mile radius is big enough — and whether people should store their own. Some are pushing the Obama administration to reconsider. Obama health officials wouldn't comment Tuesday.

"My feeling is I would have every household within of a plant have it in their medicine cabinet," said Redlener, adding that the Japan crisis illustrates the difficulty of getting pills from a central warehouse to panicked people during an emergency.

Even on the East Coast, some health departments reported increased interest from power-plant neighbors Tuesday: A Pennsylvania hotline that normally gets five to 10 calls a week about storing the pills has fielded 85 such inquiries in the past two days.

Japan's Nuclear Crisis Prompts U. S. Run On Iodine Pills Despite No Threat (MCT)

By Rob Hotakainen And Renee Schoof, Mcclatchy Newspapers

McClatchy, March 16, 2011

WASHINGTON — Major suppliers of pills that provide protection from radiation say they're out of stock due to panic buying, even though experts say that the Japanese nuclear catastrophe poses no health threat to Americans.

It's a different story in Japan, where a failing nuclear plant spewed out more radiation on Tuesday, as the crisis concluded its fifth day. With thyroid cancer posing the most immediate health risk, Japanese officials made plans to distribute potassium iodide pills in an attempt to prevent it.

Troy Jones, president of nukepills.com in Mooresville N.C., said he has sold 6,500 orders of iodine pills in the last four days. In a normal four-day period, he said he'd sell only 100. He said most of the orders came from customers in Washington State, Oregon and California who want to protect themselves from Japanese radiation.

"Everybody thinks it's going to just land in their backyard in Malibu or something," Jones said.

On Capitol Hill, Democratic Rep. Ed Markey of Massachusetts called on the Obama administration to supply all US citizens living within 20 miles of a nuclear plant with emergency pills.

The World Health Organization said that taking iodine tablets could be an important action to reduce the risk of thyroid cancer from radiation exposure. But it said that the decision should only be made by national health authorities.

Most experts in atmospheric science say very little radiation could end up in the US

"Even though the winds are blowing radiation out into the Pacific, they're (thousands of) miles from the US," said Thomas Tenforde, president of the National Council on Radiation Protection and Measurements. "Plumes of radiation are going to get dispersed pretty widely. They're not just going to travel in a straight line to North America."

Dan Jaffe, a University of Washington Bothell atmospheric chemist who has studied pollution patterns crossing the Pacific from Asia for 20 years, said it's possible that radiation from a major meltdown of one or more nuclear reactors in Japan could reach the Puget Sound, 4,800 miles away. But he said there would be no health risk.

"I can't imagine a scenario where the radiation release would be big enough to be a health hazard," he said.

But some said that trying to measure radiation could get tricky.

David Lochbaum, a nuclear engineer who directs the Union of Concerned Scientists' nuclear safety program, said that contamination levels are not necessarily lower the farther away people are from the source. In the Chernobyl disaster, some places 100 miles away had more radiation than other points 10 to 15 miles away. The distribution depends on how winds carry it and where rains wash it down, he said.

Ed Lyman, a physicist with the Union of Concerned Scientists global security program and an expert on nuclear plant design, said that there were some reports that Japanese officials hadn't handed out potassium iodide pills immediately. If true, that would be a concern, because people need to take the pills several hours before they're exposed to the radiation, he said.

As for the United States, Lyman said "it's unlikely, even worst case, that there would be significant health effects for people."

"No amount of additional radiation is a good amount, but I would think that would not be significant or anything for the US to be concerned about," he said.

With the public jittery over nuclear fears, Energy Secretary Steven Chu went to the Capitol to tell a House subcommittee that Americans "should have full confidence that the United States has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly."

And while governments in Switzerland and Germany took steps to curtail their nuclear energy programs, Chu told the House Appropriations Subcommittee on Energy and Water Development that the US "must rely" on nuclear power and that the administration will continue to push $36 billion in loan guarantees to help power companies build more plants.

Both the Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE) said the US is stepping up its aid to Japan. Chu said the DOE has sent 34 people and 7,200 pounds of gear, including firefighting equipment and airborne equipment that will be used to monitor growing radiation levels caused by the partial meltdown of the Fukushima Daiichi nuclear complex.

"No expense should be spared (in helping Japan)," Pennsylvania Democratic Rep. Chaka Fattah told Chu, adding that the US should not be deterred in moving forward with its nuclear plans because of the explosions in the Japanese plant: "We need to make sure they're safe."

Washington Rep. Norm Dicks, the top-ranked Democrat on the House Appropriations Committee, asked whether nuclear plants in the United States could withstand very large earthquakes. He told Chu that his home state has "the potential for a 9" on the Richter Scale.

Chu said that the government insists that all plants be assessed for their "maximum geological risk" and that they be designed at a level above that.

At nukepills.com, Jones no longer was selling pills but was advising customers to buy liquid iodine, which he said has the same effect. A bottle, which has enough iodine to protect one adult for 15 days, sells for $24.99, while a 14-packet of pills goes for $10.

Jones, who started the business in 1999 when he moved near a nuclear plant in Charlotte, said his phone was ringing every 10 seconds. And he said he understood what was prompting the demand from customers.

"To them, it's cheap insurance, it's FDA approved, it's proven science," he said. "We know how it works, we know why it works, we know it does work. ... We are so slammed with orders. It's the busiest I've seen it in 12 years."

Jones was excited when he ordered another 5,000 bottles on Tuesday and was told that he'd get it by Friday.

But like other health officials, he said he knew his product wasn't needed by his West Coast customers for the Japanese explosions.

"I think it's unnecessary," he said. "It's necessary for people to stockpile potassium iodine on a normal everyday basis have it in your emergency kit, but I do not believe it will be needed on the West Coast for the events that are happening in Japan."

(Mike Archbold of The Tacoma News Tribune contributed to this article.)

NUCLEAR CRISIS: Radiation Fears Spur US Sales Of Potassium Iodide Pills (GWIRE)

By Hannah Northey

Greenwire, March 16, 2011

US manufacturers of potassium iodide pills are reporting "overwhelming demand" and some temporary shortages, even though federal regulators say radiation from Japan's crippled Fukushima Daiichi nuclear plant is not expected to reach America.

Virginia-based Anbex Inc. reported yesterday it was out of potassium iodide pills until mid-April. A common form of salt, the compound is one of three FDA-approved drugs that block human and animal thyroid glands from absorbing excessive amounts of radiation. The US-based arm of Swedish company Recipharm AB, which produces the potassium iodide ThyroSafe tablets, also is reporting "overwhelming need" and has temporarily shut down its online sales orders.

The Nuclear Regulatory Commission, which works with the Energy Department and other agencies to monitor radioactive releases and predict their path, said on Sunday that "all the available information" indicates small releases from the Fukushima reactors were being blown out to sea. Given the distance between Japan and Hawaii, Alaska, the US territories and the West Coast, NRC said those regions were not expected to experience any harmful levels of radioactivity.

The International Atomic Energy Agency (IAEA) said Fukushima Daiichi's Unit 2 experienced an explosion yesterday that may have damaged the containment vessel, on the heels of explosions at Units 1 and 3. The agency also reported a fire at Unit 4.

The Japanese government is evacuating residents within a 20-kilometer zone around the plant, and advising people within 30 kilometers to take shelter indoors. The government also is distributing iodine tablets, according to the IAEA, and a 30-kilometer no-fly zone has been established around the plant.

The NRC is ramping up its own efforts, saying yesterday it was sending more of its officials to Japan to help the Fukushima Daiichi plant operators cool the reactors, as well as offering shelter, potassium iodide, staffing and equipment for victims of the earthquake and tsunami.

Meanwhile, attention in the United States has turned to increased scrutiny of the country's nuclear fleet and how to protect Americans in the event of such a crisis, including the purchase and distribution of potassium iodide.

California health officials issued a statement on their website informing the public that taking potassium iodide pills is not recommended at this time, since the NRC said Japan's nuclear crisis presents no danger to the state.

But Rep. Edward Markey (D-Mass.) is once again pushing the federal government to distribute potassium iodide to people within a 20-mile radius of a nuclear power plant.

The NRC currently requires states with populations within the 10-mile emergency planning zone of a commercial nuclear reactor to considering dispensing potassium iodide as a protective measure along with evacuations and shelter provisions.

Markey says members of the Obama administration have rebuffed his requests, despite repeated letters.

Potassium iodide

The Food and Drug Administration (FDA) issued a final guidance on potassium iodide in 2001 to inform decisions by regulatory agencies, including the NRC and state and local governments, on the safety of the pills. That same year, the NRC implemented its 10-mile rule.

FDA found, based on studies following the 1986 nuclear meltdown in Chernobyl, that potassium iodide effectively blocks the thyroid from taking up radioiodine, and its use will "be effective in reducing the risk of thyroid cancer in individuals or populations at risk for inhalation or ingestion of radioiodines."

The FDA said short-term administration of the drug is safe, but could include side effects of salivary gland inflammation, gastrointestinal disturbances, allergic reactions and minor rashes. The agency also said people with iodine sensitivity should not take the drug.

The agency spelled out that the pills are effective for 24 hours at a time, and that risk of inhaled radioiodines at the "time of the emergency" depends on the magnitude of the release, wind direction and other atmospheric conditions, and "thus may affect people both near to and far from the accident site."

The pills do not guard against the body's uptake of other radioactive materials, the FDA said, provide no protection against "external irradiation of any kind" and should be used in conjunction with evacuation plans, shelters and control of foodstuffs.

The FDA is now directing the public to buy potassium iodide from a handful of companies, including Anbex, Recipharm, and Fleming & Co. Pharmaceuticals.

According to NRC documents, the shelf life for 130-milligram potassium iodide pills is pills is seven years, and the 65-milligram tablets have a shelf life of six years.

Markey has raised concerns that the drug should be distributed to a larger number of inhabitants surrounding US nuclear facilities.

Markey sponsored legislation that became law in 2002 making potassium iodide (KI) available to state and local governments within a 20-mile radius of nuclear reactors.

But the George W. Bush and Obama administrations decided against implementing the law, Markey said, and are "denying communities access to stockpiles of" potassium iodide. Markey sent a letter yesterday to John Holdren, the president's director of the Office of Science and Technology Policy, asking the administration to implement the amended Public Health Security and Bioterrorism Preparedness and Response Act of 2002.

"Japan reportedly is now distributing KI to its citizens," Markey wrote. "We should not wait for a catastrophic accident at or a terrorist attack on a nuclear reactor in this country to occur to implement this common-sense emergency preparedness measure."

EPA Deploys More Radiation Monitors To The West Coast (MERCN)

By Paul Rogers

San Jose Mercury News, March 16, 2011

As public concern grows about radiation from Japan possibly drifting to the West Coast of the United States, the US Environmental Protection Agency on Tuesday announced that it will deploy more electronic monitors that measure radiation levels in the air.

The monitors, which detect gamma radiation and radioactive particles, will be set up in "parts of the Western US and US territories," the agency said in a statement.

EPA officials, however, refused to answer questions or make staff members available to explain the exact location and number of monitors, or the levels of radiation, if any, being recorded at existing monitors in California. Margot Perez-Sullivan, a spokeswoman at the EPA's regional headquarters in San Francisco, said the agency's written statement would stand on its own.

Critics said the public needs more information.

"It's disappointing," said Bill Magavern, director of Sierra Club California. "I have a strong suspicion that EPA is being silenced by those in the federal government who don't want anything to stand in the way of a nuclear power expansion in this country, heavily subsidized by taxpayer money."

The EPA has 124 air monitors, which provide hourly readings, already in place in its "Rad-Net" system to measure radiation, including 12 in California and two in Hawaii. One is \\in San Francisco, on the roof of the Bay Area Air Quality Management District. Others are in San Jose, Sacramento, Fresno, Los Angeles and San Diego.

The EPA also has 40 mobile monitors, some of which are now being deployed. The agency clarified that some would go to Guam, Hawaii and Alaska, but did not respond to questions about California.

"As the Nuclear Regulatory Commission has said, we do not expect to see radiation at harmful levels reaching the US from damaged Japanese nuclear power plants," the EPA statement said.

Experts on Monday told the Mercury News that high levels of radiation are unlikely to hit California because Japan is 5,000 miles away. However, studies from the California Air Resources Board have found that coal dust and other pollution from China regularly reaches the state.

Most experts said that if the Japanese reactors experience a complete Chernobyl-type explosion, fire and release of nuclear material, some could reach California, but probably in very low amounts.

Meanwhile, another branch of the Obama administration generated confusion Tuesday. During a Northern California visit, US Surgeon General Regina Benjamin was asked by a TV reporter whether California residents who are stocking up on potassium iodide are being extreme.

Potassium iodide blocks the thyroid from absorbing radioactive material. It is often used by people who are exposed to radiation.

"It's a precaution," she said. "You mean stocking up here? I haven't heard that. But it's a precaution, yeah."

Benjamin toured Mills-Peninsula Medical Center in Burlingame and San Mateo Medical Center to discuss trends in electronic medical records and minority health.

State and county health officials in California have told residents not to take potassium iodide because the Nuclear Regulatory Commission has said that US residents are not at risk from the disaster, and some people are allergic to the medicine.

After the surgeon general's remarks were highlighted by the Drudge Report, a website that receives 36 million hits a day, with the headline "Surgeon General: Get Iodide," the Mercury News asked for clarification.

"She commented that it is always important to be prepared; however, she wouldn't recommend that anyone go out and purchase it for themselves at this time," said Dori Salcido, a spokeswoman for Benjamin.

Cities across the West reported runs on potassium iodide at stores. Some websites selling Geiger counters also said they had sold out.

"I called six stores today in Santa Clara County," said Charlie Bullock of Los Gatos. "You can't find it anywhere. Hopefully, if any radiation gets over the ocean, it will disperse. But if it doesn't, I'm afraid people in California will be caught off-guard."

Contact Paul Rogers at 408-920-5045.

So Far, Very Low Risk Of West Coast Contamination From Japanese Nuclear Accident, Experts Say (MERCN)

By Paul Rogers

San Jose Mercury News, March 16, 2011

As emergency workers struggled to prevent a full-scale meltdown at a Japanese nuclear plant, public health experts said Monday that there is little risk that radioactive material could reach California and the West Coast -- unless the disaster gets a lot worse.

And even then, the public health threat probably remains very small.

"Based on the type of reactor design and the nature of the accident, we see a very low likelihood -- really a very low probability -- that there's any possibility of harmful radiation levels in the United States, or in Hawaii or in any other US territories," Greg Jaczko, chairman of the Nuclear Regulatory Commission, said at Monday's White House media briefing.

That didn't stop some worried California residents from rushing to buy potassium iodide, which blocks the uptake of radioactive material to thyroid glands.

Meanwhile, state health officials said Monday that they haven't checked radiation monitors around the state for any rise in levels.

"We're not being told there's any reason to check the monitors," said Michael Sicilia, spokesman for California Department of Public Health. "We generally pull them once a month. If we're told by the feds we need to test them, we'll test them."

Northern Japan, where a 9.0 earthquake and tsunami crippled the cooling systems at three reactors at the Fukushima Daiichi Nuclear Power Station, is about 5,000 miles from the West Coast of the United States. The amount of material released

so far -- mostly radioactive steam -- has not been in large enough quantities to pour into the upper atmosphere and blow across the Pacific Ocean, experts said Monday.

"Based on what has happened to date, there is essentially zero risk," said Jerrold Bushberg, director of health physics programs at UC Davis.

"No appreciable amount of radioactive material will reach Hawaii or the West Coast," said Bushberg, who specializes in radiological emergency preparedness. "Anything there was would be so diluted, from rains over the Pacific Ocean, it would precipitate into the ocean. It wouldn't be anything I would be concerned about."

Nevertheless, if conditions are right, recent research has shown tiny particles can -- and regularly do -- drift from Asia to the United States.

Dust from sandstorms in China's Gobi Desert has been found in California. So has mercury burned in coal in Chinese power plants, as particles drifted across the ocean, raining down in small amounts into San Francisco Bay.

It can take six to 15 days for such particles to reach the United States, said Tony VanCuren, an atmospheric scientist with the California Air Resources Board who has studied the issue since 2001.

"We see it in the Rocky Mountains, in Alaska; it's very widespread," he said. "We've actually seen evidence of Asian dust in the Virgin Islands."

News of the growing crisis in Japan has sparked some Bay Area residents to head to pharmacies to buy potassium iodide tablets.

Santa Clara County's public health officer, Dr. Martin Fenstersheib, said he does not recommend that precaution. Some people are allergic to iodine and have severe reactions, he said.

"There is no reason for doing it," he said. "I understand that people are afraid of the unknown. Even with earthquakes, we're used to them. It's a scary thing when people say 'nuclear contamination.' It's something you can't see, and because you can't see it, people are afraid. It's a normal human reaction. But there's no risk at this point."

In the 1986 Chernobyl disaster, radioactive material from a raging fire spread across much of Europe and was detected on the clothing of Swedish workers, which first alerted the world to the disaster that Soviet authorities tried to keep quiet.

That calamity, the world's worst nuclear disaster, resulted in the deaths of 32 workers who tried to put out the fire at the Ukrainian plant. A 20-year study released last year by the U.N. Scientific Committee on the Effects of Atomic Radiation found that there were about 6,000 cases of thyroid cancer in children from Ukraine and Belarus who drank milk with elevated levels of radioactive iodine from cows in the area. Treated correctly, thyroid cancer has a survival rate above 90 percent.

Radiation levels were not high enough to harm others in the former Soviet Union and Europe who lived in the area where the cesium-137, iodine-131 and other radioactive materials drifted for hundreds of miles, the study found.

"There is no scientific evidence of increases in overall cancer incidence or mortality rates," the study concluded.

If a full-scale meltdown occurs in Japan, with a massive fire and explosion, and loss of containment, as happened at Chernobyl, that could send large amounts of radioactive material into the air, drifting above 5,000 feet, where weather patterns could bring it to the United States. Even then, the material would be spread out very widely.

"For the moment, as long as they can keep the reactors cool, what they have is a local problem," VanCuren said. "If it becomes a catastrophic problem, the impact in North America will not be zero. but it will be small. For now, the risk to us far downwind is small."

Contact Paul Rogers at 408-920-5045.

NUCLEAR CRISIS: Could Calif. Reactors Be Next? (GWIRE)

By Colin Sullivan

Greenwire, March 16, 2011

SAN FRANCISCO -- California's coast and its nuclear power plants are unlikely to experience the kind of massive offshore earthquake or sustained tsunami that rocked Japan last week, but more local tsunamis from submarine landslides are possible, according to experts who study West Coast tectonics.

The two nuclear plants on the California coast operate near population centers near the Pacific Ocean. Pacific Gas and Electric Co.'s Diablo Canyon facility is close to San Luis Obispo, and Southern California Edison Co.'s San Onofre plant is just south of Los Angeles.

The generating stations, in operation since the mid-1980s, are built to withstand earthquakes of 7.0-7.5 magnitude, and both have tsunami walls that are 25 to 30 feet tall. But the plants are more threatened by onshore faults than offshore, with Diablo Canyon especially vulnerable given its proximity to the San Andreas Fault.

Costas Synolakis, director of the Tsunami Research Center at the University of Southern California, said the offshore earthquake zone close to either plant is not capable of producing the 8.9 magnitude quake that devastated Northeast Japan last week. Regions farther north, from the California line to British Columbia, are in much greater danger for that sort of event, he said.

Those areas are near what is called the Cascadia Subduction Zone, which is capable of producing the kind of tsunami that inundated Japan and leveled everything in its path. The zone last ruptured around 1700, so, in theory, a big quake is possible anytime.

"The Cascadia Subduction Zone ... is the only offshore earthquake zone [on the West Coast] capable of producing megathrust events, i.e., very large 'top 10' type earthquakes," said Synolakis, adding that Seattle is in far more danger than any spot south of the California-Oregon line for that kind of quake plus tsunami.

"The impact to Seattle could be devastating," he said.

The Cascadia zone is capable of a 9.2 quake, which "could happen any time," Synolakis said. Offshore faults close to either nuclear power installation in California are not likely to top 7.5.

Even so, threats from the Earth's volatile geology in Southern California are plentiful.

Onshore earthquakes are always a danger, and there is a chance submarine avalanches (also called landslides) triggered by quakes could produce local tsunami events that wash into either of the two California plants, both of which will soon have to be relicensed if they are to continue pumping out electricity.

Synolakis said submarine landslides "can generate a fairly large tsunami," though this sort of wave would not travel across the ocean. Such events are not usually considered during safety proceedings because they are so rare.

"These things can be fairly devastating, locally," said Synolakis, estimating that the maximum run-up onshore would be about 45 feet in the southern part of the state.

'The real Earth is not perfect'

Mark Legg, an offshore fault expert and geophysicist with Legg Geophysical in Huntington Beach, Calif., agreed that the Cascadia zone is the real threat for a coastal quake/tsunami event that might rival Japan's.

The last time something of that magnitude occurred off the California coast was more than 30 million years ago, Legg said, explaining that the North American plate is no longer "being shoved" (or subducted) under the continental margin offshore, as a plate was in Japan last week.

Legg noted that the largest local tsunami off California was caused by a quake in 1927 in Point Arguello, which produced waves of about 7 feet. But he was also hesitant to rule anything out, because even offshore quakes that would tend to move more horizontally -- as they would off the California coast -- can "slip sideways" and produce walls of water.

"The real Earth is not perfect," said Legg, explaining that California has a number of spots called transverses, one right off the coast of Santa Barbara, that could result in tsunamis if the sea floor ruptures at the right angle.

"Those are areas that could see tsunamis generated even in a strike-slip system," he said. "This is a problem which is still being sorted out in the scientific community."

Legg noted that the Bay Area's Loma Prieta quake, in 1989, whose epicenter was in the Santa Cruz Mountains south of San Francisco, led to a tsunami caused by the uplift of the thrust movement so close to the ocean. The area of the uplift extended offshore, creating a tsunami.

"It wasn't very big, so it didn't do much damage," Legg said. "But if the landslide were bigger, it could be a lot worse."

A "very large submarine landslide" documented from about 7,500 years ago created coastal waves in the 20- to 50-foot range, Legg said, calling an event of that magnitude a "worst-case" scenario.

It is those kinds of scenarios that have led some academics to question where we build nuclear capacity. Chris Goldfinger, director of the Active Tectonics and Seafloor Mapping Laboratory at Oregon State University, said the recent events in Japan could signal a need to revisit whether any society should build such plants next to fault zones.

"Building critical facilities on active faults is an inherently dangerous practice and should only be done when all scenarios are very well accounted for, as they were not in Japan, even though the Japanese take great care with safety issues," Goldfinger said.

Diablo Canyon relicensing

For PG&E, the Japan quake comes just as the Nuclear Regulatory Commission is reviewing its application to relicense the 2,240-megawatt plant, to keep it operational through 2045. Edison is also expected to file for a new license, for San Onofre, which is about 2,200 megawatts in size.

The question of new seismic studies for both appears likely to dog the entire relicensing process, which tends to take about four years to complete. PG&E has already found itself in the crosshairs for claiming, in testimony submitted to the California

Energy Commission in October 2008, that "there is no uncertainty regarding the seismic setting and hazard at the Diablo Canyon site."

A letter sent last month from 10 California lawmakers to the Blue Ribbon Commission on America's Nuclear Future noted that weeks later, in November 2008, the US Geological Survey discovered a new offshore fault close the plant, making it the second active fault in the area.

"An intersection of the faults could significantly alter previously held assumptions about potential seismic activity and threat to Diablo Canyon," the lawmakers wrote, asking for a hearing before the Blue Ribbon Commission.

The utility is also trying to recover funds from ratepayers for the relicensing to the tune of $85 million. That process is under way at the California Public Utilities Commission. PG&E did not return calls seeking comment.

Napolitano: US Drills For Disasters Like Japan's (NYT/AP)

New York Times/Associated Press, March 15, 2011

DENVER (AP) – US emergency agencies constantly rehearse for a disaster like the one unfolding in Japan, and American first responders will learn from the experience of their Japanese counterparts, Homeland Security Secretary Janet Napolitano said Tuesday.

Napolitano, speaking at a conference in Denver, said the United States was already planning a drill based on a hypothetical major earthquake along the New Madrid fault in the central US when the earthquake, tsunami and nuclear-reactor crisis struck Japan.

"We are constantly practicing, using scenarios that are worst-case scenarios, to make sure we are as prepared and as up-to-date and as ready to go as we can be in any kind of a crisis," she said.

The drill, scheduled for May, coincides with the bicentennial of a series of three quakes on the New Madrid fault in 1811-1812, which were estimated to have ranged from 7.5 to 7.7 magnitude -- some of the largest ever in the United States. The US Geological Survey says there is a 7 to 10 percent chance of a similar quake occurring in that area in the next 50 years.

The New Madrid fault system is 150 miles long and touches five states: Illinois, Missouri, Arkansas, Kentucky, Tennessee.

Napolitano said her department works with the Nuclear Regulatory Commission to practice responding to a crisis at a nuclear reactor.

"We think about how we would manage a crisis where you lose all your communications capability, all your critical infrastructure, there's no electricity, you can't even pump water for people to drink," she said.

Napolitano said it's too early to say whether US practices or preparations will change because of the disasters in Japan. But she said the US will learn from Japan's experience, as it did from Hurricane Katrina in 2005 and the oil spill in the Gulf of Mexico last year.

The US is focusing now on providing whatever assistance the Japanese government asks for, Napolitano said. She said the NRC and the Energy Department have told her Japan is responding to the nuclear crisis the way US agencies would.

She also cited NRC assurances that any fallout from the Japanese reactors would not put the US at risk.

Napolitano spoke at a conference on the US network of "fusion centers," which gather and share federal, state and local intelligence on terrorism and other threats.

She said terrorist plots by US residents or citizens are increasing, and the centers are a key part of the US counter-terrorism strategy. There are about 70 fusion centers nationwide.

Napolitano said the Colorado fusion center, called the Colorado Intelligence and Analysis Center, played a "significant role" in the arrest of Najibullah Zazi, a former Denver airport shuttle driver who pleaded guilty to plotting to detonate explosives in New York City around the anniversary of the Sept. 11, 2001, attacks.

Napolitano Says US Will Learn From Japan's Disasater (DENP)

By Felisa Cardona

Denver Post, March 16, 2011

Full-text stories from this source currently cannot be included in this document. You may, however, click the link above to access the story.

Napolitano Says US Prepared For Japan Type Disaster (FOX)

By Kelly Burke

FOX News (blog), March 15, 2011

Secretary of the Department of Homeland Security Janet Napolitano says the US is constantly preparing to respond to disasters like the one in Japan. She says an annually held, major disaster preparedness exercise is already scheduled to be held May 16 to 20. This year's event will be held in the New Madrid earthquake zone which runs through several states along the Mississippi River in the center of the country.

According to the DHS website, "The purpose...is to prepare and coordinate a multiple-jurisdictional integrated response to a national catastrophic event. NLE 2011 will involve thousands of government officials at the federal, state, local and tribal levels, members of the private sector, and the general public. Participants will conduct simultaneous, related exercise activities at command posts, emergency operation centers and other locations in the Washington D.C. area and the eight affected central US states (Alabama, Arkansas, Illinois, Indiana, Kentucky, Mississippi, Missouri, and Tennessee)."

Napolitano mentioned the exercise in response to reporter's questions after her speech at the National Fusion Center Conference. The Secretary said the first priority of the department and other federal agencies is to assist Japan in responding to what she termed a triple disaster. "They've been hit by a record earthquake, they've been hit by a tsunami, they've been hit by a nuclear crisis."

She went on to say that the federal government, "is constantly practicing, using scenarios that are worst case scenarios to make sure that we are as prepared and up to date as we can be in any kind of crisis." Napolitano said a nuclear crisis is one of those the US works to prepare for. "We practice with the guidance and participation of the NRC (Nuclear Regulatory Commission) what would happen if something were to occur to one of the nuclear power plants in the United States."

While not a specific response to the crisis in Japan, the planned National Level Exercise in the New Madrid Seismic Zone is timely, as there are several nuclear power plants in the region.

Earlier, in a speech to homeland security advisors, law enforcement and intelligence officials, Secretary Napolitano announced the expansion of DHS' new "If You See Something, Say Something" public awareness campaign. "Ensuring our security is a shared responsibility that requires every individual to be alert and to recognize and report suspicious behavior."

The Secretary stressed the vital role played by fusion centers around the country which facilitate information sharing among federal, state, local and tribal law enforcement agencies. "Homeland security begins with hometown security, and our national network of fusion centers plays a critical role in improving our collective ability to protect our communities."

Napolitano stressed that the biggest challenge today comes from homegrown violent extremists who are residents or citizens of the United States. She mentioned that Colorado's fusion center played a crucial role in the arrest of terror suspect Najibula Zazi, who is accused of planning a terror attack in New York City.

Napolitano: Radiation From Japan's Nuclear Reactors Not A Threat To US (ABC)

By Amy Bingham And Clayton Sandell

ABC News (blog), March 15, 2011

With Japan's nuclear radiation situation worsening, officials in the United States are taking a sharper look at the safety, and faults, of America's nuclear facilities. Homeland Security Secretary Janet Napolitano said the nuclear failures in Japan will "undoubtedly" expedite disaster planning at US nuclear plants.

"We constantly think about, prepare, exercise, work with our states, our localities, our utilities and the private sector on thinking about what would occur and exercise to the point of failure," Napolitano told ABC News Tuesday after a conference in Denver.

Napolitano sought to quiet fears of radiation drifting from Japan to California shores.

"The level of radiation coming out of Japan does not put the United States at risk," she said.

Japanese Prime Minister Naoto Kan urged people living 12 to 19 miles around the plant to stay indoors Tuesday after fears that a containment vessel at Japan's Fukushima Daiichi nuclear power plant was leaking radiation. Concerns that the radiation would spread across the Pacific to the United States sparked a mad dash in California for potassium iodide, which protects the thyroid from radiation poisoning.

There are 15 American nuclear power plants that are the same or similar design as the site in Japan where explosions near three reactors have the country on high alert for nuclear radiation. The US plants are located along the New Madrid fault line which runs through eight states - Illinois, Indiana, Missouri, Arkansas, Kentucky, Tennessee and Mississippi - and could affect more than 15 million people.

"As we look at something like the upcoming New Madrid fault exercise, we will be stressing our systems and looking to what they can withstand and where we need to continue to improve," Napolitano said.

"Just as we have learned as a nation from Katrina, on response when there's a major incident, just as we have learned from the BP oil spill this last year, I'm sure in the, sure in the aftermath when all is said and done we'll learn something from the tragedy occurring in Japan," Napolitano said.

Napolitano In Denver: US Drills For Disasters Like Japan's (KMGH)

KMGH-TV Denver, March 15, 2011

DENVER --

US emergency agencies constantly rehearse for a disaster like the one unfolding in Japan, and American first responders will learn from the experience of their Japanese counterparts, Homeland Security Secretary Janet Napolitano said Tuesday.

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Nuclear Regulatory Commission Puts Temporary Hold On Vermont Yankee License (BOS)

By Beth Daley

Boston Globe, March 16, 2011

The Nuclear Regulatory Commission yesterday put a temporary hold on a 20-year license extension for the controversial Vermont Yankee nuclear power plant. The commission had instructed its staff to issue the renewal last Thursday, the day before the massive earthquake and tsunami in Japan.

Spokesman Neil Sheehan attributed the delay to the fact that manpower is short while the agency focuses resources on helping Japan deal with the unfolding nuclear crisis triggered by the natural disaster.

But opponents of the nearly 40-year-old plant, who note it is the same design as the most compromised reactor in Japan, said the delay should be far longer -- until the agency can assure the public the plant is safe.

Vermont Yankee, in Vernon near the Massachusetts border, has suffered a series of problems in recent years that have frayed the public trust, including the collapse of a cooling tower and leaks of tritium from underground pipes that company officials initially said were not there.

"I think it is prudent to take a step back and say this reactor design is having serious problems in Japan ," said James Moore, clean energy program director for the Vermont Public Interest Research Group. "The last thing we should do is say it is good to go for another 20 years past its expiration date."

Germany has shut down seven aging plants until they can be assessed for safety in the wake of the Japanese crisis. In Russia, Prime Minister Vladimir Putin ordered a review at Russian nuclear facilities. India's plants are also undergoing a review.

The Obama administration, however, has not ordered any similar review and has continued to back nuclear power through the crisis, saying it would learn lessons from Japan's nuclear problems. President Obama has embraced nuclear power, requesting $36 billion for government-backed loans to help the nuclear industry build additional plants in his budget proposal.

While the delay has given some hope to opponents of the Yankee plant, it is unclear whether there is any possibility, legally, of the commission actually reversing the decision it made last week, when it allowed staff to issue the license.

Yesterday, Vermont Yankee spokesman Larry Smith said it was his understanding the delay was merely a temporary one and the license would be issued soon.

The timing of the Japanese crisis couldn't be worse for the nuclear industry, as it attempts a broad rebirth as a green energy source to combat global warming; the reactors do not emit greenhouse gases that cause the atmosphere to warm.

Vermont Yankee provides roughly one-third of the Green Mountain State's electricity, and for the most part inexpensively. That low cost - and the jobs it provides - has won it some support in the state. Still, antinuclear sentiment, always an undercurrent in this liberal state, gained a new foothold in 2006 after the plant received NRC permission to increase its power output by 20 percent.

Vermont Yankee License Renewal Delayed, But Coming (BOS)

Boston Globe, March 16, 2011

Nuclear Regulatory Commission officials say Vermont Yankee's license renewal is still coming, but will be delayed because agency workers are busy with events in Japan.

The federal commission's chairman, Gregory Jaczko (YAZ-ko), last week said the Vermont nuclear plant had satisfied his agency that it was fit to operate for 20 years past the expiration date of its original license next March.

The paperwork was expected to be in the Vermont Yankee's hands this week.

But with the NRC deploying staff members to help with the nuclear emergency in Japan, the NRC now is going to take a bit more time to finish the paperwork.

End Game For Vermont Yankee (BENNBANN)

By John McClaughry

Bennington (VT) Banner, March 16, 2011

Three months from now, Entergy Nuclear Vermont Yankee will be forced to make a fateful decision: whether to give in to the furious anti-nuclear campaign led for years by Vermont's anti-nuclear new governor, and abandon a safe, reliable, low-cost, nuclear plant that generates about a third of Vermont's electrical consumption.

Yankee's federal operating license expires in March 2012. In 2006 the company applied to the Nuclear Regulatory Commission for a 20-year license extension. Slowed to a crawl by the torrent of regulatory interventions by anti-nuclear groups, the NRC has yet to release its recommendations for extension. But based on its approval of extensions for dozens of similar plants, there is little doubt but what it will give Yankee a green light.

Anticipating that, the 2006 Legislature passed a law unique among the 50 states. It declared that the Public Service Board cannot take any final action to authorize continued operation of nuclear plant without an affirmative vote of both houses of the Legislature.

It is now clear that the legislative leadership -- Speaker Shap Smith and Senate President pro tem John Campbell -- have absolutely no intention of allowing a resolution of approval to come to a vote. That resolution would likely be voted down, but not allowing anyone to vote on it will shield the anti-nuclear legislators from having to answer to their voters for the likely

consequences of a shutdown.

Those consequences are potentially grave. Yankee produces 620 megawatts of baseload power. It's currently the lowest cost 24/7 power purchased by Vermont utilities. IBM, with its $35 million annual electricity bill, is deeply concerned that without Yankee, its power costs will rise by as much as 30 percent. That concern is shared by other manufacturers, hospitals, colleges, local governments, and ski areas.

Opponents argue that Yankee's capacity is only 2 percent of the total New England power grid, and will scarcely be missed. What they don't want to discuss is that the loss of regional generation requires finding replacement power from distant sources. That creates grid stability problems and possibly construction of expensive new transmission lines to move the power into the region.

The anti-nuclear activists' pipe dream of wind turbines and solar PV notwithstanding, the replacement power will largely come from coal- and gas-fired plants – just the kind of plants that enviros staunchly oppose because they release the carbon dioxide that they believe leads to the dreaded "climate change."

Suppose the Legislature sneaks out of Montpelier in May without voting to allow Yankee to seek PSB approval for its continued operation. Then what?

Yankee operates with an 18-month fuel cycle. After 18 months online, the plant is shut down, the reactor head pulled, the spent fuel moved to a cooling pool, a new fuel load put in, the head put back on, and the plant starts a new power run. The next scheduled refueling falls in or around November.

When a refueling shutdown takes place, a new fuel load must be on site. The lead time for purchasing fuel assemblies is about five months. So Yankee will have to place its order in June.

But by the time the refueling is completed, the plant would have only three months to live. What company is going to spend millions of dollars on 18 months' worth of new fuel, when thanks to anti-nuclear politicians the plant would have only three months of operation left? Unless the Legislature turns around on this issue by May, and the PSB (as widely expected) issues a Certificate of Public Good by June, Entergy is almost certainly going to have to abandon Yankee.

The only uncertainty has to do with a possible Entergy appeal to federal courts to invalidate the 2006 statute. It's not clear just what legal argument Entergy might advance to get Federal courts to overturn the 2006 statute, but the litigation might well continue long enough for Yankee, with a stay of execution, to run through another fuel cycle to mid-2013.

If Yankee is forced to shut down next March, the New England grid operators may find some way to replace Yankee power, though at a significantly higher price. Perhaps more seriously, what business would be willing to locate or expand in a state where a Legislature, answering to the demands of anti-nuclear activists, insisted on shutting down a safe, reliable, low cost source of electricity, vital to the state's economic future?

Japan Earthquake Forces Questions Over Vermont Yankee's Future (STCOLUMN)

State Column, March 16, 2011

A battle is on for the re-licensing of Vermont Yankee Nuclear plant just as the earthquake in Japan is raising questions over the risks associated with nuclear power.

The Nuclear Regulatory Commission approved the plants re-licensing for another 20 years, but the Vermont legislature voted to not allow the plant to operate once its current license expires in March of 2012. It now seems the debate over the plant's future is increasingly in doubt.

Vermont state law says the Legislature has to approve the plant before regulators can give the plant a new state license. The increasingly dire situation in Japan has prompted politicians worldwide to reconsider the risks associated with nuclear power.

The plant has the same reactor as the Fukushima nuclear plant in Japan, which saw its fourth explosion on Monday as power plant officials continued to work on cooling the reactor.

Vermont Yankee, Fukushima Nuclear Plants Are Of The Same Design (KEENE)

By Kyle Jarvis And Dave Eisenstadter

The Keene Sentinel, March 16, 2011

The reactor at the Vermont Yankee nuclear power plant is the same design as those damaged by the earthquake and tsunami in Japan, but officials at the Vernon, Vt., plant say that's where the similarities end.

Spent fuel rods containing radioactive material at the Fukushima Dai-ichi plant were damaged by fire, causing spikes in radiation levels, but levels have since dropped, according to the latest reports from the CNN News Service (see related story on this page).

The Vermont Yankee plant, which has a General Electric Mark 1 boiling water reactor, would safely shut down at or above a 6.2 magnitude earthquake, and the cooling systems would kick in, said spokesman Larry M. Smith. The plant could continue to operate normally up to a 5.5 magnitude quake, he said.

"We'd do a walk down, checking for any damage to any part of the structure," he said of the procedure after a quake. "We do that even when we sense there's been minor seismic activity."

Vermont Yankee declared an "unusual event" last June following a 5.0 earthquake in Canada felt in the Monadnock Region. The plant continued to operate normally and no structural damage was found.

In Japan's case, it appears the safety systems at the Fukushima plant all functioned properly following the earthquake, but couldn't survive the devastating tsunami that followed.

The Vernon plant has some natural protection, Smith said.

"The primary containment, which is the reactor vessel itself and the building that houses it, was built in bedrock," he said. "So it's seismic-proof. ...

"It's not likely we're going to have an earthquake of that magnitude or a tsunami" as Japan had, Smith said.

Arnie Gundersen, a nuclear engineer who is a consultant for the Vermont Legislature on nuclear issues and served on the state's nuclear public oversight panel, told the Rutland Herald the spent fuel pool in the Mark 1 design is high up in the reactor building, which affects its center of gravity, creating a weakness to earthquakes from a design point of view.

The largest earthquakes ever recorded in New Hampshire occurred four days apart in December 1940, each measuring 5.5 on the Richter scale, according to the US Geological Survey website.

Those quakes happened near Ossipee Lake.

It's difficult to say how far-reaching the effects of a compromised reactor at the Vermont Yankee plant could be, said Dr. Jose Montero, public health director for the N.H. Department of Health.

"There are so many different variables that come into play, like weather conditions," he said. "We conduct exercises in New Hampshire, Vermont and Massachusetts four times a year," which includes evacuation plans coordinated by the Department of Homeland Security.

Radiation causes health problems by breaking chemical bonds in living tissue, according to the US Environmental Protection Agency. The body attempts to repair this damage, but sometimes it can't be repaired or is too widespread to be fixed.

The amount and duration of radiation exposure affects the severity or type of health effect. The two major types of radiation exposure are acute — meaning a short-term, high level exposure — and chronic — meaning a long-term, low-level exposure.

In cases of acute exposure, people often experience the effects quickly, which include burns, nausea, weakness, hair loss or diminished organ function. The dose can be fatal.

Most experts consider cancer the primary health effect from chronic exposure, according to the EPA.

James J. Connell, an associate physics professor at the University of New Hampshire, teaches a course called "Myths and Misconceptions About Nuclear Science," and has been following events in Japan closely.

Reports of radiation levels released by the Japanese reactors vary widely, he said. The most severe he has heard equals the same amount of radiation a person normally experiences in a year, according to Connell.

In the Chernobyl disaster in 1986, 50 people suffered acute radiation sickness, and all of them were inside the plant, according to Connell. He does not expect acute levels of radiation to spread outside of the established evacuation zone.

It is uncertain how events in Japan will affect the US view of nuclear energy, which had enjoyed a resurgence of national political support, Connell said.

"I think it's going to depend a lot on how things play out in Japan in the long run. It's still a very fluid situation."

Nuclear Expert: US Should Review Worst Case Scenarios (REU)

By John Dillon

Reuters, March 16, 2011

Full-text stories from Reuters currently cannot be included in this document. You may, however, click the link above to access the story.

SENTINEL EDITORIAL: There Is A Lesson For Americans In The Japanese Nuclear Crisis (KEENE)

The Keene Sentinel, March 16, 2011

The Nuclear Regulatory Commission's announcement that it has approved a 20-year license extension for the Vermont Yankee power plant came last week, one year before the plant's current license expires. And in a frightful irony, the announcement came just as the earthquake- tsunami disaster in Japan began to undermine and destroy nuclear plants there.

"This is the final step in the NRC's detailed technical and legal process of examining whether it's appropriate to issue a renewed license," explained NRC Chairman Gregory Jaczko in a press release. "Since there are other approval processes outside the NRC, we'll continue to ensure Vermont Yankee is meeting the appropriate public health and safety standards regardless of the reactor's ultimate status."

That was an awkward statement. Surely Jaczko doesn't mean that the NRC wouldn't bother itself with the plant's standards if it now faced no license-approval hurdles. Almost 40 years worth of used nuclear waste has accumulated there in Vernon, Vermont, waste that has to be isolated from the environment for tens of thousands of years, a time span longer than recorded human history.

It would be inappropriate, or at least premature, to draw safety parallels between Vermont Yankee and the troubled reactors in Japan. But it might be noted that Vermont Yankee is a General Electric boiling water nuclear plant, as is Fukushima

Daiichi Unit I, the first of the plants in Japan to lose its cooling power and then explode. Vermont Yankee is almost the same advanced age as that plant, which received a license expansion last year. Now safety officials in Japan are distributing potassium iodide (KI) pills to protect the thyroid glands of people — especially children — who might be exposed to radiation leaks. People have discussed the wisdom of stockpiling those pills around here for years. The N.H. Department of Safety website lists addresses where people can order them.

While the Connecticut River Valley is highly unlikely to experience any catastrophe as great as the one that has hit Japan, unexpected things do happen at nuclear plants. And the margin of error is narrow. The most significant lesson from the Japan disaster for people around here may be how unforgiving the consequences of nuclear technology can be.

Evacuation zones for people who live near the Japanese plants have six-mile radiuses. But officials in Fukushima Prefecture are expanding them as reactors fail and radiation spreads. About 180,000 people have been removed from the region so far, unsure whether they will ever be able to return.

Vermont Yankee's emergency zone extends 10 miles from the plant and includes part or all of Hinsdale, Chesterfield, Richmond, Swanzey and Winchester in New Hampshire; Bernardston, Colrain, Gill, Leyden and Northfield in Massachusetts; and Brattleboro, Dummerston, Guilford and Vernon in Vermont. The emergency reception centers are Keene High School, Greenfield (Massachusetts) Community College and Bellows Falls Union High School.

Japan is trying desperately to deal with the dark underside of nuclear power. In this country, regulators have just renewed the 63rd consecutive license renewal request. They have yet to deny one.

But when NRC chief Jaczko said Vermont Yankee's renewal is subject to "other approval processes outside the NRC" he was referring to the fact that Vermont is the only state that gives its Legislature the authority to rule on a nuclear plant's renewal request. And last year the Vermont Senate voted 26 to 4 to reject the one from Vermont Yankee. Will Vermont's lawmakers stick to their principles?

Our hearts are with the Japanese in these troubled times. And our eyes are on Montpelier.

New Reactor Still On Track In Virginia (WP)

By Peter Galuszka

Washington Post, March 16, 2011

Despite Japan's nuclear disaster, Dominion Virginia Power intends to proceed with seeking a license for a third nuclear unit at its North Anna nuclear power station about 70 miles southwest of Washington.

The utility, which has two nuclear units at North Anna and two more in Surry County, hasn't decided if it would proceed with a third North Anna unit, but is getting its ducks in a row just in case.

Ironically, North Anna is in an area known for earthquakes, albeit not on the scale of one that has killed thousands in Japan. The Old Dominion has seen more than 160 earthquakes since 1977, but none greater than 5.8 in strength on the Richter scale, according to the Richmond Times-Dispatch.

One recent earthquake occurred on Dec. 9, 2003, and was recoded at 4.5 on the Richter scale. Its epicenter was three miles beneath the surface about 30 miles southwest of Richmond.

That area is roughly 40 miles from North Anna.

Peter Galuszka blogs at Bacon's Rebellion. The Local Blog Network is a group of bloggers from around the D.C. region who have agreed to make regular contributions to All Opinions Are Local.

McDonnell: 'Foolhardy' To Abandon Nuclear Power In Va. (WP)

By Rosalind S. Helderman

Washington Post, March 16, 2011

Virginia Gov. Bob Mc-Don-nell (R) said Tuesday that it would be "foolhardy" to abandon the construction of nuclear reactors in Virginia and elsewhere in the United States because of the unfolding nuclear crisis at earthquake and tsunami-damaged plants in Japan.

In an interview, Mc-Don-nell, a longtime supporter of nuclear power, characterized the problems in Japan as the result of "historic" and "cataclysmic" events. He said nuclear science has advanced to make such plants safe, and Virginia would not need to fear similar crises, in part because it is not earthquake-prone and its plants are far from the coast.

"These are cataclysmic events that I don't see affecting Virginia," Mc-Don-nell said. "I think it would be foolhardy to abandon the industry. ... We stand to benefit immensely from more nuclear development in this country. I think it's the right thing to do to prudently move forward with nuclear plant construction."

He said generation of electricity — from coal to oil and gas extraction to nuclear power — is "inherently dangerous." But he said science and government regulation has ensured that "everything humanly possible" is done to make nuclear power safe.

"I think that's the best you can expect out of an industry and that's the highest standard we should apply in the culture," he said. "But as long as there are uncertainties in nature and there is potential for human error, we're never going to make it 100 percent fail-safe."

Virginia has nuclear plants in Louisa and Surry counties. Dominion Virginia Power has applied to build a third reactor at one of its two plants at North Anna in Louisa; the company has confirmed it will proceed with its application despite the events in Japan.

"Overall in America, it's been one of the safest forms of electrical generation," he said.

Dominion Still Planning For Third Nuclear Reactor In Louisa (WWBT)

By Tara Morgan

WWBT-TV Richmond (VA), March 15, 2011

LOUISA, VA (WWBT) - The threat of a nuclear meltdown in Japan is on the minds of those at Dominion Virginia Power, but it's still moving forward with plans for a third nuclear reactor in Louisa.

Dominion said it hasn't yet decided whether to build a third reactor at its North Anna Power Station, but wants the option there to meet customer demand. Meanwhile people who live near the nuclear power plant said they're not fearful, despite the disaster in Japan.

For twenty years, Shirley Jones has enjoyed the view from her back porch.

"There's no place I would rather live than right here," said Jones.

Her Tara Woods home isn't far from the North Anna Power Station which is home to two Dominion Virginia Power nuclear reactors. Dominion, which operates two more in Surry, is waiting for federal approval for a license to build and operate another reactor at North Anna.

"One thing I do think about, and I think that probably everybody that lives in an area around any of those nuclear plants think about, the property values and will this scare people, " said Jones.

Like the rest of the world, Dominion is keeping close tabs on the nuclear scare in Japan to see what improvements can come of Friday's devastating quake and tsunami industry-wide. Dominion said it has a safe operating record at North Anna, and points out its reactors are designed differently from the ones in Japan.

North Anna has seen a few tremors, but isn't considered a high quake zone. A barrier made of concrete and steel protects the reactors. Dominion said they're built to withstand a worst case scenario earthquake.

"I have a whole lot of confidence in our technology nowadays," said Mr. Keene, who also lives on Lake Anna.

In Jones' mind, a third reactor wouldn't make much difference.

"If we're going to have an incident I figure whether there's one, two or three, it's something we'd have to face," said Jones.

A decision on whether Dominion gets its license to build and operate a third reactor isn't expected until 2013.

The Virginia Gazette, Williamsburg Virginia > News > Even The Critics Score Surry Highly (VAGAZ)

By Cortney Langley

Virginia Gazette, March 16, 2011

As reactors at Sendai nuclear plants partially melted down after the tsunami, attention focused here on what to do if it happens at Surry Nuclear Power Station.

All of Williamsburg, most of James City County and significant portions of York County lie within a 10-mile radius, where most emergency efforts are planned. Prevailing winds would likely blow released radiation this way.

The Surry station earns high safety marks among federal regulators and even among private nuclear watchdogs.David Lochbaum, a former nuclear power engineer who monitors safety issues with the Union of Concerned Scientists, reviewed all public information on 10 reactors for a special report on plant safety. "The Surry plant was the safest plant of the 10 we monitored," he said. "It was also the lowest cost electricity producer among the ten. We attributed this unlikely pairing to Surry aggressively looking for problems and doing a better than average job of fixing problems right the first time."

The power company Dominion has a four-tier alert system for emergencies. Under the least dangerous, "notification of an unusual event," local officials are briefed. An approaching storm, for example, could trigger a notification.

A "general emergency" marks "the most serious problem," meaning core degradation or meltdown. Sirens are activated and radioactive matter could be released. Sheltering or evacuation is likely.

Alarms have sounded twice at Surry in 25 years, Dominion Nuclear spokesman Rick Zuercher said Tuesday. Neither situation involved radioactivity or the reactor side of the plant.

In 2006 two reserve electrical transformers failed. Both were part of the plant's backup power system, but diesel generators kicked on automatically.

More serious, in 1986 a pipe in the turbine building broke. Steam from the pipe killed four workers and injured four others. Plant operators activated the alert to summon local assistance, though no radiation was released, Zuercher said.More — Find more information at www.dom.com/about/stations/nuclear/emergency-plans/index.jsp or the Virginia Department of Emergency Management www.vaemergency.com.

Is The Surry Power Plant Safe? (WTKR/NNDP)

WTKR-TV Norfolk, VA, March 16, 2011

Radiation, infiltrating the air by way of thick plumes of black smoke rising from the Japanese power plant.

"Before I saw the tsunami in Japan, I wasn't all that concerned with it, but now, it's something to think about, it really is."

That's because the Surry Power Station, and it's two nuclear reactors, sits along the James River, and it's practically in Tracy Knight's backyard.

Having the 16-hundred megawatt power plant as a neighbor was never a big deal for her, until the disaster last weekend.

NewsChannel 3 took action and went to Dominion Virginia power to ask, "Are we safe?"

According to Rick Zuercher, of Dominion Virginia Power, "We are safe here. Our nuclear power plants are among the top operators in the industry."

A geologist in Virginia says there may be some old fault lines somewhere underground in Surry, but because they haven't moved in millions of years, there's no real cause for concern.

"I don't think that we would see a tsunami, necessarily, at the Surry Power Station, but we could see a surge in a big storm and we evaluated that and fixed the station to be able to withstand that" says Rick Zuercher of Dominion Virginia Power.

Wednesday's Last Word On Tuesday (VAGAZ)

Virginia Gazette, March 16, 2011

Mooretown extension

"The Mooretown Road extension is just another unnecessary way for developers to make money. Wake up and look around. We don't need it. It's just more destruction of beautiful farm and woodlands we need to preserve."

"After reading in the Gazette about the struggling retail sector and plans to extend Moore-town Road, I have to wonder where the local retail merchants' voices are in this. They are losing customers to evermore far-flung new retail development, and finding themselves with empty storefronts where their neighboring businesses used to be. Why don't they speak to the James City supervisors who supported the extension?"

Public employees pension

"Yes, everyone pays taxes, or should. From the police officer who faces danger daily, the firefighter who runs into a burning house to save a family, the medics who keep someone alive while rushing him or her to the hospital, and the teachers who teach children and can have a more positive affect on children than a lot of parents. They don't do these jobs for the money. Why does anyone who pays taxes have the gall to complain about the pensions and benefits these public servants work hard for every day? Thank these folks instead of blaming them for the economy."

James City issues

"If John McGlennon will no longer be in Jamestown District, why can't he simply run in Roberts District?"

McGlennon could, if he is redistricted.

Daylight Savings Time

"I don't like this time change. I do not like getting up in the dark. Does anyone really benefit from it? Why does it start so early? It isn't even spring yet."

Surry Nuclear Plant

"The comment in the March 12 Gazette about the pill given to residents of greater Williamsburg and James City was not 'Tongue in cheek.' We were actually given an iodine pill to help protect the thyroid in the event of an incident at the power plant in Surry. The June 27, 2007, Gazette included an article on the power plant following a highest level of alert drill. Most of us are unaware that we are a stone's throw from the Surry Nuclear Power Station. Those of us who live outside the 10-mile radius no

longer receive the Surry calendar, which gives information on drills, evacuation policies. In light of the damage to Japan's power plants, this might be a good time to make residents aware of the unlikely but potential danger and state of preparedness."

Family Service Day

"There is an angel among us in greater Williamsburg — Charlie Marcotte of American Pride Auto. I attended his recent Family Day for single parents and was treated to an oil change by his wonderful staff. I am a hardworking, single mother who works two jobs to keep a roof over my children's head. I do not receive public assistance, nor am I looking for handouts. Marcotte understands how financially difficult that can be. It was such a great feeling of relief to catch a break. I cannot thank him and his staff enough. I recommend American Pride. Not only will you receive quality workmanship and service, you will support a small business that gives back in a big way."

Phys ed in schools

"Concerning the 'Muscles flexed over phys ed law' article (March 12 front page): In the paragraph about more teachers would be required, it states 'Adding 10 (I'm assuming teachers) would cost about $500,000 in York and $1 million in WJC.' Would someone be so good to explain why a teacher is paid $50,000 in York and twice as much in WJC?"

The figure provided by WJC for additional teachers needed was low (it needs 13). Also, WJC typically hires teachers with more experience than York.

School issues

"My son attends the only middle school in WJC without an active Student Council, National Junior Honor Society, or Battle of the Books program. This is a disservice to every student who would like to participate to give service to the school and community, or to receive recognition for reading. I am outraged to realize my tax dollars are being spent on sponsors for these activities who are paid for doing nothing."

"I hope Central Office's new location at James Blair is permanent. It is closer to schools and customers. The previous location was too far away."

Are teachers lazy?

"I am tired of teachers saying they're overworked and underpaid. They make over $45,000 a year and work 200 days a year. There are people making the same or less who work 360 days a year. There are a few who are sincere, compassionate and work hard, but the majority of teachers don't care."

"I guarantee you that in the time it took the person to make such a senseless and rude inquiry, I finished the Virginia Standards of Learning thanks to the help of my teachers. Teachers are people just like you, some are disorganized, but alas what class of people aren't? Lazy, you say? I think not. They work to keep us children under control to shove information into our brains for six hours a day. As for this mythical three-month vacation, they work through it, creating lesson plans, teaching summer school, and getting kids ready for the next year of education. My band teacher teaches us through the summer, getting us ready for the marching band season. And your disrespect for adolescents brought about by flash judgment and societal differences is appalling and rude. We are people, we have rights, opinions and clear, concise thoughts. When you talk to me like a 5-year-old, it shows disrespect, which will always be returned with more of the same."

"To the responder of the March 9 'Are teachers lazy': The intent of the piece was to goad students into participating in public discourse by expressing a cogent written opinion on how some people in the media describe teachers. The mindless, meaningless texting comment was a prod to rile up students and inspire them to pick up the pen instead of the Blackberry. It seems the generalization that was made has some truth to it since not many students have commented."

Lazy teens

"I have been trying to hire a teenager to do weeding and yard work, with no luck. Lawn and garden professionals say forget it. I am not your next house payment. One 16-year-old did show up with his mother driving him. When she heard that her child was going to have to do dirty work, she told him to get back in the car. I don't want to hear about teenagers needing work. They don't want to work unless it is at a clothing store or someplace to socialize with their friends. I guess the illegals are the ones who want work."

Fishing spot

"My wife and I were fishing by the bridge leading to Jamestown Island recently when we were approached by two rangers. We were told we were breaking the law and they suggested we leave. I, as well as others, have been fishing that exact spot since 1964. I have been checked by just about every park ranger, game warden and Marine Patrol officer through the years, and I have also fished side by side with some of them. I have never had a problem until now. Why is this happening all of a sudden?"

Does anyone know...

"I'm downsizing and must sell or donate a Rodgers Theater organ, Olympic model is perfect for church services or a theater. Call 592-7770."

"To the person who needs help with eBay: You will not make much if you hire a broker. Determine what it will take to ship your item. The post office offers free priority shipping boxes. If it fits, it ships at a flat rate. Set up an account on eBay. If you don't have Internet in your home, go to the library where someone will help you. Sign up for a personal PayPal account. It's free. List your item and sell it."

"I'm looking for a place here to donate old trophies. Call 234-0769."

"On March 5 or 6 around 7:30 a.m., I saw a hot air balloon descending along Longhill Road, heading toward the Baptist church. Did anyone else see it? Did it land or did it take off again?"

"To the person seeking a doctor who accepts Tricare Prime: I recommend Dr. Glen Ross, in Port Warwick. I am a veteran, and he is the most caring, understanding and patient doctor I have ever been to. Call 594-1837."

"I'm looking for someone willing to part with a few tiger lillies. I'd love some for a garden zone. Call 741-2083."

"To the person looking to sell items on eBay: Call 254-7852."

"Does anyone know why my daffodils have healthy green leaves but no flowers?"

"Does anyone know someone who repairs aggregate driveways?"

"To the person looking for help with a lawn: Call Colbie at 207-0702."

"To the person looking for someone in this area who is skillful at doing alterations on ladies' clothing: Call Bonnie at 784-6213 or 220-8591."

"I'm trying to start an arrowhead collection for my grandson. If anybody knows where I could get some arrowheads, call me at 903-2272."

"Is anyone collecting prom dresses this season? I have some to donate that might be needed for local middle- and high-schoolers."

"After nearly five years and more than six housekeepers, none of whom knew how to clean a house, I finally found someone wonderful who cleans and straightens. Call 812-9200."

"I have for free a couch. Must be picked up. Call 469-3350."

"Does anyone have a DVD player in working condition that's no longer needed? It's for my children. We are currently living in a hotel. Call 849-3494."

"I'm starting a support group for RSD/CRPS. It is open to anyone in need of a support system to assist in adjusting to the life-altering disorder. E-mail Erin at wmbg_rsdsupport@hotmail.com for info."

"Does anyone know if Chez Trinh will reopen? What a shock to find it closed."

Tongue in cheek

"I am recommending that the Gazette Police Blotter also include the religion of the accused, so that our local lawmakers can conduct public hearings to determine if we have local cases of active Baptist, Catholic or Jewish radicalism."

Foreign workers

"Has anyone noticed the large number of foreign workers in area restaurants? Is this an indication that Americans no longer wish to work? With unemployment hovering around 10%, it would seem that Americans would be clamoring for these jobs."

Driving along

"When driving in a parking lot, if you approach a pedestrian the appropriate and preferred behavior is to drive around the person rather than blow your horn. I'm told from reliable sources that pedestrians always have the right-of-way. Please extend this courtesy."

"People with automatic headlight switches should read their owner manual. Rear lights don't automatically turn on. Auto manufacturers of these automatic light switches should be fined $100 per vehicle until all of them have been replaced. There are a bunch of fools driving the roads."

Customer service

"My wife and I visited a certain department store's electronics section the afternoon of the iPad 2 release. Anice young man was answering our questions when a manager rudely interrupted and became loud and disrespectful. He said we were asking a lot of questions and that we could line up right at the cash register 'right now.' We attempted to report this to the store manager, but the associates called the same manager to meet us. He continued to be rude. This bad apple needs help."

"Cheers to the manager on duty Friday night at Regal New Town movie theater. The manager did a very nice thing for my family."

"I congratulate the associates and customers at Walmart on Rochambeau Drive. The company announced that Williams-burg was chosen Store of the Year, which shows the great work ethic of the local associates and wonderful customers. This store was chosen No. 1 from among 4,000."

Predatory towing

"On March 8 and 9, a towing company was ready to tow from Bristol Commons although no signage or painted curbs prohibit short-term parking at the particular spot. The property management company reports that the towing outfit has no contract, and is authorized to tow only upon request by either of two officers of the board, which was not the case on those two days. When the vehicle owners appeared, the tow truck operator demanded a release fee of $75, although Virginia law allows a maximum of only $25."

Bravo!

"Last Saturday, my husband and I had the first experience of seeing a CAPA Fund musical production. 'The Roar of the Greasepaint' was one of the best of the local theater group production we have ever seen. The story was smart, the direction superior, the music and dance lively and professional. But these entertaining qualities only touch the surface of the production's deeper meaning and clever symbolism, which were masked behind a bright facade of song and dance."

"For years, I have seen CAPA Fund productions and loved them. However, in speaking with Parker Krug, the young man who played Cocky in the recent production of 'Greasepaint,' I now understand the mission behind organization. He explained how most theater organizations just put on a production and how CAPA Fund actually chooses productions that best showcase performers who are in training for the profession. When Krug told Ron Boucher he never had the opportunity to do a leading role throughout high school or in colleges, this musical was selected especially for him to showcase his talents. If CAPA Fund is looking for supporters, I would recommend marketing that concept."

Homeowner insurance

"My homeowners insurance policy premium has gone up by 28% for the same coverage of the previous year. When asking why this obscene increase would be justified, I was told that everyone in this area was affected because of increased costs. Just what these costs are I do not know. I can only wonder if we homeowners are supplying stimulus funds instead of Washington.'

What we need

"I must not be the only one who is trying to eat healthier, but we have no real health food store in greater Williamsburg now. Whoever leases space in Colony Square would like to have a tenant move in to take the space to be vacated by Fresh Market. If they can't get Whole Foods, why not a good health food store or an Asian market? All the recent good health cookbooks use health food items and/or Asian items. Whole Foods would bring in customers and I would hope the Asian market would as well."

State politics

"I can hardly wait for the 2012 election for US Senator. Republicans are likely to offer George Allen, while the Democrats are expected to offer Tim Kaine. Now if we can only get Jim Gilmore to run as an independent, we can select from among the three poorest ex-governors in the past 30 years. While I did not vote for Jim Webb in 2006, he has been a source of badly needed fresh air in Washington and will be missed."

Host families

"We at International Student Exchange are seeking host families immediately for high school foreign exchange students for the next school year. Students come from Europe, Asia and South America; have their own spending allowance and health insurance; are fluent in the English language; and fully screened before being accepted into the program and supervised for the duration of their stay. Program length is for the academic year. Families choose their student based on shared interests and hobbies. For more information, call Welby Whiting at 566-1225 or e-mail at welbyw@aol.com."

Cheers & jeers

"When I left a restaurant recently, a City of Williamsburg employee named Roger was standing next to my car. He informed me that he had backed into my front bumper, causing minor damage and that he had already called police. I was taken aback by his gracious actions. My rear bumper was hit a few years ago, however, no one even left a name or number. Roger restored my belief that there are a great number of good people around."

"We loved the Gazette's March 12 'Music School Dad' column by humorist Charley Shrack. Is he a regular contributor? Where can we read more of his stuff?"

Shrack moved to the area about a year ago. This was his first submission to the Gazette.

"Cheers to Shear Magic in New Town. I have been going there for several years, and I think Barbara and her staff are terrific. I love to experiment with my hair: curly, straight, long and now short. Barbara listens carefully and prevents me from making huge mistakes and encourages me to try different styles."

"I found the most amazing shop named Merle Norman Cosmetics and Gifts in Monticello Marketplace. It sells an amazing selection of designer purses at reasonable prices and has a great selection of wigs, cosmetics, hats and jewelry."

"Robert has done gardening work for me through the years and does first-class work. He is rare in that he is prompt, honest and very picky about his work. His company is Twin Leaf ground maintenance and landscaping, 967-7719. It is rare to see someone take as much pride in his work."

"How did Ford's Colony get away with a yard sale indoors where there were wall-to-wall people and shoppers could not budge? Where was the fire marshal to control the crowd?"

"We are subjected to an overabundance of so-called reality shows on television these days. If you want a dose of true reality in a television program, watch 'Coming Home' on Lifetime on Sunday nights."

"If you're looking for a great pizza or an outstanding cheese steak sub, check out Danny O's on Olde Towne Road. A quiet little place but food is great as is the service."

"My husband and I recently took a sensational class titled 'The life and music of Irving Berlin, Richard Rodgers and Oscar Hammerstein.' The teacher urged us to tell our children and grandchildren about this magnificent work of art. I would like to urge readers 55 and up to join the Christopher Wren Association and share in this delight. I think this class should have an assembly program in every area high school."

"I found a great website for finding or rating doctors in our area, www.vitals.com. I found my plastic surgeon using this site and was very pleased. If you decide to rate a physician, please be fair and honest, covering good points as well as any negative issues you might have."

"Thank you to my neighbors in Creekside Landing who stopped to help me when my dog had a seizure while we were on a walk last Saturday. I didn't think to get your names, but I appreciated the help. He seems to be doing fine now."

"The JOY Singers, a senior citizen choral group in greater Williamsburg that performs at local assisted-living facilities, is looking to expand and needs more men. Requirements: Be over 55, have a love for music, enjoy the old songs and not be tone deaf. Rehearsals for a new program start soon. Call Richard at 253-6907."

Fish fries

"A few weeks ago, someone mentioned fish fries and how they got people to go out. A fish fry dinner typically consists of a piece of haddock or cod bigger than the plate with cole slaw and either German or American potato salad or french fries, or mock perogies, for less than $10 at your local neighborhood eatery and less than $7 from your local seafood, meat or supermarket. A recent survey indicated that 33% can't get enough, 55% an occasional treat and only 12% not interested out of 926 votes. Some make this an affordable weekly treat for the family."

Disposal units

"Well-done, Stonehouse Glen for erecting two doggy disposal units along Fieldstone Parkway and in your community. Now if only we can get our homeowner association board at Millpond at Stonehouse to do the same thing."

Budget

"My two cents' worth on Congress and the national debt or deficit: This trickle-down system that the Republicans have in mind is cutting everyone's income but theirs. If they are really honest on the cutting of the budget, then they should cut their salary by about $10,000. They have to cut out the waste and abuse and stealing of the tax dollars. And I have no use for any of the congressmen who let the Wall Street gang off the hook."

As Monty Python Says: Run Away (FFLS)

Fredericksburg Free Lance Star, March 16, 2011

Leave a Reply Click here to cancel reply. Name (required) Mail (will not be published) (required) Website XHTML: You can use these tags:

The North Anna Power Station in Louisa. (FLS file photo)

Dr. Brooke Rossheim, director of the Rappahannock Area Health District, said last night that he thought it was instructive that Japanese authorities are distributing potassium iodide pills to those who live near the disabled Fukushima nuclear power plant.

What that probably means, he said, is that levels of iodine-131 around the plant are higher than they should be. The material has been released from the damaged plant into the atmosphere, according to news reports. And once it exceeded certain limits, he said, the pills were distributed.

At least that's what would happen should something similar happen at the North Anna Power Station in Louisa County, Rossheim said.

"The first rule for a radioactive release is you want to get away from the area," Rossheim said. "Time and distance are what radioactivity are all about."

If exposure does occur, the iodide pills can be useful to protect the thyroid.

"You bind up all of those iodine-binding sites on the thyroid, so that if any radioactive iodine is inhaled or ingested, there's really no place for it go," he said. "What happens then is that it's excreted in the urine."

The Health Department has a supply of the pills at its local offices and is offering them free to those who live within 10 miles of the North Anna plant.

Potassium Iodine Effective Against Radiation? (NWPRTNWZ)

Newport News (VA) Daily Press, March 16, 2011

Potassium iodine effective against radiation?

In response to the potential meltdown of a nuclear power plant in Japan, the nation's officials have distributed potassium iodine tablets to residents at risk of radiation exposure. However, ProPublica's Marian Wang reports that US authorities have recently questioned whether the benefits of these pills have been exaggerated or misunderstood.

Potassium iodine, or what's known as KI, "is not an 'anti-radiation' drug," then-White House official John Marburger wrote in a 2008 memo. "Public misunderstanding of KI and its limits may lead to a dangerous sense of false confidence that KI provides inoculation against all forms of radiation."

The US Nuclear Regulatory Commission's current position is that iodine pills don't make sense beyond a 10-mile radius.

The Peninsula Health Department used to issue these tablets in the event of a disaster at Surry County's nuclear power station. Read more here: Tsunamis don't scare Surry nuclear plant operators

Read the full story on the Pro Publica website, www.propublica.org and click on the Blog tab. For all your health information, go to www.dailypress.com/health

NRC Tapping Tech For Better Analysis Of Nuclear Accidents (CPTRWORLD)

By Jaikumar Vijayan

Computerworld, March 16, 2011

Long before the nuclear disaster in Japan began unfolding this week, scientists in the US have been trying to gain a better and more realistic picture of precisely what would happen if a similar accident occurred in this country.

For the past few years, researchers from the Nuclear Regulatory Commission (NRC) have been engaged in a project called State of the Art Reactor Consequence Assessment (SOARCA), to better understand how a nuclear reactor would behave in a severe accident, as well as what sort of radioactive release it would cause.

Similar research on hypothetical accidents at nuclear power plants have been conducted by the NRC and international nuclear safety groups for the past 25 years.

What's different with SOARCA , says the NRC, is that it uses modern computing resources and modeling software to generate more accurate and realistic accident simulations. It also examines extremely rare, "one-in-a-million"-type accidents that could have a significant impact.

Such modeling and analyses of hypthetical accidents is designed to help stakeholders develop better protections and responses to nuclear accidents.

SOARCA models also take into account some of the new accident mitigation technologies and strategies that are deployed in nuclear power plants these days. The models factor in updated emergency preparedness measures and plant improvements that were put in place after the 9/11 terrorist attacks.

The studies are receiving renewed attention in light of engineers in Japan currently trying to avert a full-scale meltdown of the country's Fukushima nuclear power plant.

The plant was damaged severely in last week's earthquake and subsequent tsunami . Concerns about the safety of the plant have been escalating sharply over the past few days.

Those concerns were further heightened today after a third explosion rocked the facility causing radiation levels to increase to potentially dangerous levels.

The NRC said on Monday that it has sent several nuclear experts to Tokyo to provide assistance to officials there.

Among other tasks, the team's mission is to better understand the potential impact of radioactive leaks on people and on the environment, the NRC said in a statement Monday

As part of SOARCA, the NRC has run computer modeling and simulation tools to study at least two operating nuclear power plants in the U.S over the last couple of years.

One of the plants that participated in the initial phase of the NRCs SOARCA project is the Peach Bottom Atomic Power Station in Pennsylvania. The plant features a boiling water reactor (BWR) similar to the most troubled reactors in Japan. The other plant is the Surry Power Station, a pressurized water reactor (PWR) in Virginia.

The commission did not respond to requests for comment on the status of its SOARCA project.

Publicly available information on the project states that the project's goal is to develop an enhanced understanding of the consequences of a nuclear power plant accident involving the release of radioactive material into the environment. SOARCA will give the public and decision makers the "latest basis" for assessing the consequences of severe accidents at nuclear power plants, the information notes.

The study also is designed to examine the value and the extent to which existing defense-in-depth measures at nuclear power plants will mitigate potential fallout in an accident.

According to a FAQ on the NRC's Web site, SOARCA is a research effort that seeks to "realistically estimate" the outcomes of the leak of a nuclear power plant's radioactive material.

A core component of SOARCA's tests is a software tool from Sandia National Laboratories called MELCOR . The NRC describes MELCOR as software that can be used to model the "progression of severe accidents in light-water reactor nuclear power plants."

The NRC also uses a separate software tool called MACCS2 to study the potential health implications of an accident involving radiation leaks.

"MELCOR is designed specifically for the purpose of predicting the response of nuclear power plants to severe accidents that might be initiated by low frequency events involving multiple safety system failures," said Randall Gauntt, the manager of Sandia's severe accident and consequence assessment department.

One of the scenario's the software is designed to model is a so-called Station Blackout scenario initiated by seismic damage, similar to what is happening in Japan right now, he said.

"The MELCOR code analyzes severe accidents in nuclear power plants, their progression through core melting, should inadequate cooling be available, and the release to the environment should containment systems fail," Gauntt said.

The potential public impact of radiation leaks are evaluated using the MACCS code, which was also developed at Sandia for the NRC, Gauntt said.

Japan Disaster Prompts Worries About Possible New North Anna Reactor (CHARDP)

By Bryan McKenzie

Charlottesville Daily Progress, March 16, 2011

Japan's swamped and damaged nuclear power plants have sparked a spate of comments on Dominion Virginia Power's proposal to build a third nuclear power generator at the North Anna Power Station.

But Dominion representatives say the differences between the four troubled Japanese reactors and North Anna's plants are extreme and that similar issues are unlikely here.

Members of the state Department of Environmental Quality are nearing the end of a public comment period on a proposal to build a third nuclear generator at Lake Anna. They are accepting comments until Friday. Of the comments received so far, nearly half reference the earthquake- and tsunami-caused crisis in Japan.

"So far we received about 25 comments," said Ellie Irons, of the DEQ. "The last 12 mention the Japanese disaster."

Irons said most of the comments question whether enough water exists in Lake Anna to cool three reactors.

"Japan was mentioned after the earthquake to support the argument that there is insufficient water to support a third reactor," Irons said. "It is not unusual in our review process for the public to comment on current issues and compare them to a project under review."

On March 11, a record earthquake of a magnitude of 9.0 struck about 110 miles from the Japanese nuclear plants at Fukushima. Official reports indicate the reactors immediately shut down and backup generators automatically started to cool the nuclear cores. Then a tsunami, estimated to be nearly 20 feet tall, crashed over protective walls, destroying the generators. The cores began to overheat and explosions and fires have ensued.

The incident has prompted questions about nuclear power. Officials in Germany put plans to extend the life of that country's nuclear plants on hold and Switzerland suspended plans to build and update plants.

Dominion officials, however, intend to continue with plans for the new Lake Anna plant, though the company has not made a final decision whether to build the third unit. A fourth nuclear generator, not in the permitting process, is also on the books for the future.

Officials note that the Lake Anna site is hydrologically and geologically different than the Japanese Fukushima site. The Lake Anna site is seismically quiet compared with Fukushima and tidal waves are not an issue, officials said.

Richard Zuercher, of Dominion, said Lake Anna's facility is built to withstand the historically strongest earthquake recorded in Virginia, as well as hurricanes and tornados.

"Our backup generators are protected in concrete bunkers and are tested regularly and required to start up within 10 seconds," Zuercher said. "There has been a lot of thought put into nuclear power plants and we've continued to upgrade Lake Anna to make sure it's up to date."

Some residents in the area say they support nuclear energy and are less concerned about the Japanese scenario than whether the lake can support cooling a third reactor without overheating the entire lake.

"Lake Anna was built to provide both cooling waters for the reactors and also to provide for residential development around the total lake, plus recreation to all throughout the state and other surrounding areas," said Harry Ruth, on behalf of the Friends of Lake Anna. "One purpose should not have dramatic potentially negative impacts on the other. A win-win project can be achieved if we all work together to mitigate the concerns."

BJ Blount, a real estate agent, developer and lifelong resident of the Lake Anna area, said he is not concerned about the impacts of a third reactor.

"We trust Dominion Power. They've always been a good partner. They've addressed any issue that has come up. I think they've done a good job of looking out for the lake and the residents," Blount said. "They have a better safety report card than any power plant up and down the East Coast."

Nuclear Nightmare: Could A Japan Happen Here? (HOOK)

The Hook, March 16, 2011

The disaster in Japan sparked by the massive undersea earthquake and resulting tsunami on March 11 is a terrifying reminder of nature's fury. But the natural disaster may pale in comparison to the toll wrought by potential meltdowns at several of Japan's nuclear power stations. Could disaster strike at the Dominion North Anna Power Plant in nearby Louisa?

That seems to depend on who you ask.

Actual earthquake damage to North Anna is not likely, according to UVA Geology professor Thomas Biggs, who notes that while Virginia does lie atop several faults, none seem likely to spawn major quakes. In fact, he says, the several small earthquakes in the past decades-- including two in 2003-- have remained under 4.0 on the Richter Scale. That's enough to rattle but certainly not topple houses-- or nuclear reactors.

"All of our faults are pretty old," says Biggs, noting that while there are some along the Atlantic Coast that are "mildly active," but not anything like the places that have recently suffered major earthquakes.

"We don't have the tectonic setting they have in Japan, Chile, New Zealand," says Biggs, noting that California, due to its position atop two tectonic plates sliding side by side, remains at highest risk for major temblors.

Even if a massive quake did somehow trigger an East Coast tsunami, Biggs says, Charlottesville (and the North Anna plant) wouldn't be within reach of the wave. But, he notes that while a wall of water reaching us here-- nearly 600 feet above sea level-- is highly unlikely, it is possible. Biggs mentions the Chesapeake Bay impact crater, which wasn't well understood by geologists until 1993.

More than 50 miles across and nearly a mile deep, the crater suggests a massive meteor impact occurring approximately 35 million years ago that sent water, rock, and sediment miles into the sky and caused an unimaginably massive tsunami to wash over even the Blue Ridge and reach what is now Staunton. (If such an event does recur, may we suggest that you head west on US 250 to reduce the almost certain traffic snarl on I-64?)

If direct quake damage to the power station is unlikely, there are realistic reasons to be concerned about North Anna, according to Elena Day of the Charlottesville-based People's Alliance for Clean Energy, which has been fighting expansion plans there and calling for greater security measures at the existing reactors.

Day mentions the relatively small amount of water available from the 9,600-acre Lake Anna for cooling the reactors if a problem occurs-- a shortage that worsens during drought conditions. Should a mechanical failure of the cooling system occur, says Day, noting the 1986 Chernobyl disaster in the former Soviet Union, there's also a chance that the back-up generators could fail, allowing the fuel rods to overheat and release potentially large amounts of radiation.

Nuclear industry experts say current safety standards in the US far surpass security measures in place at Chernobyl or even at the US nuclear power plant at Three Mile Island, where a partial core meltdown occurred in 1979. But Day remains concerned with North Anna, including the fact that the water used to cool the fuel rods is pumped back into the lake at high temperatures, a kind of thermal pollution that can harm flora and fauna and which she describes as a violation of federal law.

But perhaps the greatest threat of catastrophe, Day contends, would come from damage to the dam that maintains the water at North Anna. Noting that there's no other large scale water supply, she says overheating would be nearly inevitable.

"Somebody could drive a truck loaded with dynamite and breach that dam, and then what?" asks Day.

Dominion's manager of nuclear public affairs, Richard Zuercher, says the company has extensive security in place to protect the dam from attack, and says the plant is built to withstand an earthquake more powerful than any on record in Virginia.

"Our operators," says Zuercher, "are trained on every imaginable accident, scenario, or condition."

Possibly related on the HooK

Hoyer: Let's Re-look At Nuclear Plant Safety (WT)

By Sean Lengell

Washington Times, March 16, 2011

Recent EntriesHoyer: Let's re-look at nuclear plant safetyNevada's Heller to run for Ensign's seatEhrlich joins public-policy law practiceHoyer: GOP must lead on spending billLast WWI vet to be interred at ArlingtonSean Lengell's Recent EntriesHoyer: Let's re-look at nuclear plant safetyNevada's Heller to run for Ensign's seatHoyer: GOP must lead on spending billLast WWI vet to be interred at ArlingtonHouse Dems: Please tweet usElection LinksDrudgeWhile Japan holds its collective breath as earthquake-damaged nuclear power plants there teeter on the brink of meltdown, House Minority Whip Steny H. Hoyer said Tuesday he remains a supporter of nuclear power in the US

But the Maryland Democrat added the issue in Japan is a "wake-up call to look very seriously at the safety" of nuclear reactors worldwide.

"As one who has a reactor in my community in Calvert County and who is a strong supporter of nuclear power, I share the views that we have to look very carefully at the safe operation of those plants and the security of those plants," Hoyer told reporters during his weekly briefing with reporters at the Capitol.

"I'm sure the [Nuclear Regulatory Commission] should and will analyze the events in Japan and learn from what has happened in Japan and apply them both to those presently in existence and to those that may be designed and built in the future," he said.

Hoyer said that nuclear power plays an important role in the push to make the US less dependent on foreign oil.

"If we are going to reach energy independence — which I think is absolutely essential — frankly, I think we need to utilize all of the energy sources that are available to us, and we need to transition as quickly as possible.

"But, you know, what has happened in Japan clearly ought to motivate us to look very carefully at present facilities, including Calvert Cliffs" in Maryland, Hoyer said.

UPDATE:US Rep Hoyer: Japan Nuclear Disaster Should Be 'Wake Up Call' For US (DJNews)

By Corey Boles

Dow Jones Newswires, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Closest Nuclear Power Plant To DC Called Safe (WMAL)

By Jen Richer

WMAL-AM, March 16, 2011

WASHINGTON -- Metropolitan Washington gets part of its electricity from nuclear power plants, but one local utility official says "not to worry".

Brew Barron, CEO of Constellation Energy says residents of Lusby and Calvert County can be confident of the nuclear safety measures at Calvert Cliffs, which has more layers of backup protection systems than the ones in Japan.

The Calvert Cliffs facility, which employs 900 people, was recently relicensed for another 20 years of operation.

Expert: Nuclear Power Sees Uncertain Future Again (WBAL)

WBAL-TV Baltimore, March 16, 2011

BALTIMORE --

Nations across the world that use nuclear power are looking closely at the safety of their power plants as the nuclear crisis in Japan unfolds

, and many are wondering what the future of nuclear power is.

In Europe, energy officials are applying stress tests to their plants. Germany is switching off seven of their reactors, one permanently.

The crisis in Japan again exposes the downside of nuclear energy. It was first exposed at Three Mile Island in Pennsylvania

on March 28, 1979, when an accident caused by faulty equipment and bad decisions led to the partial meltdown of one of the reactors.

No one was killed or injured in that accident, but the confusion, chaos and fear that came with it dealt a long-lasting blow to the expansion of nuclear energy in the US New nuclear reactors are being considered in the US, but no new plants have been approved since the Three Mile Island accident.

Recent years had come to be known as the nuclear renaissance -- the growing acceptance of nuclear energy as a clean, green and effective answer to the country's dependence on foreign oil.

But economist Anirban Basu, of the Sage Policy Group, said he thinks what's unfolding in Japan is a game-changer.

"One fears, if one is an advocate of nuclear energy, that for now, the nuclear renaissance is over in America," Basu said.

Basu predicted a whole new round of soul-searching will happen as a result of Japan's crisis.

"Undoubtedly, many studies will be done now about the safety of nuclear power plants and new technology and what happened here. In the meantime, new nuclear development will not take place," he said.

A new reactor at Calvert Cliffs in Maryland is part of the plan for the future. Gov. Martin O'Malley on Tuesday expressed his support for a new reactor.

"Calvert Cliffs is designed to withstand the most disastrous scenarios," the governor said in statement. "Regular safety scenarios are exercised to ensure the highest levels of preparedness."

At one time, the Calvert Cliffs III plan was thought to be a model for nuclear power expansion in the US, but then Constellation Energy backed away from the deal with a French partner, leading to a whole new round of uncertainty.

"One has to think, given what's happened in Japan, that financing will be that much more difficult. Insurance will be more expensive, and so, whatever the delays were going to be, I suspect they'll be much worse going forward," Basu said.

Three Mile Island led to sweeping changes in safety and regulations for nuclear power. Jayne Miller covered that story extensively when it happened and detailed her thoughts on the matter in her blog, which is linked above.

Maryland's Emergency Nuclear Plans « Maryland Morning With Sheilah Kast (WYPR)

WYPR-FM, March 16, 2011

In Fukushima, Japan, dangerous levels of radiation are escaping into the air at the nuclear plant after an explosion occurred. Leaders there are telling people within 20 miles of the nuclear plant to stay indoors.

Despite these events, the Obama administration has said it's not backing away from pursuing nuclear power as an energy source.

Yesterday, we asked Governor Martin O'Malley's office about whether he would like to move forward with plans for Calvert Cliffs 3. A spokesman for the governor, Shaun Adamec, wrote back in an email:

The short answer is yes. Calvert Cliffs is built to withstand an earthquake of the magnitude that is possible in our area. State emergency response exercises yearly, and have used an earthquake scenario before. We have plans that deal specifically with the plant and immediate population (as required by federal law) and there are warning systems in place and pre-determined evacuation plans. We have identified 10 mile plume zones and ingestion zones. Annual outreach with community is done and they are familiar with the plans. All this is to say that the Governor would expect and insist that such plans also be in place for Calvert Cliffs 3.

Sheilah discusses emergency preparedness in greater detail with Richard Muth, director of the Maryland Emergency Management Agency, and Susan Shaw, President of Board of County Commissioners for Calvert County. She lives in Huntingtown, about 20 miles north of Lusby, where the Calvert Cliffs nuclear plants are located.

A note on the conversation: Director Muth told us that the biggest earthquake recorded in Maryland was a 3.0 magnitude one, around the turn of the last century... and that Calvert Cliffs was designed to withstand a 4.5 magnitude earthquake. Earthquakes are measured in logarithms, so according to the U. S. Geological Survey, a 4.5 earthquake is 31.622 times bigger than a 3.0, and 177.827 times stronger.

State Nuclear Reactors Designed Differently Than Those In Japan (PIERCWIS)

Pierce (WI) County Herald, March 16, 2011

Officials say Wisconsin won't have to worry about radiation spilling from its nuclear plants, after a release in Japan in the wake of the tsunami.

Viktoria Mitlyng of the US Nuclear Regulatory Commission says the Kewaunee and Point Beach nuclear plants on Wisconsin's eastern shore were made to survive the worst natural disasters on record -- with an extra safety margin on top of

that. The two Wisconsin plants are about as old as the Japanese plants built in the 1970's. But Kewaunee and Point Beach have pressurized water reactors – while the Japanese units have reactors with boiling water.

Sara Cassidy of the Point Beach plant in Two Rivers says her facility's design and maintenance are based on the worst-case seismic scenario for the plant's location. Mark Kanz of the Kewaunee nuclear plant says its owner, Dominion Resources, will review all of its safety systems to make sure everything's working properly.

The nuclear plants provide about one-fifth of all the electricity used in Wisconsin. The Nuclear Energy Institute says it's premature to make conclusions about the Japanese incident and what it means for the future of nuclear power. Senate Independent Joe Lieberman of Connecticut is calling for a re-assessment of the industry. The Obama White House says nuclear is part of the president's overall standards for cleaner energy.

US Nuclear Plants Differ From Those In Japan, Industry Rep Says (MJS)

By Thomas Content

Milwaukee Journal Sentinel, March 16, 2011

Key differences separate US plants from those involved in the Japanese crisis, notably the location of fuel tanks for diesel generators that provide backup power to keep reactors cool during a catastrophe, a representative of the US nuclear industry's chief lobbying group said Tuesday.

In Japan, the aboveground diesel tanks washed away when the tsunami flooded the nuclear complex. US plants that would be vulnerable to tsunamis have taken precautions, such as burying their diesel tanks underground or building critical safety equipment at high elevations, said Tony Pietrangelo, senior vice president and chief nuclear officer at the Nuclear Energy Institute.

"We will put the best minds together to try to fully understand the events occurring in Japan to see if we can glean any lessons learned that could enhance the safety of our facilities," Pietrangelo said.

In Wisconsin, the Kewaunee and Point Beach nuclear plants have underground fuel tanks for diesel generators that would kick in if there were a loss of power and cooling systems needed to keep running, plant representatives said Tuesday.

According to the Nuclear Energy Institute, all US plants are built to withstand the maximum known natural disasters that researchers say can be expected to take place in a given location.

For the Kewaunee and Point Beach plants, that means they are designed to withstand an earthquake measuring up to 5.9 on the Richter scale, said Mark Kanz of Dominion Resources Inc., operator of Kewaunee, and Sara Cassidy of NextEra Energy Resources Inc., operator of Point Beach.

The two reactors at Point Beach and one in Kewaunee supplied about 19% of the state's electricity in 2009.

The Japanese nuclear plants appeared to withstand the earthquake but were overwhelmed by the intensity of the tsunami, which was more extreme than the plants' design was based upon.

As a result, nuclear plant operators around the United States are undoubtedly taking a second look at their preparedness for catastrophes even more extreme than would be expected, Pietrangelo said.

During a congressional hearing Tuesday, US Energy Secretary Steven Chu reiterated the Obama administration's support for nuclear power and said the US will learn from Japan's experience.

On whether the administration should put the brakes on plans for new reactors, he said, "I still feel it's probably premature to say anything other than, 'We will learn from this and all forms of energy do present risks.' "

Wisconsin Nuclear Power Plant Operators: Reactors Are Safe (AP)

Associated Press, March 16, 2011

KEWAUNEE — Wisconsin's nuclear power plant operators say the state's reactors are safe.

The Kewaunee and Point Beach plants are similar in age to the Japanese reactors involved in that country's earthquake and tsunami disaster, but have a different design. The Wisconsin plants have pressurized water reactors while the reactors in Japan use boiling water.

Kewaunee spokesman Mark Kanz says there are lessons to be learned from the tragedy in Japan, so officials are re-evaluating all safety measures they have in place.

WLUK-TV says managers of both plants work closely with surrounding communities to make sure everyone is up to date with emergency plans.

Nuclear Power Plant Operators: Reactors Are Safe (WISC)

WISC-TV Madison (WI), March 15, 2011

KEWAUNEE, Wis. –

The threat of more problems at Japan's nuclear facilities has some in Wisconsin asking questions about the state's own nuclear facilities.

Wisconsin's nuclear power plant operators said the state's reactors are safe.

The Kewaunee and Point Beach plants are similar in age to the Japanese reactors involved in that country's earthquake and tsunami disaster, but have a different design. The Wisconsin plants have pressurized water reactors, while the reactors in Japan use boiling water.

Kewaunee spokesman Mark Kanz said there are lessons to be learned from the tragedy in Japan, so officials are re-evaluating all safety measures they have in place.

Managers of both plants said they work closely with surrounding communities to make sure everyone is up to date with emergency plans.

Some have been asking about what nuclear radiation actually does.

"The average person in the United States is exposed to approximately 6.2 millisievert, which is an international unit (of measurement) every year," said Paul Schmidt, chief of radiation protection at the Wisconsin Department of Health Services.

Schmidt said exposure to radiation is an everyday part of life.

"Microwaves, televisions, computer monitors -- but it's a very, very small component. The biggest component is the natural background radiation from soil, cosmic rays, things like that," said Schmidt.

CBS News reported that 100,000 millisievert would post a health risk

Schmidt helps regulate how state agencies prepare and respond in the event of an incident at a nuclear power plant in Wisconsin.

"We do have very well-developed response plans, well-trained people, good response equipment capabilities, and we exercise those capabilities routinely to make sure that if something did happen, we'd be prepared to address it and assist the counties in their response," said Schmidt.

Experts said that even low levels of radiation can lead to health problems, especially in children.

"When people get exposed to radiation, there's a higher incidence of breast cancer, of blood-borne malignancies like leukemia, lymphoma, but thyroid cancer is probably the one that has the strongest link to radiation exposure," said Dr. Rebecca Sippel, an endocrine surgeon at the University of Wisconsin Hospital.

Sippel said that in the years after the 1986 Chernobyl meltdown, cases of thyroid cancer in children increased tenfold.

However, for now, the crisis in Japan is a different situation.

"The radiation dose and the effects of all these accidents are different, so trying to interpret the impact on each patient, I think, is varied on each experience, and I think we learn something knew from each of these exposures," Sippel said.

Though a handful of people have asked Schmidt about potassium iodide pills, which help block radiation from being absorbed into the thyroid, Schmidt and Sippel said it's not necessary to take such precautions in Wisconsin and there is no immediate risk in the US

When asked about whether it's possible for nuclear radiation from Japan to spread to the US, Michael Corradini, a professor of engineering physics at UW-Madison, said the distance between the US and Japan greatly lessens the possibility.

"Even if there is a release, it dissipates and dilutes in a matter of miles to tens of miles, and so there's just not a threat," Corradini said.

Corradini said he didn't think engineers expected this large of a tsunami connected with the earthquake, saying the nuclear plants in Japan survived the earthquake but not the tsunami.

Kewaunee Power Station's License Renewed (GBPG)

By Nathan Phelps

Green Bay (WI) Press-Gazette, March 16, 2011

The US Nuclear Regulatory Commission has renewed the operating license for the Kewaunee Power Station for 20 years, the agency said Thursday.

The action follows public hearings and commission review of safety and environmental factors related to plant operation.

"After careful review of the plant's safety systems and specifications, the staff concluded that the applicant had effectively demonstrated the capability to manage the effects of plant aging and that there were no safety concerns that would preclude license renewal," the commission stated in a press release.

Dominion Energy Kewaunee Inc. applied for the renewal in August 2008.

The Kewaunee plant began operation in 1974 and was purchased by Virginia-based Dominion in 2005.

The 574-megawatt plant provides enough electricity for about 140,000 homes, according to the company.

This is the first renewal since the operating license was granted in 1974, said Mark Kanz, local affairs manager at the Kewaunee Power Station.

The initial license spanned 40 years. With the renewal, Dominion has been licensed through the end of 2033.

"We're happy to keep producing electricity for Northeastern Wisconsin for another 20 years," Kanz said Thursday afternoon. "It's also stable employment for the area."

The plant employs about 700 people, he said.

The commission has renewed operating licenses at all four of the nuclear plants owned by Dominion, according to the company.

NUCLEAR CRISIS: Failures In Storage Pools, Battery Backups Point To Problems In US Fleet (GWIRE)

By Hannah Northey And Jenny Mandel

Greenwire, March 15, 2011

Spent fuel at Fukushima Daiichi Nuclear Power Station's Unit 4 caught fire last night and released radiation directly into the air before the fire was brought under control and extinguished, according to the International Atomic Energy Agency (IAEA).

The spent fuel pool, which stores used fuel rods submerged in water as they gradually cool over several years to a temperature at which they can be moved to other storage, is located next to the containment building and is normally under the roof of an outer building.

That outer building may have blown off, as the IAEA reported that the pool was open to the atmosphere and that "Japanese authorities are saying that there is a possibility that the fire was caused by a hydrogen explosion."

Hydrogen explosions have caused the reactor buildings to blow up at the Unit 1 and 3 reactors, and the IAEA also reported an explosion last night at the Unit 2 reactor. Authorities did not immediately report damage at any of the four sites to the reactor containment vessels, the concrete-and-steel structures around the reactors designed to hold in radiation in the event of an emergency.

Yesterday, some experts were assessing the radiation risk from spent storage pools as greater than the danger from the reactors themselves, as emergency crews appeared to be warding off further reactor meltdowns with pumped seawater, and at least one pool – at the Unit 3 reactor – showed signs in satellite images of potentially being compromised and emitting steam directly into the atmosphere.

In a call with reporters, Robert Alvarez, a senior scholar with the progressive Institute for Policy Studies and former deputy assistant secretary for national security and the environment with the Energy Department, said if cooling water in the pools is lost and the spent fuel becomes partially or fully exposed to air, it can overheat and the zirconium protection around it can catch fire. "Then you have the potential for very very significant, long-term land area contamination," Alvarez said.

Indeed, overnight, the IAEA reported that radiation dose rates as high as 400 millisieverts per hour -- enough to cause excess cancers in four out of 100 people in just one hour, according to a National Academy of Sciences analysis – were reported at the site. Those levels fell to 0.6 millisievert per hour several hours later, IAEA reported, which they said suggested that local levels of radioactivity were decreasing.

Thomas Cochran, a nuclear physicist, senior scientist with the Natural Resources Defense Council and member of the Energy Department's nuclear energy advisory committee, said that under normal circumstances, the pools do not present a radiation risk even if exposed directly to the outside air.

"It's got a lot of water in it, and it's got several meters of water above [the spent fuel rods], so you can peer over the side and you're shielded from the radiation by the water," Cochran explained, adding that a reprocessing facility in the United Kingdom maintains open-air pools on which seagulls and other birds regularly land.

But he said the occurrence of a fire indicates some sort of damage to the pool itself, to have allowed the water level to so quickly fall low enough for the used fuel to overheat.

"We're days away from this accident; you'd have to walk away from that pool for a long time for that water to evaporate away. So something else has to have happened," he said.

"The problem with this particular design is that the pool – it's like building a concrete swimming pool up on the fifth floor. And if you start having explosions in the building, you should start to worry about the pool leaking," Cochran added.

This group of reactors all share the elevated spent fuel pool design, meaning the entire group is vulnerable to the same design flaw.

Cochran said some other plant designs put the pool underground, which makes it less vulnerable to an explosion, though an earthquake could still cause structural damage and cause such a pool to leak, especially if the quake far surpassed the design specifications for the plant as occurred in this case.

Storage pools a known issue

US nuclear regulators have considered the dangers posed by spent fuel pool vulnerabilities in the past.

Following the 2001 terrorist attacks in the United States, the National Academy of Sciences undertook a study, "Safety and Security of Commercial Spent Nuclear Fuel Storage," which focused primarily on the risks associated with a terrorist attack on a spent fuel pool and consequent radiation release.

The report concluded that spent fuel pools are needed at all operating nuclear power plants to store recently used fuel as it cools and that a fire of the zirconium protective layer around the spent fuel rods "could result in the release of large amounts of radioactive materials."

The report suggested certain relatively simple measures like rearranging the spent fuel assemblies in pools to more evenly disperse heat and putting in place redundant cooling measures. It also made other recommendations that were redacted on security grounds.

NRDC's Cochran criticized the decision by the Nuclear Regulatory Commission (NRC) to classify so much of the report, "ostensibly so you wouldn't assist potential terrorists," because "as a consequence you deny the public the chance to decide whether they agree with that analysis."

One finding of the report, echoed by several nuclear experts in recent days, is that "dry cask storage," in which partially cooled spent fuel is stored in concrete and steel structures, generally underground, is inherently safer than storage in pools.

Cochran said dry cask storage becomes possible two to four years after the fuel is retired from use, when the temperature drops enough that with proper ventilation, the zirconium cladding will not melt. "It would be extremely hot both thermally and radioactively at that point, but it wouldn't be hot enough to melt the cladding," he said.

Because dry cask storage does not require active cooling, it is inherently safer than a system that relies on power-dependent water cooling systems that can fail, as has happened at the Daiichi plants.

US fleet

According to General Electric Co., 32 boiling water reactor (BWR) Mark 1 units like those in use at the Daiichi plants are in operation worldwide, and experts say there are 23 comparable plants in the United States.

"The BWR Mark 1 reactor is the industry's workhorse with a proven track record of safety and reliability for more than 40 years. ...There has never been a breach of a Mark 1 containment system," the company said yesterday.

But Cochran believes the elevated pools are just one design element of the Daiichi plant setup that clearly needs further review in the United States.

"I think there are a lot of problems with these BWRs and Mark 1 and 2 containments, and there's a lot of work to be done to repair the safety deficiencies in the US plants. Otherwise, they should be phased out," Cochran said.

"You don't design a reactor so that every time you get a partial-core melt you would blow the top off the reactor. There's obviously a design flaw in the hydrogen management. ... You don't have to be very smart to figure out that there was some failure in the design for managing that type of an event," Cochran said.

He said another clear design flaw lies with the regulatory requirements governing backup power for the reactors. It was an initial grid power outage to the plant from the earthquake, followed by failure of the backup diesel generators due to damage in the tsunami and depletion of four-hour backup batteries, that led to the cooling system failures in Fukushima.

4 to 12 hours of battery backup

Indeed, many scientists and environmental groups are pointing to the unfolding events as a wake-up call for US regulators to go further in ensuring the country's 104 reactors have sufficient battery power to continue operating if power is lost and backup diesel generators fail.

The country's nuclear plants could lose independent off-site power sources and backup generators and slowly come to rely on batteries that only run for four to eight hours, said David Lochbaum, a nuclear engineer and director of the Union of Concerned Scientists' (UCS) nuclear safety program. Only a smaller group has batteries that can produce power for up to 10 hours, he said.

Lochbaum acknowledged that many plants are better prepared for disasters in the aftermath of the terrorist attacks of Sept. 11, 2001, both in terms of backup generation and personnel to fight fires, and "those might be sufficient to deal with what happened in Japan," he said.

Nuclear Energy Institute (NEI) Senior Vice President Tony Pietrangelo said today that nuclear reactors in the United States are in compliance with NRC's "station blackout rule," which requires nuclear facilities to develop plans and practices to continue operating when power is lost.

On a call with reporters today, Pietrangelo conceded that the loss of power factored into the situation at Japan's Fukushima Daiichi plant. Operators at the reactor lost power and three units "tripped" or shut down after the earthquake struck on March 11, at which time emergency diesel generators worked for about an hour until they were washed away by the tsunami and batteries were brought in.

But in the United States, some reactors -- Pietrangelo could not confirm how many -- install diesel generators underground for protection and, depending on the plant, have batteries that can last up to 12 hours. All US nuclear plants, he said, are designed to sustain the most severe earthquakes for the region within which the plant is located.

When asked how the industry would feel about reactors being required to have more backup battery power, Pietrangelo said, "That's the kind of review we do to apply the lessons learned going forward."

Environmental groups have raised concerns about the "standard blackout rule" since it was implemented in the 1980s, calling into question whether the agency confirmed that all US plants can cope with a total loss of power "at any time." Industry groups like NEI, on the other hand, submitted comments making clear that any requirements beyond the rule would prompt further formal rulemaking activities.

NRC conducted a study in 2003 that found all plants were complying with the rule, generally by adding diesel or gas turbine generators, and confirmed that all facilities reviewed had a "4- or 8-hour coping capability."

Lochbaum yesterday pointed to a handful of events in which nuclear power plants in the United States were knocked offline, generators failed and batteries were used as a last resort.

In 1998, a tornado struck the Davis-Besse nuclear power station, a pressurized water reactor in Ohio, and damaged the facility's access to external power. The plant was shut down and emergency diesel generators powered the safety system until external power could be restored, according to NRC.

In 1992, the Turkey Point nuclear reactor in Florida was damaged by Hurricane Andrew's winds of up to 145 miles per hour, causing a loss of power, according to NRC. In that situation, the backup diesel generators failed because of problems with moisture in the equipment, and remaining emergency diesel generators carried the load. The NRC report notes that the backup generators were crucial to pumping power into the facility.

"To say that this never happens" is wrong, said Jim Riccio, a nuclear policy analyst for Greenpeace. "There are examples ... even with a robust grid like ours, you're going to have problems."

NRC Tapping Tech For Better Analysis Of Nuclear Accidents (NETWORLD)

By Jaikumar Vijayan

Network World, March 16, 2011

Long before the nuclear disaster in Japan began unfolding this week, scientists in the US have been trying to gain a better and more realistic picture of precisely what would happen if a similar accident occurred in this country.

For the past few years, researchers from the Nuclear Regulatory Commission (NRC) have been engaged in a project called State of the Art Reactor Consequence Assessment (SOARCA), to better understand how a nuclear reactor would behave in a severe accident, as well as what sort of radioactive release it would cause.

Similar research on hypothetical accidents at nuclear power plants have been conducted by the NRC and international nuclear safety groups for the past 25 years.

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What's different with SOARCA , says the NRC, is that it uses modern computing resources and modeling software to generate more accurate and realistic accident simulations. It also examines extremely rare, "one-in-a-million"-type accidents that could have a significant impact.

Such modeling and analyses of hypthetical accidents is designed to help stakeholders develop better protections and responses to nuclear accidents.

SOARCA models also take into account some of the new accident mitigation technologies and strategies that are deployed in nuclear power plants these days. The models factor in updated emergency preparedness measures and plant improvements that were put in place after the 9/11 terrorist attacks.

The studies are receiving renewed attention in light of engineers in Japan currently trying to avert a full-scale meltdown of the country's Fukushima nuclear power plant.

The plant was damaged severely in last week's earthquake and subsequent tsunami . Concerns about the safety of the plant have been escalating sharply over the past few days.

Those concerns were further heightened today after a third explosion rocked the facility causing radiation levels to increase to potentially dangerous levels.

The NRC said on Monday that it has sent several nuclear experts to Tokyo to provide assistance to officials there.

Among other tasks, the team's mission is to better understand the potential impact of radioactive leaks on people and on the environment, the NRC said in a statement Monday

As part of SOARCA, the NRC has run computer modeling and simulation tools to study at least two operating nuclear power plants in the U.S over the last couple of years.

One of the plants that participated in the initial phase of the NRCs SOARCA project is the Peach Bottom Atomic Power Station in Pennsylvania. The plant features a boiling water reactor (BWR) similar to the most troubled reactors in Japan. The other plant is the Surry Power Station, a pressurized water reactor (PWR) in Virginia.

The commission did not respond to requests for comment on the status of its SOARCA project.

Publicly available information on the project states that the project's goal is to develop an enhanced understanding of the consequences of a nuclear power plant accident involving the release of radioactive material into the environment. SOARCA will give the public and decision makers the "latest basis" for assessing the consequences of severe accidents at nuclear power plants, the information notes.

A Japan-reactor Repeat In The United States Could Cost The Government Dearly (GOVEXEC/NATJ)

By Jim Tankersley, National Journal

Government Executive/National Journal, March 16, 2011

An American nuclear power-plant accident similar to the ongoing disaster in Japan would leave taxpayers on the hook for billions, and perhaps hundreds of billions, of dollars in health and economic damage claims, risk experts estimate.

Federal law puts most nuclear-accident liability on the shoulders of taxpayers, but regulators have not enforced safety standards vigorously enough to fully safeguard against those risks, economists Geoffrey Heal and Howard Kunreuther wrote in a 2009 paper that warned of excessive taxpayer exposure to the risks of nuclear catastrophe.

Heal, a professor at Columbia University, and Kunreuther, of the Risk Management and Decision Processes Center at the University of Pennsylvania's Wharton School of Business, acknowledge that the risks and costs of a nuclear accident in the United States are difficult to quantify. But they say that the upper-end damage estimates of a full core meltdown are almost "unimaginable."

The prospect of such an accident, while low, suddenly seems more imaginable in the wake of the simultaneous failures of three reactors at Japan's Fukushima Daiichi Nuclear Power Station, following the 8.9-scale earthquake and massive tsunami that struck the country on Friday.

Heal and Kunreuther sketch a deadly and expensive example of how bad a US nuclear accident might be: A meltdown at the Indian Point nuclear-power station 25 miles north of New York City, they write, could eventually kill some 64,000 people - damage that they calculate at $384 billion - and inflict $50 billion to $100 billion in economic costs. Nightmare scenarios involving lost nuclear material that ends up in terrorists' hands, or the long-term evacuation of New York City, would dramatically increase the costs.

The Price-Anderson act limits private liability for those costs to $375 million for an individual company, plus $12.6 billion from an industry liability pool, leaving taxpayers on the hook for the rest. That transfer of liability creates conditions for moral hazard - an incentive for an electric utility, in this case, to take on too much risk because the utility would not bear the full costs of a catastrophic event.

The Nuclear Regulatory Commission is supposed to be taxpayers' guard against that risk. But, Heal and Kunreuther write, it's far from clear that regulators have done the job adequately: "There is empirical evidence that the NRC does not aggressively

pursue and penalize mismanagement of nuclear-power stations, and that the federal authorities are not sensitive to the increase in potential costs associated with siting near densely populated areas."

In a phone interview on Monday, Heal gave the NRC a "5 out of 10" on a regulatory rating scale and raised concerns over whether the agency had adequately prepared for the possibility of a large American earthquake shaking a nuclear facility. In California, home to two working nuclear plants, Heal said that a massive radiation release would inflict damage "in the billions and billions of dollars."

US regulators must quickly learn the still-unfolding lessons from the Japanese plant failures, he said, including whether plant operators there took any safety shortcuts.

"The priority in this country now is to focus very heavily on reactors that are in a seismic zone," Heal said, adding, "The NRC is supposed to be our guarantee against moral hazard. But if the NRC isn't keeping its game up to scratch, the risk from moral hazard is tremendous."

Nuclear, Oil, Gas Or Coal? Pick Your Energy Poison (USAT)

USA Today, March 16, 2011

When officials in charge of a badly damaged nuclear power plant consider trying to cool hot fuel rods by spraying them with water from a helicopter, the situation is either out of control or frighteningly close. That's where matters stood late Tuesday at Japan's Fukushima Dai-ichi nuclear plant, as workers fought another fire and struggled to keep the plant's reactors from releasing catastrophic amounts of radiation.

The disaster that has unfolded at the plant since Friday's magnitude 9.0 earthquake and tsunami has to make even strong supporters of nuclear power, including us, wonder just how vulnerable US plants are, and whether building more makes sense.

No one knows how this will end, and the middle of a crisis is the worst time to make long-term policy. But Japan's nightmare has already been a sobering reminder that even a technology meticulously engineered to have backups of backups can be unraveled by an improbable chain of events.

In Japan, everyone anticipated earthquakes, and plants are designed to resist them. They also expected tsunamis and built sea walls to protect against them. But they did not anticipate an event so devastating that it would leave the plant without electric power for so long that its redundant systems would fail.

Are there similar risks for the 104 US nuclear reactors? Japan's experience has revealed one possible weakness at American facilities, where emergency batteries are typically designed to supply backup power for just four hours. At Fukushima, batteries were designed to provide power for eight hours, not nearly long enough to restore electricity to the reactors' cooling pumps because the room housing vital electric connections was flooded.

Then there's the question of whether US earthquake protection is adequate. At least eight reactors are in seismically active areas in Arizona, California and Washington. It's reassuring that California's Diablo Canyon plant rode right through a magnitude 6.5 quake in 2003, less so to know that the plant is designed to survive only a magnitude 7.5 quake.

The reality is, the United States doesn't have the option to walk away from nuclear power, which supplies almost 9% of the nation's energy and about 20% of its electricity. The industry has posted such a strong safety record in the 32 years since the accident at Pennsylvania's Three Mile Island that many environmentalists have embraced the idea of building new plants -- which offer huge amounts of 24/7 power with virtually no carbon emissions.

Nuclear energy's drawbacks are glaring at the moment, but it's worth remembering that no major source of energy the United States is using comes without a heavy cost:

+Oil provides the single largest share of American energy – more than a third. Last summer's BP well blowout and spill in the Gulf of Mexico were reminders of the environmental price the nation pays for the aggressive oil exploration necessary to keep domestic supplies from declining. Even so, the US imports more than half its oil, making it reliant on a volatile world market that enriches US adversaries such as Venezuela and Iran.

+Natural gas provides about a quarter of US energy, and the good news is that supplies are enormous. The bad news is that drawing that gas from tight rock formations means using a controversial technique called " fracking" that fractures rock deep underground so the gas can flow. Studies have shown that fracking has contaminated drinking water supplies with carcinogens and radioactive elements.

+Coal supplies about a fifth of US energy and almost half the nation's electricity. Again, the good news is that America's supplies are huge. But underground coal mining routinely injures and kills miners, surface mining scars vast tracts of land in Appalachia and the West, and coal is a major contributor to air pollution and greenhouse gas emissions.

Wind and solar power have fewer drawbacks, but their contributions to the nation's energy production are small -- less than 1% combined. That will change, but getting to the point where solar or wind equal the output from oil, coal, natural gas or even nuclear power will probably take decades.

Until then, the best approach to energy disasters is the same one applied to air crashes: Study the causes carefully, learn from the mistakes, and adopt changes to make the systems as safe as humanly possible.

Assessing The Future Of Nuclear Power In The US (NPR)

Talk of the Nation

NPR, March 16, 2011

In Japan, workers are racing to prevent major meltdowns at a nuclear power plant in Fukushima. Many residents near the plant are reportedly fleeing the area. Japan's crisis may affect the renewed push for nuclear energy in the United States and other countries.

NEAL CONAN, host:

This is TALK OF THE NATION. Im Neal Conan in Washington.

While millions in Japan spend another cold night without power, food or running water, many thousands are trying to evacuate the area around a nuclear power complex that's emitting radiation after a series of explosions and a fire.

Four of the six reactors at the Fukushima Daiichi complex are in some level of crisis. We'll get an update in just a moment.

Later in the program, how what's happened in Japan affects the debate on the future of nuclear power in this country and around the world. China plans to move ahead. Stress tests have been ordered on all plants in Europe. And Germany decided to shut down one aging reactor and put a decision to extend the life of 16 others on hold.

Given what's happened in Japan, have you changed your mind about nuclear power? Calls later. You can send us email now. The address is talk@npr.org. But first, NPR science correspondent Jon Hamilton joins us here in Studio 3A.

Jon, nice to have you with us.

JON HAMILTON: Glad to be here.

CONAN: And we understand there was a spike in radiation emitted at the Fukushima plant earlier today, but that's since subsided.

HAMILTON: That is what we're hearing is there was a spike, and it was actually a fairly scary one. It went up to a level they referred to as 400 millisieverts, which is a lot of radiation. It's enough radiation that if it were to go on for several hours, and you were right there, you could become sick.

But I should say that the spike was just that. It was one point in time at one place. It has since gone down since then. And it was not sustained. So it suggests that whatever was causing that radiation to be released has been taken care of.

CONAN: And was that -- could that have been the fire that was reported at one of the three plants that had been shut down before these - before the earthquake for maintenance?

HAMILTON: It certainly could be related to the fire. The fire we're talking about was in reactor number four at the Fukushima Daiichi plant, and that's, interestingly enough, a reactor that was not in operation. However, even the reactors that are not in operation, they have these pools where they store the spent fuel.

And it appears that what happened was that the cooling system that has to cool down this spent fuel because it still has a lot of heat to give off, that somehow failed. Perhaps the water level dropped and exposed the radioactive material to the atmosphere, which would account for - certainly for a radiation spike. And it also would've allowed the production of a huge amount of heat, which could have started the fire, and there you have it.

CONAN: And there you have it. So the other three plants, though, that were online and were reported in crisis, well, I guess ever since the earthquake and tsunami, what's the situation there?

HAMILTON: Well, what I'm hearing is that people are pretty reassured right now - and I should say right now - about numbers one and three. Number one reactor was the one that we first did so much reporting on because they were having terrible problems keeping the core cool enough, that it wasn't going to create terrible problems and have perhaps even a meltdown. Number three went through a similar thing.

Today, the focus has been on number two, where there was an explosion, maybe more than one explosion, but what happened was there had been explosions at two of the other reactors, but these were outside of the reactor's so-called containment vessel. It was a hydrogen explosion in the building, and it did a lot of damage to the building but not to the reactor and its containment structure itself.

This explosion in number two was in a part of the containment system, not the vessel per se, but in a part of the containment system, and the concern there is that an explosion there could possibly have opened up a hole where radioactive material could escape out into the environment.

CONAN: It could, might. How do we know for sure?

HAMILTON: We don't. And I should say with everything to do with the situation in Japan, the information has been really sparse. And you - when you read things from different sources, they all have different takes on exactly what has happened.

And the government officials seem to be doing updates, you know, more or less once a day, and that information seems to be pretty good, but it's not coming out very often.

CONAN: And so we've heard that, for example, United States Navy vessels that had been off the east coast of Japan were going to be moved to the west coast. The prevailing winds are blowing the material to the east, and this is seen as a way to get out of the path of any radiation that might escape. And is this a wise precaution at this point?

HAMILTON: It's hard to say. I don't know what the levels they're experiencing are. You would think that for a Navy vessel to decide to move, it would have taken a reading it considered disturbing.

But my understanding, you talk about information flow, my understanding is people have gotten that from, you know, the Facebook page of somebody on this ship.

So it does suggest that there are levels of concern that are miles from the plant. However, just to address something else that's come up, people have talked about higher radiation levels in Tokyo, say, which is 150-plus miles away. And yes, that's true but a tiny, tiny increase and nothing that you would think would cause any kind of health problem.

CONAN: The prevailing wind does blow from the east to the west so - excuse me, away from Japan, toward the Pacific. Does that represent any kind of a threat to anybody downwind?

HAMILTON: Well, if you had a major release of radiation - so far there have been releases - it appears most of the releases have been when they vent steam because pressure's building up in one of these vessels. That stem has some radioactive material in it. It's somewhat radioactive. And so you get a temporary spike with each of these releases.

We have not had the kind of sustained release or the event like in Chernobyl, where there was an enormous explosion that put a huge amount of radioactive material way up into the air, where the winds could carry it. We haven't - we have not seen that in Japan.

CONAN: And is there any fear that we could yet see something like that or a meltdown?

HAMILTON: The people I have talked to - meltdown is a real possibility. There's been talk from government officials already that they are - they suspect or maybe even presume that there's been what they call a partial meltdown in at least two of these reactors.

And these reactors, on the inside, there's a huge steel, stainless steel chamber, and you have these fuel rods that have uranium in this case in them. And when they - they don't have to all melt, right. You can have a little bit of them melt, and that can do bad things.

If they all melt, you can end up with the whole mess in a big puddle of radioactive glop on the floor of this thing, and that's not good at all. But that hasn't happened.

CONAN: And we have no fear that it will?

HAMILTON: It is -- the people I have talked to say explosion not so likely. The things that led to the explosion in Chernobyl were...

CONAN: A different design of plant.

HAMILTON: A design that would never be built in the US or Japan. There was no containment structure at all. And also, that reactor was running out of control. The nuclear reaction was going full-tilt when it went. So the amount of heat that produced created a big explosion and a subsequent really intense fire, which is why all the problem.

Nobody seems to think that's a possibility. The type of hydrogen explosions we have, and even the fire they had, not in the same order of magnitude. However, a meltdown is something people do think might happen.

And in that case, what happens is that the core is - if the cooling is insufficient, if you can't keep water flowing around it, it gets hotter and hotter, and eventually not only does the steel start to melt but so do - so does the cladding around these fuel rods. The nuclear material itself will eventually melt.

And all this stuff ends up in this kind of molten stuff that follows gravity, and, you know, we all remember "The China Syndrome," right. Things can burn their way down. It could burn its way out of the core. It could burn its way -- then it would be inside the containment vessel.

The worst-case scenario I heard described by anybody was that yes, it's possible that if that happened in the right circumstances, it could even burn its way out, you know, through the floor of the containment vessel.

That is still not like Chernobyl because that's going into the ground. It's causing problems with groundwater and plants and things like that. It's not putting it up in the air, where hundreds of thousands of people are going to be exposed.

CONAN: And we're -- we actually know a fair amount about this particular design of reactor because it was designed by General Electric.

HAMILTON: Indeed it was. I believe it's known as the General Electric Mark 1 boiler.

CONAN: And these -- nuclear power makes up about 25 percent of Japan's electrical-generating capacity.

HAMILTON: Twenty-five, 30 percent, I think in that range, yes.

CONAN: And these six plants comprise how much of that?

HAMILTON: My understanding is there are about 55 reactors all together. So you're talking about a relatively small - I mean, remember that we're talking about Fukushima One, Fukushima Daiichi, right, which is, right now, six different reactors with two more being built, right.

So only three of those were actually even running when the earthquake hit. The others were down for refurbishment or maintenance or something. So you're talking about losing three reactors. And, by the way, since they're, you know, pumping saltwater into these reactors, they probably are toast, right.

CONAN: They're not coming back.

HAMILTON: They are not coming back. So you're talking about three. It's significant, but it's not as if the majority of the nuclear power in Japan is about to disappear because of this incident.

CONAN: And there are all kinds of safeguards, given the possibilities of earthquakes in a place like Japan, that nuclear power plants are supposed to shut down automatically. And yes, they did that at Fukushima Daiichi, but other things subsequently went wrong. What's going on with the other nuclear power plants? Are they all offline, or are they back online and producing power?

HAMILTON: I don't have a lot of details there. My understanding is that they're trying right now to bring - they need this power, right. You have terrible power problems in Tokyo. We're talking about rolling blackouts and stuff like this.

So my understanding is that the nation is trying to bring the ones that they think are safe, the ones that were not damaged by the tsunami or something, bring those back online. I do not know how many are online at the moment.

CONAN: And getting back to the area right around the nuclear power plants at Fukushima, the people have been told, well, there's a big evacuation, I guess, within what...

HAMILTON: I think we're...

CONAN: Eleven kilometers, and then...

HAMILTON: Twelve miles, 20 kilometers, and then there is an area of 30 kilometers, where they're asking people to stay inside to - in the event that there's some radiation coming down. They can be protected.

CONAN: But there have to be some people still at the plant fighting to contain this situation. What kind of dangers are they in?

HAMILTON: It's likely that they're in a lot of danger. You know, this is really two stories. On the one hand, the danger to the public at this point, if you're in Tokyo or miles from this plant, the danger to you is really at this point not at all great.

I mean, that could change. But if - for these workers who are at the plant, some of them apparently have already gotten radiation sickness. Some of them may be gravely ill as a result of this.

The radiation levels right around the plant have been high enough to be truly frightening, and in fact, they have removed -- I understand there were about 800 workers. They're now down to a skeleton crew of about 50, and the reason is this spike in radiation you saw, which could, in fact, be really dangerous to these workers.

CONAN: NPR science desk correspondent Jon Hamilton, with us here in Studio 3A. Thanks very much for your time today.

HAMILTON: My pleasure.

CONAN: We're going to continue to watch the situation at those nuclear plants and the rescue operations in the northern part of Japan. Stay with NPR News for the latest.

Up next, the ongoing crisis in Japan has reshaped the debate over nuclear power in this country. We'll talk about what that might mean for the future of nuclear energy. Stay with us. I'm Neal Conan. It's the TALK OF THE NATION from NPR News.

(Soundbite of music)

CONAN: This is TALK OF THE NATION. I'm Neal Conan in Washington.

It's now very early in the morning in Japan, a fifth day of freezing temperatures, no power, little food or clean water for millions of Japanese. Dangerous levels of radiation leaked from a damaged nuclear power plant in recent hours. Four reactors are now in crisis after a number of explosions and a fire at the Fukushima power plant in the northeastern part of the country.

The government imposed a no-fly zone over that area, and the US Navy issued anti-radiation pills to some American sailors who may have been exposed to the radiation. We'll continue to monitor the news out of Japan and bring you updates as they come in.

In the meantime, the partial meltdowns in a number of reactors in Japan have reignited debate over the future of nuclear power in this and other countries.

Given what's happened in Japan, have you changed your mind? Give us a call, 800-989-8255. Email us, talk@npr.org.

The Obama administration thus far is standing firm in its support of nuclear power. The president's latest budget, released last month, calls for $36 billion for nuclear power plant construction.

In a news conference on Friday after the earthquake, President Obama said that by 2035 the United States would get 80 percent of its electricity from clean energy, wind and solar and home-grown biofuels, along with natural gas, clean coal and nuclear power.

Yesterday administration officials in a briefing at the White House dismissed calls for a freeze on nuclear power.

Joining us now is Rebecca Smith, who covers nuclear energy for the Wall Street Journal. She's at a studio in San Francisco. Nice to have you back on TALK OF THE NATION with us.

Ms. REBECCA SMITH (Wall Street Journal): Thank you, Neal.

CONAN: And we spoke to you last March. At that point, President Obama had recently announced that multi-billion-dollar loan guarantee for construction of two new reactors in Georgia. How are these events in Japan changing the debate?

Ms. SMITH: Well, I think it's a little early to say. But if -- there are almost two dozen reactors operating in the US right now that are of similar vintage and design as the ones that have failed in Japan. So there's doubtless going to be more scrutiny on our older our oldest reactors, and also on the re-licensing of those reactors, which has been going on for some time now.

Of those two dozen reactors, I believe 18 have received 20-year license extensions. So there may be more focus on that process.

CONAN: Interesting, license extensions. That was the issue in Germany, which had decided to extend the life of its 17 reactors, seven of them older power generators. And, well, suddenly that decision is on hold. One of those oldest ones is now going to be put, going to be shut down.

Ms. SMITH: Right, and you know, there are a number of issues with these older reactors. And I'd like to clarify a couple things. It was said earlier that these were Mark One reactors. That's not quite right.

They're General Electric Model Three and Four boiling-water reactors, built between the late 1960s and early 1970s. Mark One refers to the containment structure, which is supposed to provide a protective barrier and keep radiation from being released.

The problem in this case is that you had such massive failures inside the reactor core that they have had to release steam to relieve pressure from that reactor. It's gone through the containment building, which normally would be kept tight, and it's been released to the atmosphere.

So one of the things that's going to have to be looked at is this Mark One containment, which is one of the weakest ones that's still in existence anywhere, quite obviously because it's the oldest.

I mean, this was an early design. The later versions were much more robust and much bigger. So there's going to have to be a new look taken at that.

CONAN: Are there similar models here in the United States?

Ms. SMITH: As I said, there are around two dozen, and it includes - these are plants that are among our oldest, and they're operated by the biggest names in the business. I'm talking Exelon, Entergy, Constellation, Southern Company. I can't remember if I said Entergy, but these are the large operators, and they're in roughly a dozen states. So there's going to be a lot of public worry about these units, I suspect.

CONAN: Yesterday Representative Ed Markey, a Massachusetts Democrat, a ranking member in the House Natural Resources Committee, called for a moratorium on permits for US reactors.

Senator Joe Lieberman, who's been an advocate of nuclear power, called for a temporary halt to licensing of new plants.

Ms. SMITH: Well, one of the ironies of this, of course, is that we've had a problem, is with these little old units that have failed in Japan. What's being licensed today is completely different from these old plants. I mean we have half a century of nuclear experience now.

And the new units have many more safety systems in them. They call them passive systems. And the idea is that you use natural forces like the flow of water from gravity to keep a reactor cool. So I think the new designs are inherently safer, but there's now the possibility that they may never get built in the US because of fears from these old ones.

CONAN: And the fears of what are obviously very rare but very vivid events. I think anybody alive remembers Three Mile Island. More people certainly remember Chernobyl, and these events in Japan. But those are very, very rare.

Ms. SMITH: They are very rare, and of course the comparisons to Chernobyl, which was a graphite plant, as was pointed out earlier, a sort that would never have been built in any other country, really, but Russia, that explosion couldn't happen here.

Nevertheless, we fear radiation. I mean, at its simplest one could say that using radiation as a means of creating steam to make electricity is a high-risk operation. And we have believed until now that we had enough redundant safety systems in these nuclear plants to provide and assure public safety.

This accident now, where for the first time we've had multiple reactors fail, really calls into question the premise of redundancy.

CONAN: Let's see if we can get some callers in on the conversation. Our phone number, 800-989-8255. Email us, talk@npr.org. Given what's happened in Japan, have you changed your mind on nuclear power? And we'll start with Darius(ph), Darius with us from Tampa.

DARIUS (Caller): Hi, thanks for taking my call. Even though the accident happened, I'm totally for nuclear power. You know, our sun is a huge nuclear reactor. We wouldn't be alive without it. So yeah, it's dangerous, but you know, life is filled with risk.

CONAN: Life is filled with risk. So if they wanted to build one in Tampa, you'd be fine with that?

DARIUS: I'd be fine with it, yes.

CONAN: All right, Darius. Thanks very much for the call, appreciate it. And the so-called NIMBY problem, Rebecca Smith, that's an eternal one in the construction of nuclear power plants.

Ms. SMITH: Well, it certainly is, and you know, the licensing process is a long and thorough one. But we're going to have to go back now, I think, and look at what the seismic standards have been and certainly what the assumptions have been about tsunami.

In California we have two power plants on fault lines on the Pacific Ocean. I have personally been to the San Onofre plant, and I can tell you there's a very small seawall that separates that power plant and the ocean.

You know, there are many, many things that are going to be looked at, but the one thing you can be assured of is that the nuclear industry is thorough, and they will go through this with second-by-second analysis of what went wrong.

CONAN: The small seawall in front of that plant, obviously not much of a protection in case of a major tsunami.

Ms. SMITH: I wouldn't think so.

CONAN: Let's see if we can get another caller in on the line. Let's go to -this is Patrick, Patrick with us from Corvallis in Oregon.

PATRICK (Caller): Hello, Neal. Thank you very much for taking my call.

CONAN: Sure.

PATRICK: I'm actually a nuclear engineering student at Oregon State University. The point I wanted to make is that we really can't design any major industrial facility that can withstand natural disasters of this magnitude.

Whether this was a chemical plant or an oil refinery or a natural gas plant, it would've been very difficult to build something that would not have caused a huge issue after this disaster, whether it was a fire, a release of chemicals, or anything else, really.

CONAN: So the scale of the disaster is what concerns you?

PATRICK: Yeah, it concerns me that we - any large industrial facility would have been - would have caused a large environmental catastrophe at this point, whether it was a release of radiation or an uncovered core or whether it was the release of a large amount of carcinogens.

CONAN: It's interesting, Rebecca Smith. We heard the chairman of the NRC say American plants are designed to withstand significant events, significant events, including tornadoes and earthquakes and that sort of thing - 9.0, that significant?

Ms. SMITH: Well, it's massive, but - and I don't exactly agree with the caller. I would say we can design around any threat. The problem with the power industry is these are privately owned power plants. That is, they're owned by utilities.

And they have to be able to pass a cost-benefit analysis. No one's going to build a nuclear plant if they have to build it for a 9.0 or a 10.0 Richter earthquake. It simply would become astronomically expensive.

So it may be economics that is the greatest threat right now, due to engineering, increased engineering standards, that is the threat to the industry.

I mean, you have to be able to make power and sell it at an affordable price.

CONAN: Patrick, thanks very much.

PATRICK: Yeah, thank you very much.

CONAN: Here's an email from Kevin in Baltimore: With all of the safe, clean options for power today, why take the chance with nuclear? What's the worst that could happen if a windmill or a solar panel fails?

Also, why provide targets – nuclear power plants – for terrorists? Think about it for a minute. And do you want to store the nuclear waste in your background? Germany supposedly gets 15 to 20 percent of their energy from solar.

And there's a couple of questions in there. Is there enough wind or solar -potential for wind and solar power to make up what nuclear provides and more?

Ms. SMITH: You know, well, California has one of the loftiest goals. It wants to get 30 percent of its electricity from renewable sources. And you know, it's making headway in that direction.

But again, the point needs to be made that nuclear energy has to compete with these other sources of power, or it's not going to stay in the mix. And right now, we have extraordinarily cheap natural gas. It's much easier to throw up a natural gas plant and burn cheap gas than it is to build a nuclear plant, even before we've gone through what will now be a new even greater analysis of what the construction standards have to be.

CONAN: Well, lately, we've been hearing a lot of the dangers of so-called fracking, the hydraulic fracturing, which is involved in extracting that natural gas. Obviously, coal plants, well, they generate a lot of waste products, and oil and gas eliminates - put some carbon in the atmosphere, too. Nuclear power plant accidents are very rare. Are the dangers from all of these other sources, well, they're dispersed over a wide area, but they're significant, too?

Ms. SMITH: I don't think anything is as significant as a nuclear accident, though. I mean, that's really off the scales, if you get a major radioactive release. It is true that every source of energy has its cost and has its environmental damage that is created, but we're talking a whole different level when we talk radioactivity.

I mean, the half-life on these isotopes is enormous, and look at Chernobyl, there's still a massive dead zone around that plant. Even though we're not talking that kind of accident in Japan at this point and probably couldn't be because the fuel is different, there's still a threat to society that is different with nuclear energy than any other form of energy.

CONAN: Let's go to Alex. Alex with us from Baton Rouge.

ALEX (Caller): Hi, Neal. How are you?

CONAN: Very well, thanks.

ALEX: Good. I'm in the US Navy. I've worked on a submarine with these reactors, and I got to say if you look at the Navy's history, we've never had an incident. I think the entire thing is about training and preparation for these things.

Of course, the catastrophe of this magnitude maybe it wasn't foreseen, maybe it wasn't prevented - preventable, but in a normal environment, nuclear energy is one of the safest ways we can go, as well as the most affordable, if we look at it in the long run. I totally support it, and I would have a reactor in my backyard any day of the week.

CONAN: Those are pressurized water reactors in nuclear submarines. And is Alex right, that there's never been an accident with one of those?

Ms. SMITH: Oh, I think the US Navy has a very exemplary record in terms of reactor safety. These are tiny units compared with what we're talking about with commercial reactors. As you pointed out, they're pressurized water reactors, not boiling water, so there's some differences in design. One other thing has been - I've been told many times, is that the Navy gold-plates its reactors, and that the commercial reactors are not built with specifications as high as what the US Navy demands.

CONAN: Alex, thanks very much for the call. Appreciate it.

ALEX: Thank you.

CONAN: We're talking about the renewed debate over nuclear power given the events in Japan. You're listening to TALK OF THE NATION from NPR News.

Let's go next to Dave, and Dave is with us from Buffalo.

DAVE (Caller): Hello, folks. Very important subject. Can you hear me?

CONAN: Yes. You're on the air. Go ahead.

DAVE: Okay. I'm an engineer, and I've heard that nuclear power plants are not efficient. They create a lot of excess heat that are – dispersed into the environment, either into the air, through these large cooling towers or into the water. So our main concern here is global warming. So if the CO2 through sunlight or if it's nuclear power, you're putting a lot of heat into the atmosphere or into the water. So I wondered about that. That's all.

CONAN: Is the extent of the excess heat developed by nuclear power plants a significant contributor towards global warming?

DAVE: Yes. Compared to other plants, which aren't so – are more efficient.

CONAN: All right. What do you think, Rebecca Smith?

Ms. SMITH: I think we're talking apples and oranges. The problem -- the concern with global warming is the release of carbon dioxide, okay? That's a byproduct of burning a fossil fuel like coal or natural gas. A nuclear plant, because it's using fissionable material, does not produce CO2.

DAVE: Right.

Ms. SMITH: It's not burning a fossil fuel. So the heat it produces is thermal heat...

DAVE: Right.

Ms. SMITH: ...and that is passed along either into the air or usually into a body of water nearby in the form of hot water.

DAVE: Right.

Ms. SMITH: So it's a completely different thing. I don't think -- I mean, the -- one of the advantages of nuclear energy is that it does not produce large amounts of carbon dioxide.

DAVE: But it produces a large amount of heat...

Ms. SMITH: So it should reduce the risk...

DAVE: ...so that's the concern I have.

Ms. SMITH: It's - yeah. It's thermal heat, but, like I say, it's a different -it's not heating up the atmosphere of the Earth. It's heating up bodies of water nearby, and normally, you'd - I mean, this is why they're controlled -- this is -- excuse me, this is why we build plants on lakes and oceans. It's because they use that water for cooling purposes.

DAVE: Right. Well, that only shows heat, so that's my concern.

CONAN: All right. I think it's what she's saying is insignificant in terms of global warming. So thanks very much for the call, Dave.

DAVE: You're welcome.

CONAN: Here's an email from Tate, who writes: I understand the discussion about safety and preparedness of nuclear reactors is important. I wonder if a little perspective is missing. Reactors should be prepared for earthquakes, but when the force of the quake pushes an entire country 10 feet to the left and wipes away entire towns with tsunamis, I feel like we're blaming dinosaurs for not expecting the meteor. In other words, are we talking about events that are so rare that, really, we can't design or shouldn't bother to design for them?

Ms. SMITH: I think -- I mean, to me, it's back to the cost benefit. You can design for anything, but do you want to pay for it? And at some point, the cost becomes so prohibitive that a person would not build a nuclear plant. You'd build something else, or you would try to find ways to make society more energy efficient so that we don't need as much energy to begin with.

CONAN: When is the next decision in this country, on the future of nuclear power? Are those plants in Georgia going to go ahead?

Ms. SMITH: Plants Vogtle? Those are the ones you're referring to. They're preparing the site, right now, for construction. They're -- in other words, they're moving tons and tons of dirt around and getting things ready. They hope to have a license to begin actual construction by the end of this year. It would take three to five years to build new reactors there. Things are still going forward.

And, again, the design that they're building there is called a Westinghouse AP1000. It is a passive design. It's light years different from the ones that are failing in Japan right now. They have federal loan guarantees. I don't know of anything right now that would obstruct that.

Southern is one of the better nuclear operators, globally. And I'm sure they and everyone else will be trying to learn as much as they can about what happened in Japan. They do have, by the way, a couple of these little units that are like the ones in Japan. They're probably much more worried about those right now than they would be about the new Vogtle units that are planned.

CONAN: Rebecca Smith, thanks very much for your time.

Ms. SMITH: Thank you.

CONAN: Rebecca Smith covers nuclear energy for The Wall Street Journal and joined us from a studio in San Francisco.

Japanese officials continue to pump seawater into nuclear reactors at the Fukushima Daiichi power plant. The government has told people to remain calm and ordered more than 100,000 residents near the plant to seal themselves indoors as radiation levels spiked and then subsided.

We'll continue to monitor events in Japan, and when we come back, two views on the future of nuclear energy in this country. Stay with us. I'm Neal Conan. It's the TALK OF THE NATION from NPR News.

Right now, we're talking about the renewed debate over nuclear power given what's happened in Japan. Have you changed your mind? Give us a call. 800-989-8255. Email us, talk@npr.org.

In a moment, Jim Riccio, the nuclear policy analyst for Greenpeace USA. But we begin with Gwyneth Cravens, once an opponent of nuclear energy in the 1980s. She petitioned to shut down the Shoreham plant on Long Island in New York. Then, she changed sides.

In 2008, after years of research, she wrote a book called "Power To Save The World: The Truth About Nuclear Energy." And Gwyneth Cravens joins us now from member station KAZU in Seaside, California.

And it's nice to have you with us today.

Ms. GWYNETH CRAVENS (Author, "Power To Save The World: The Truth About Nuclear Energy"): Thanks for having me on.

CONAN: And what changed your mind?

Ms. CRAVENS: Well, a whole lot of little things, really, that – mainly, I thought I knew something about nuclear power and had learned about it in high school and so on, grew up in Albuquerque, which is a – New Mexico is like a pro – you know, not a sort of nuclear bomb place.

But in a chance conversation with a scientist friend, I didn't know what he did, actually at - he worked at Sandia National Labs. And I made some remark about nuclear power, and he just gently informed me that I was wrong. And thus began - that's the way a long dialogue began. And I learned many surprising things, which I did not believe, so I would go home and - you know, I'd visit Albuquerque and talk to him, then I go back home to my place in Long Island and Manhattan and research.

And I would find that he - you know what? He was right. That there are certain laws of physics that I didn't know about and so on. And so, over time, I changed my mind, and one of the big mind changers, for me, as it was for Stewart Brand, is catastrophic global warming and ocean acidification caused by burning hydrocarbons. We have to stop doing that, and the only large-scale way to replace those hydrocarbons is nuclear power...

CONAN: And...

Ms. CRAVENS: ...because it supplies base load.

CONAN: And I wonder, is what's happening now in Japan, is that making you rethink?

Ms. CRAVENS: No. The – it's important to know that the reactors function correctly. They were designed to withstand an earthquake, and they did. They automatically shut down, which all of our American reactors are programmed to do also. As soon as the first jolt appeared, they shut down. The control rods were inserted into the core and stopped the chain reaction.

So what we're dealing with now - or what they're dealing with, rather, is decay heat that's left over from the chain reaction.

The tsunami was the problem. The earthquake would not have caused the problems they're dealing with now. But their backup systems of electricity failed, and so they couldn't pump water into the reactor and so on. So it was a problem of the tsunami, not the design of the reactors.

Since – but, as Rebecca Smith points out, since those reactors were built, there are a lot of new features in the reactors we have in the United States. For example, gravity-feed water tanks that don't require electricity. You can – if you don't have electricity and your backup systems fail, you can turn a valve and keep the reactor and the spent fuel...

CONAN: Cool.

Ms. CRAVENS: ...underwater – cool, yeah.

CONAN: Okay. Well, let's turn to another voice. Jim Riccio, a nuclear policy analyst for Greenpeace USA with us here in Studio 3-A.

Nice to have you with us today.

Mr. JIM RICCIO (Nuclear Policy Analyst, Greenpeace USA): Thank you. It's my pleasure.

CONAN: And President Obama and many others say just what we heard from Gwyneth Cravens, we need to worry about global warming generated by carbon-emitting plants. Nuclear energy is clean, and it's safe.

Mr. RICCIO: Well, I think what's going on in Japan right now proves that it's not safe. And just because radiation is invisible, it doesn't mean it's clean. The people in Japan aren't going to see the radiation that may affect them, but they're still at risk from it.

President Obama did say yesterday that, you know, the events of the day weren't going to change his mind. We would hope that once the full impact of this tragedy is in full view, that he will reconsider.

It's not just groups like Greenpeace that are opposed to building new reactors and basically building them on the backs of the American taxpayer. Just last week, you had the head of Exelon, the largest nuclear fleet in the nation, was speaking to the American Enterprise Institute and said he doesn't believe nuclear loan guarantees are good, either. Even groups that are pro-nuclear, like Heritage Foundation, are saying, you know, we're pro-nuclear, but we're anti-nuclear loans because we don't want...

CONAN: Well, that's a small element of it. We were talking about the safety here.

Mr. RICCIO: Right. Indeed. And the fact is, you couldn't design a reactor that could withstand...

CONAN: I want you to stay small element. It's another element of it. But...

Mr. RICCIO: Right. You couldn't withstand - no reactors could withstand the tragedy that we just experienced in Japan. And our concerns right now are with the people of Japan. And, you know, we hope that their tragedy is not exacerbated now by pouring radioactivity over the top of them.

From what I've known just recently, you've had at least two partial core meltdowns. You thoroughly uncovered the core in the unit two reactor. And the spent fuel pool in the unit four reactor was burning this morning, and now is boiling. While, you know, the meltdown – the partial meltdowns are of a concern, you have 20 years worth of nuclear waste sitting in that spent fuel pool, that if it catch – if the pool is drained, that fuel will catch fire and be spewed out even more. So, you know, we're nowhere near the end of this disaster.

CONAN: And we - the radiation levels did, subsequently, go back down in Japan. So then...

Mr. RICCIO: Well, when you're blown the doors of the side of the reactor building, yeah, the radiation levels would tend to drop because they're being dispersed by the wind. I'm told that they're picking up radiation as far as 100 kilometers, by some of our ships at sea. We have a major nuclear event going on in Japan, and it's far too early to claim that things are under control.

CONAN: Well, again, these are older designs. The newer designs being proposed are much safer.

Mr. RICCIO: You don't know that. These were claimed to be the same - actually, the AP1000 that you were talking about building down in Vogtle, there are concerns right now about how well the containment will work. And there are petitions before the government about just that. The fact is that, you know, nuclear power is an inherently dangerous technology. And when things go bad, they tend to go very bad.

CONAN: And let me turn back to Gwyneth Cravens on exactly that point. When things go bad, it's very rare. But when things go bad, well, you have spectacular and drastic and tragic accidents.

Ms. CRAVENS: Well, there was a big accident at Chernobyl, which cannot be compared to what's going on in Japan. It was - the Chernobyl reactor had no containment. The death toll from that so far is 60 people. There's an estimated - they estimate that about 4,000 people might develop thyroid cancer from exposure to radioactive iodine. It was a very bad accident.

But I would just like to remind people that over 10,000 people a year die in the United States alone from fine particulates from coal-fired plants, which, incidentally, spew out more - it's a low-dose radioactive material, but burning coal concentrates uranium and radon - radium, and so on. And so in the coal ash, the waste which lies around in unlined pits, there's enough in the coal ash of one big coal-fired plant to make about six atomic bombs, uranium 235.

So the – and the stuff coming out of the stacks looks -- you know, you don't see the soot anymore so much, but you see – or you don't – what you don't see are these invisible gases, sulfur and nitrogen gases which turn into fine particulates when they're combined with water vapor and get into the airways of our lungs and kill people with lung cancer and heart disease.

So this is an ongoing catastrophe, along with ocean acidification. As the ocean takes up more carbon dioxide, the water becomes more acidic. This is beginning to affect shelled organisms like corals. They can't make the calcium carbonate shells in the acidic waters. And so – and about three million people a year die from fossil fuel combustion pollution worldwide.

We have to think about how to provide base-load electricity – that is 24/7, around-the-clock electricity. We are witnessing in Japan what happens when you don't have electricity and how terrible that is for people from the health point of view alone.

And without – and nuclear power is the largest-scale way to provide nonpolluting electricity. This – I think Mr. Riccio is a little off the scale here with his claims about radiation. You have to ask how much radiation, what are the exposures and what is that compared to natural background radiation?

CONAN: And Jim Riccio, let's go back to the essence of what her argument is there, is the best of the bad lot. Yes, it's risky, but maybe less risky than known risks of coal-fired plants.

Mr. RICCIO: Well, in fact, we actually have to go back and correct something Ms. Cravens just said. She claimed that Chernobyl didn't have a containment. In fact, it had a pressure-suppression containment system that is the same conceptual design as what is in the GE Mark 1 reactors that are now basically experiencing hydrogen explosions in Japan. We have the same containment on 30-something reactors here in the States. And those reactors...

CONAN: But - so to other point. What...

Ms. CRAVENS: This is not the case.

CONAN: And there's going to be a dispute about that. Let's agree to disagree. Moving on to the problems presented - the real problems presented by coal and oil and natural gas.

Mr. RICCIO: Indeed. And actually, we're right now fighting coal plants, as well. But, you know, the reality is you don't need to go base load. When you have the head of the Federal Electricity Regulatory Commission, Wellinghoff, saying that you don't need any more nuclear or coal plants, it's not just Greenpeace that thinks that they're an anachronism.

CONAN: And what would they build instead?

Mr. RICCIO: Right now, we've put in a lot more wind and solar power – actually, a lot more wind than we've ever put into new nuclear in the last several years. Our biggest bang for our buck, especially in addressing global warming, is with energy efficiency. And actually, natural gas – if you're replacing coal plants with natural gas-fired turbines, you also get a substantial savings. That is in Pacala and Socolow's wedges articles from Princeton.

CONAN: And there's also problems presented by fracking, which is how you get the natural gas.

Mr. RICCIO: No, not all of natural gas, but some natural gas.

CONAN: But not all – but significant amounts.

Mr. RICCIO: Indeed.

CONAN: We're talking about the new debate over nuclear power after the events in Japan. You're listening to TALK OF THE NATION, from NPR News.

And Gwyneth Cravens, one argument that's particularly difficult to respond to is: What do you do with the nuclear waste?

Ms. CRAVENS: Well, keep in mind that all of the nuclear waste, spent nuclear fuel, in the United States – and it shouldn't be called spent fuel because it retains about 98 percent of its energy after one trip through the reactor – the volume is so small it could all fit in one Best Buy or one Wal-Mart. And that's from 40, 50 years of pouring out trillions of kilowatt hours. So keep that in mind. So the volume is small.

When you recycle it, as they do in France, the volume becomes tiny. And you immobilize the residue in glass and you put it in a deep geologic repository, and it's not going anywhere. And it's actually safer than some of the waste products of coal, which never decay. From the - we discard 179 million tons a year of batteries which contain toxic heavy metals which never decay, and those are just put in landfills, mostly.

So the important thing about nuclear power is it always isolates and shields its waste. It's very well known how to protect the public from it. And yes, things can be done much better than in Japan. Things could've been planned better. But like any technology – I mean, people die from wind turbine blades that go flying. So there are – I want to point out that worldwide, per terawatt hour, nuclear power is safer than any other large-scale power source and actually safer than wind if you look at terawatt hour harm that has been, you know, per terawatt hour that's been done. This is according to a Europe – the European Union's internee study.

CONAN: Jim Riccio, is waste still a significant problem?

Mr. RICCIO: It certainly is. And right now, we're concerned about the waste pools in the Japanese reactors, because this morning, you had water drop below the top of the fuel. The fuel caught fire. It apparently refueled the pool...

Ms. CRAVENS: It's an oil fire.

Mr. RICCIO: And now they're burning. Or now – sorry, it's now boiling.

Ms. CRAVENS: It's an oil fire.

Mr. RICCIO: So basically, the fear is that should that water boil off - and you have no way to cool - right now, they're trying to pour water with helicopters on top of that pool, not exactly an ideal situation. The concern is you have 20 years worth of waste in those pools, sitting three stories in the air. And should that water boil off, there's a chance that that fuel will catch fire and spew the radiation over a much larger area, more like Chernobyl because the fire will help propel the radiation similar to how the radiation was propelled out by the graphite fire at Chernobyl.

So you'll get a larger spread of radiation and from the three - the two partial meltdowns and the possible full core meltdown at units one, three and two.

CONAN: Okay. And if there was one event you were going to look toward in this country in terms of the future of nuclear power, Jim Riccio, what would it be?

Mr. RICCIO: Well, obviously, here in this country, we've melted down Three Mile Island several years ago, and that was a half-core meltdown. Don't think of it like pie. Think of it like a two-layer cake. They melted the entire top layer with the rest.

CONAN: Some time ago. Yes.

Mr. RICCIO: So, obviously, you know, that is a cautionary tale here in the States. Right now, we're relicensing 40-year-old reactors and pretending they can last forever. We still have the same, exact designs here as they have in Japan. Our waste is sitting three stories in the air. And a lot of these reactors are leaking radiation into groundwater as we speak. So, you know, there are enough examples here in the States that should be cautionary tales, and Japan should be an awful reminder of the downside, as well.

CONAN: Gwyneth Cravens, the final word. What do you look forward to in terms of a decision, in terms of national policy on the future of nuclear power?

Ms. CRAVENS: Well, I'm with President Obama and with Al Gore, who recently persuaded Al Franken to help lift the moratorium against nuclear plants in Minnesota. I think that we've got to have more nuclear power. It's much better. The

technology is much better and the new wave of reactors that's coming online is going to be more improved, like any technology – as time goes by, things improve. And we need nuclear power if we're going to get off fossil fuels. That's all there is to it.

CONAN: Gwyneth Cravens, thanks very much for your time today.

Ms. CRAVENS: My pleasure.

CONAN: Gwyneth Cravens is the author of "Power to Save the World: The Truth About Nuclear Energy." And she joined us from member station KAZU in Seaside, California.

Jim Riccio, appreciate your time today, too.

Mr. RICCIO: Thank you. My pleasure.

CONAN: Jim Riccio, a nuclear policy analyst for Greenpeace USA, with us here in Studio 3A.

I'm Neal Conan. You're listening to TALK OF THE NATION, which is coming to you from NPR News.

Duke, Progress Energy Stand By Plans To Expand Nuclear Power :: WRAL.com (WRAL)

WRAL-TV Raleigh, NC, March 16, 2011

Raleigh, N.C. — Despite a nuclear crisis looming in Japan, officials with North Carolina's two largest utilities said they remain focused on bringing new nuclear plants to the state.

Duke officials appeared before the North Carolina Utilities Commission on Tuesday requesting approval to spend $459 million in development costs for a two-unit nuclear plant near Gaffney, S.C.

Duke is awaiting federal approval to build the $11 billion plant. The request on Tuesday would cover development expenses for the plant until 2013.

"Our commitment hasn't faltered," Duke Energy President and CEO Jim Rogers said.

The company has already spent $170 million on the plant, which they hope to make operational by 2020.

Progress Energy, which is in the midst of a merger with Duke, has plans to build two reactors at the Shearon Harris nuclear site in Wake County.

Both companies admit that they can't predict if fears over Japan's problems will affect their expansion plans.

On Tuesday, Japan's Fukushima Dai-ichi nuclear power plant emitted a burst of radiation, following an explosion and fire. Days earlier the plant was damaged by a deadly tsunami and earthquake.

Officials have been struggling to address the failure of safety systems at several of the plant's reactors since Friday's twin disasters.

"Common sense tells me that the accident is going to force some rethinking of the role of nuclear. How much rethinking is not clear," Rogers said.

Rogers stressed that in the United States 70 percent of carbon-free electricity comes from nuclear power.

Progress Energy spokesman Mike Hughes agreed that nuclear power is important now and in the future.

The North Carolina Utilities Commission has six months to decide on Duke's request. South Carolina regulators will take a similar look at the project within months.

The company is not legally required to seek the commission's approval to spend the money on the plant. If the commission does agree it is prudent for Duke to move forward with its plans that could put the company in a better position to get the commission's approval for a rate increase later.

Duke said it won't proceed with the project unless North Carolina changes state law so that it can start charging consumers before the nuclear plant is completed. Legislation hasn't yet been introduced in the legislature.

During Tuesday's meeting, some citizens feared the cost of the plant would be passed on to customers in the form of rate increases.

"We certainly don't need to make rate-payers pay upfront for expensive nuclear plants that the maker will not finance," Charlotte resident Beth Henry said.

Duke operates two nuclear units at McGuire Nuclear Station in Mecklenburg County. It has three units at Oconee Nuclear Station in Oconee County, S.C., and two at Catawba Nuclear Station in York County, S.C.

Oconee began operation in 1973 and at full capacity, its three units produce over 2,500 megawatts.

McGuire and Catawba nuclear stations each have two nuclear units with a total generating capacity of more than 2,200 megawatts.

Duke's nuclear fleet provides electricity to about half of its customers in the Carolinas, company officials said.

Progress Energy operates two nuclear plants in North Carolina – Brunswick in Southport and Shearon Harrris. It also operates two plants in South Carolina – Crystal River and Robinson.

North Carolina's nuclear plants

View NC Nuclear Plants in a larger map

Japan Crisis Delays N.C. Nuclear Bill (CBJ)

By John Downey

Charlotte Business Journal, March 16, 2011

N.C. legislators had planned to introduce a bill this week making it easier for utilities to recover financing costs for nuclear plants during construction, but they delayed the filing because the still-unfolding nuclear accident in Japan.

"They were going to introduce (the legislation) this week," Duke Energy Chief Executive Jim Rogers told the N.C. Utilities Commission on Tuesday afternoon. "The decision was made that this would not be the best week to do it, but it will be done before the end of the session."

The disaster in Japan, which may yet lead to a meltdown at a nuclear plant severely damaged by the earthquake and Tsunami last Friday, came up frequently at Duke's hearing Tuesday in front of the commission. Planning costs

Duke wants authorization from the commission to spend $287 million more on planning for its proposed $11 billion Lee Nuclear Station near Gaffney, S.C. The company says the spending will carry the planning through 2013, when it expects to receive a federal construction and operating license.

If approved, the authorization would make it possible for Duke to seek to add those planning costs into the rate base before the plant is built. Duke already had authorization to spend $172 million on planning, so the total would be $459 million.

A small troop of witnesses — private citizens, a state senator and representatives of advocacy groups — kicked off the hearing. They all opposed Duke's request. Each cited the events in Japan and said they raise new doubts that Duke would ever build the Lee plant. Ultimate passage

Rogers testified that the company s committed to the plant. He said the only thing that could dissuade Duke from pursuing the plant is if the legislature does not change North Carolina law to allow Duke to collect financing costs for the plant during construction without going to a full review of its rates.

He told the commission about the decision by legislators to put off the bill for now but said he remains confident the bill will ultimately be passed.

Speaking to reporters after his testimony, Rogers said the opponents had legitimate concerns. He described the human toll in Japan as tragic. And he said the nuclear crisis is likely to prompt regulators to reconsider some of the standards for design of plants.

"We don't know all the ramifications of what's going on in Japan yet," he said. "Common sense tells me it will force a rethinking of the role of nuclear power, but I don't know how much."

He said the Lee site is particularly safe on issues surrounding seismic activity. And he said Duke remains committed to the project.

John Downey covers the energy industry for the Charlotte Business Journal. Click here to read more recent postings on Power City.

To get an RSS feed for Power City click here.

Entergy Offering Assistance To Japanese (MSBJ)

Mississippi Business Journal, March 16, 2011

NEW ORLEANS — Entergy Corporation reports its nuclear employees are closely monitoring the situation in Japan in coordination with the US Nuclear Regulatory Commission, the Nuclear Energy Institute (NEI), the Institute of Nuclear Power Operations and industry peers.

Working through NEI, Entergy says it has offered its support and assistance to the Japanese nuclear industry.

Entergy added that its nuclear plants were designed and built to withstand the effects of natural disasters, including earthquakes and catastrophic flooding.

In a statement, Entergy wrote: "There will be lessons learned from this tragic event. Incorporating those lessons into operating experience is a hallmark of the global nuclear industry.

"It is worth noting that the natural environment surrounding the nuclear plants in Japan is very different from the environment surrounding Entergy's nuclear plants. According to information provided to us by NEI, and generally common knowledge in the scientific community, Japan is more susceptible to frequent and intense earthquakes than other developed countries.

"While it is still early, it appears that the nuclear units' safety systems functioned properly after the initial effects of the earthquake in Japan. Reports suggest it was the overwhelming tsunami that severely damaged the plant's cooling capabilities and recovery efforts."

Source: Entergy Corporation

To sign up for Mississippi Business Daily Updates, click here.

Progress Energy Holds Off On Crystal River Nuclear Plant Restart (TAMBIZ)

Tampa Bay Business Journal, March 16, 2011

Progress Energy Florida will delay the planned April restart of the Crystal River Nuclear Plant, which has been shut down since September 2009.

There's an indication of additional damage at the plant,

the company said in a press statement. Engineers are evaluating the situation and will conduct a thorough assessment of repair options and the impact to the plant's restart plans.

A portion of the building was damaged in late 2009 during the process of creating an opening in the structure to remove and replace the steam generators inside. The damage was separation of a portion of the concrete at the periphery of the containment building. There are now indications of additional separation result from repair work, the statement said.

There's no threat to public health and safety, the statement said.

Progress Energy (NYSE: PGN), headquartered in Raleigh, N.C., is the parent company of Progress Energy Florida, headquartered in St. Petersburg. Progress Energy Florida provides electricity and related services to more than 1.6 million customers in St. Petersburg, Clearwater and the central Florida area surrounding Orlando.

UPDATE:Progress Energy: Florida Nuclear Plant Restart Delayed On Repairs (WSJ)

Wall Street Journal, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Officials: Safety Plan In Place At Millstone (WFSBTV)

WFSB-TV New Haven, CT, March 16, 2011

WATERFORD, Conn. --

After the recent nuclear emergency in Japan following a devastating earthquake and tsunami, emergency plans at Dominion Power's Millstone Nuclear Power Plant in Waterford are being reviewed.

Millstone has been generating electricity since 1970. Today, two units cooled from the waters of Long Island Sound power 500,000 homes, or more than 30 percent of the state's power needs.

Even though emergency plans are constantly updated, neighbors living in the shadow of the facility are beginning to wonder, "What if," when they see what's been unfolding in Japan.

"It's a little bit scary," said Millstone neighbor Rich Burgess. "I think we have a little more regulations than in Japan. I would hope we do."

Dominion spokesman Ken Holt said, "(Millstone) is designed to withstand earthquakes, tornadoes and flooding. We have been watching the events in Japan very closely, trying to learn what we can. As lessons are learned, as lessons come out, we will apply them to our own systems and make any improvements we need to make."

Waterford public safety complex had a dedicated emergency management facility that's ready to go at a moment's notice should any sort of incident occur at Millstone.

"Going forward, we're going to sit down with them and say, 'What else do we have to look at, what lessons did you learn from this event and how are you going to apply them so it's safer for our community,'" said Waterford First Selectman Dan Steward.

But Waterford isn't the only community affected by a potential nuclear incident. There is a 10-mile radius of homes and businesses that would have to react quickly to a possible evacuation of the surrounding area.

Chief Murray Pendleton of Waterford Public Safety said they look into potential evacuation issues.

"Right now, we're evaluating new traffic issues and concerns, checkpoints and all kinds of things associated with an evacuation process," Pendleton said.

"We get the pamphlet from the town, which is informative and appreciate. As far as if anything were to happen, I don't know what we would do. It's pretty close, and a lot of damage would definitely be done," said Abigail Blackburn.

Every household withing 10 miles of Millstone received potassium iodide pills, which are to be taken if a nuclear incident began to unfold at Millstone.

NRC Hearings Begin Wednesday (VICTORA)

The Victoria (TX) Advocate, March 16, 2011

Victoria Advocate | NRC hearings begin Wednesday

Tuesday, March 15, 2011 12:00 AM

ADVOCATE STAFF REPORT

Originally published March 15, 2011 at 6:06 p.m., updated March 15, 2011 at 10:35 p.m.

IF YOU GO

WHAT: The Atomic Safety and Licensing Board hearings on Exelon's Early Site Permit.

WHEN: 9 a.m. Wednesday and 9 a.m. Thursday.

WHERE: The Leo J. Welder Center, 214 N. Main St.

The Nuclear Regulatory Commission is coming back to town on Wednesday. The Atomic Safety and Licensing Board, a branch of the NRC, is in town on Wednesday and Thursday to hear oral arguments over the Victoria County Station Early Site Permit submitted by Exelon.

The sessions will be open to the public, but only authorized representatives for the groups taking part in the hearings will be involved in the proceedings. Those authorized will be Texans for a Sound Energy Policy representatives, Exelon Nuclear Texas Holdings representatives and NRC staff.

N.J. Opposes 60-year Limit For Storing Used Nuclear Fuel (AP)

Associated Press, March 15, 2011

New Jersey wants to join a lawsuit against the federal government over how long spent nuclear fuel can be allowed to remain at reactor sites.

New guidelines from the Nuclear Regulatory Commission allow nuclear plants to keep their used fuel onsite for up to 60 years after the reactor is shut down, up from 30 years.

The state Department of Environmental Protection says the decision is not related to the Japanese earthquake and resulting nuclear emergency. A spokesman says the decision was in the works long before the crisis, adding that Wednesday is the deadline for states to seek to join the lawsuit.

DEP Commissioner Bob Martin said the state is concerned about the potential impact of the waste storage on New Jersey's environment.

New Jersey has four nuclear reactors.

New Jersey Challenges Federal Nuclear Waste Time Extension (BSWK)

By Tom Schoenberg

Bloomberg, March 16, 2011

March 15 (Bloomberg) -- New Jersey challenged the US Nuclear Regulatory Commission's extension of the time allowed for storing spent nuclear fuel at power plants to 60 years from 30, saying the agency failed to consider health and safety risks.

Governor Chris Christie today asked the US appeals court in Washington for permission to join a lawsuit brought last month by New York, Vermont and Connecticut. The states claim the government didn't produce an environmental impact statement before changing the standard.

"The federal government has an obligation to develop a permanent plan for nuclear waste storage, and cannot avoid an answer by extending the time that radioactive waste is allowed to remain on sites in New Jersey and across the nation," Bob Martin, commissioner of the New Jersey Environmental Protection Department, said in an e-mailed statement.

The 60-year rule would apply to waste generated at four reactors in New Jersey, the statement said. They are Oyster Creek in Lacey Township, Hope Creek in Lower Alloways Creek, and two units at the Salem Nuclear Generating Station, also in Lower Alloways Creek.

The Oyster Creek site is schedule to close in 2020, according to court papers.

The Nuclear Regulatory Commission published the rule change on Dec. 23.

Nana Efua Embil, a Justice Department spokeswoman, didn't immediately return a telephone call seeking comment.

The case is New York v. US Nuclear Regulatory Commission, 11-1045, US Court of Appeals for the District of Columbia (Washington).

UPDATE: NJ Seeks To Limit Nuclear Waste Stored At Shut Plants (WSJ)

By Naureen S. Malik

Dow Jones Newswire, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Judge Upholds NRC Waiver For Nuclear Plant (WSJ/AP)

Associated Press, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Energy Northwest Plans For Longest-Ever Outage (TRICITYH)

By Annette Cary

Tri-City Herald (WA), March 16, 2011

RICHLAND – Energy Northwest is planning the longest refueling outage in the history of its nuclear power plant starting April 6.

That means temporary work for about 600 people living in the Mid-Columbia and more than 1,000 workers who will be coming to the Tri-Cities for short-term jobs.

"April, May and June should be really busy around here," said Kim Shugart, vice president of the Tri-Cities Visitor and Convention Center.

The outage workers don't spend as much as leisure travelers, but the center estimates that they still will spend $8.5 million to $11 million here, including money on lodging, meals and gas. Most workers who come from outside of the region are expected to stay in hotels or R.V. parks. Energy Northwest estimated about a third of the workers will be from the Mid-Columbia.

Already, about 500 of the 1,800 workers required for the outage are at the plant.

For the past decade, Energy Northwest has shut down the Columbia Generating Station every other year to add fresh fuel, do maintenance and make improvements that are difficult or impossible when the plant is generating nuclear power.

Typically, the outages last 35 to 45 days. But this year, Energy Northwest is estimating that the plant will be down for about 80 days.

About a third of the plant's 764 fuel assemblies will be replaced with new fuel, as is typical for the outages. The additional time for this outage is needed primarily to replace the plant's 25-year-old condenser, which turns steam generated by boiling water in the nuclear reactor back into water for re-use.

The condenser has become less reliable through the years. But by making the cycle more efficient, the 1,150-megawatt Columbia Generating Station is expected to gain 12 megawatts of electricity generation. Replacing the condenser is expected to cost $113 million, but the additional electricity produced is expected to pay for the new condenser over time.

A dozen condenser modules, each weighing 100,000 pounds, are ready to be installed at the plant after the old condenser is cut apart and slid outside onto a motorized vehicle designed to handle large heavy loads.

Replacing a condenser is not common in the nuclear industry, according to Energy Northwest. The last replacement of a boiling water reactor condenser in the United States was in 1991 at the Peach Bottom plant in Pennsylvania.

In addition to the condenser replacement, extensive maintenance will be done during the outage.

"Maintenance ensures equipment reliability, improves efficiency and maintains our stringent safety margins," said Mike Paoli, Energy Northwest spokesman.

Energy Northwest has prepared about 3,100 work orders to support 16,000 individual tasks during the outage, Paoli said.

The budget of $152 million for the outage includes $42 million of expenses in the current fiscal year for the condenser replacement and $11 million for valve work throughout the plant, $6 million for the main generator rotor replacement and $4 million for regular maintenance on a low-pressure turbine.

Among Mid-Columbia contractors for the work are Lampson Crane, Mid-Columbia Engineering, Dana Engineering and Northwest Inspection.

Some of the work will be done by a highly skilled work force that moves from outage to outage at the 104 US nuclear plants, Paoli said. Much of the work will be done by organized labor crafts workers, including carpenters, iron workers, welders, pipefitters and electricians.

But Energy Northwest is continuing to hire for the outage. Among unfilled jobs are positions for technical support specialists, a janitor, a tool crib attendant and a records management specialist.

Jobs are posted at www.energynorthwest.com/erecruit/empl_outage.php.

When the plant shuts down April 6, it is expected to end a record operating run. Monday morning, the nuclear plant hit a record of 486 days of continuous operation.

– Annette Cary: 509-582-1533; acary@tricityherald.com.

Wash. Nuke Operators: Plant Prepared For Disaster (AP)

The only nuclear power plant in Washington is the Columbia Generating Station, operated by Energy Northwest on the Hanford nuclear reservation.

Associated Press, March 16, 2011

RICHLAND, Wash. – The only nuclear power plant in Washington is the Columbia Generating Station, operated by Energy Northwest on the Hanford nuclear reservation.

In response to safety questions raised by the earthquake and tsunami in Japan, a spokesman says operators are confident the Hanford plant is prepared for a disaster.

Spokesman Mike Paoli told KVEW it has multiple backup systems to cool the core during a power failure. He says the plant was built to withstand a magnitude 6.9 quake within 12 miles. And the plant was place five miles from the Columbia River, out of reach of any flooding, including a break in the Grand Coulee Dam.

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Information from: KVEW-TV, http://kvew kennewick

Learn From Disaster In Japan (QUADCITY)

By Ed Tibbetts

Quad-City Times, March 16, 2011

Mississippi Gov. Haley Barbour said Tuesday night in Davenport that there's a lot to learn from what's happening to Japan's nuclear plants in the wake of the earthquake and tsunami there, but the US still needs to boost its reliance on nuclear power.

In a 25-minute address that focused solely on the economy and fiscal issues, Barbour accused the Obama administration of ignoring the need to boost domestic energy production. And later, he told reporters there may be ways to improve safeguards at US plants, but the earthquake and tsunami are rare occurrences.

"We are looking here at an event, a 9.0 on the Richter scale earthquake, that is a one in how many hundreds or thousands of years event," he said.

Barbour said the US gets

20 percent of its energy from nuclear sources and it needs to boost that share. He said the country needs to rely on an array of sources for its energy needs, including oil, coal, gas — and ethanol.

The governor, who also is the former chair of the Republican National Committee, said he is "seriously considering" a presidential bid. And he spent two days in Iowa testing the waters, capping his trip with a fundraising dinner for the Republican Party of Iowa at the Radisson Quad-City Plaza.

Barbour has said he plans to make a decision on a bid in April, after his state's legislature adjourns. But other than saying he's seriously considering it, he gave no other clues what his decision might be.

The governor, with his southern drawl and homespun manner, got a warm reception from people who attended the dinner, the first in a series of events aimed at boosting state and county party finances.

"He's a very down-to-earth guy," said Jeff Havenner, Bettendorf.

John Ortega, also of Bettendorf, who is on the state GOP central committee, said Barbour's background as a governor is impressive. He said he was direct with people in a private meeting beforehand, answering questions. "He didn't hem and haw," he said.

In his remarks, Barbour criticized the Obama administration on a number of fronts, particularly spending. But he also said Republicans need to do more than just focus on the part of the part of the budget that's drawing the most debate in Congress right now, what's called domestic discretionary spending. It accounts for less than 15 percent of total federal spending.

Barbour said Republicans must cut defense spending or lose credibility. When asked afterward where he might cut, he didn't point to a particular program but said a "tremendous amount" of money could be saved without cutting individual programs or weapons systems.

Barbour said the government also must address entitlements, and that Obama is "AWOL" on that. He also said the White House is hurting the economy by boosting government spending and crowding out private investment.

"How can a private economy grow when government sucks all the money out?" he asked.

Earlier in the day, Barbour met with Republican women in Des Moines. The day before he was in western Iowa.

Power Play: Haley Goes Nuclear (POLITCO)

By Kasie Hunt

Politico, March 16, 2011

DAVENPORT, Iowa — The United States needs to rely more on nuclear power despite the escalating disaster in Japan, Haley Barbour told an audience of Iowa Republicans Monday night.

"There are many people, including me, who believe that it behooves us to increase that percentage [of nuclear power] so that other fuels can be used for other purposes," Barbour said. "We don't know what happened in Japan. We need to study and learn and make sure that we continue to have safe reliable clean nuclear energy in the United States."

"There is a lot of dramatization that may or may not be accurate," he told reporters after finishing his speech here to county activists and GOP leaders, adding, "There may be some lessons that we need to learn" from the Japanese disaster.

The remarks come a day after Barbour's press secretary lost his job because he joked about the tsunami that flooded Japan, killed thousands of people and has left the country threatened by a major nuclear meltdown.

Barbour's speech hammered over and over again on spending as the source of America's problems — and he said Republicans have to win the presidency in 2012 because America is worse off now than it was during Watergate and at the height of the Vietnam War.

"Until about two years ago, there was an expression, a statement that I had never heard made," Barbour said. "However every day, every week for the last year and half I've heard, 'I'm concerned my children and grandchildren are not going to inherit the same country that I inherited.' I never heard that in the depths of Watergate, at the height of Vietnam, in Ronald Reagan's administration, Bill Clinton's administration."

Barbour, a former RNC chairman who has been working in politics since the mid-1970's, said that message "is a reminder of the stakes of this election — what we need to be focused on — and that is winning. Winning in 2012."

"Obama has unlimited faith in a limitless government," he said, echoing a line he used in a speech at the Chicagoland Chamber of Commerce Monday.

Barbour made his remarks at the Iowa GOP's Chairman's Speaker Series dinner here in Davenport. It's the conclusion of the Iowa tour he began Monday night in Sioux City, in the far western and most conservative corner of the state. He had lunch in Des Moines on Tuesday, where he met with state legislators at the state capitol and addressed the Iowa Federation of Republican Women. His final stop was in Davenport, in the Quad Cities, on the far eastern edge.

It's Barbour's second visit to the state in the last month, and he's slated to be back next week for Rep. Steve King's PAC gathering in Des Moines. He gave a major economic address Monday in Chicago, and he's also heading to New Hampshire on March 29, an aide said.

The uptick in activity is an unmistakable sign that Barbour is planning to run for president in 2012—though he steadfastly maintains he won't make a decision until the Mississippi state legislature wraps up its session at the end of April.

But Barbour's rollout hasn't been smooth so far. He's stumbled several times over issues of race, and his press secretary, Dan Turner, resigned Monday after POLITICO reported that Turner had joked about the Japanese tsunami in a morning press clipping email to Barbour's staffers. Barbour never received the emails, his aides said.

Still, Barbour is widely considered one of the best Republican strategists in the country, and has long-established goodwill with GOP officials at all levels of government. He was a longtime DC lobbyist, worked in the Reagan Administration and ran the Republican National Committee.

Obama Discusses Sandia Labs, LANL With KOAT (KOAT)

KOAT-TV Albuquerque (NM), March 16, 2011

WASHINGTON, D.C. – In an exclusive one-on-one interview, President Barack Obama told Action 7 News that the country needs to ensure the safety of nuclear facilities, including Sandia National Laboratories and the Los Alamos National Laboratory.

Obama said the focus in America is on our plants and the labs that conduct vital nuclear research after the nuclear events in Japan over the last week.

The primary mission of Sandia's Labs are to ensure the US nuclear arsenal is safe. LANL is also recognized for its nuclear weapons and research.

"I think it's very important to make sure that we are doing everything we can to ensure the safety and effectiveness of the nuclear facilities that we have," Obama said.

Congress is looking for ways to cut the federal budget and House Republicans have showed interest in slashing nuclear weapons spending. The move could affect the 20,000 employees at New Mexico's two research labs.

Obama said Japan's hardships are a reminder that the work at these facilities should not be scaled back.

"One of the things that 'it' reminds us of is that the safety and the constant monitoring and oversight that we're providing to our nuclear facilities here in the United States has to be maintained," Obama said.

The president said the money is there.

"We have a budget for it. I've already instructed our Nuclear Regulatory Agency to make sure that we take lessons learned from what's happened in Japan and that we are constantly upgrading how we approach our nuclear safety in our country," Obama said.

The Obama Administration is pushing for more funding, but Congress is grappling with less money and a growing deficit. Obama has promised American help to Japan as it recovers from the devastation.

The White House said nuclear power remains vital to US energy policy.

Local Experts Ready To Respond To Nuclear Crisis In Japan (OAKR)

By John Huotari

Oak Ridger, March 16, 2011

OAK RIDGE, Tenn. —

A local team of experts trained to respond to radiation emergencies is ready to travel overseas within six hours if Japanese officials ask for help as they struggle to control nuclear power plants damaged by Friday's devastating earthquake and tsunami.

"In these types of situations, we are always on standby," said Albert Wiley, director of the Radiation Emergency Assistance Center/Training Site, or REAC/TS, at Methodist Medical Center of Oak Ridge.

The REAC/TS staff has been busy since the Friday earthquake and tsunami, which has left thousands of Japanese dead, missing, or homeless. Wiley said his staff has given advice to, and consulted with, private citizens, military personnel, the US Department of Energy, and embassy representatives in the United States and Japan.

"In general, they are asking us for guidelines on decontamination of people ... (and the) use of medical countermeasures such as Prussian blue and iodine – general advice and consultation on the medical management of contaminated people and exposed people," Wiley said.

He said some callers want assurances that they will be OK.

Death toll estimates in Japan have ranged as high as 10,000 or more, and there have been mounting concerns about potential reactor meltdowns after Friday's earthquake and tsunami on Japan's northeast coast shut down the electricity that runs crucial cooling systems.

If deployed, the REAC/TS staff would be sent overseas by the National Nuclear Security Administration, a US Department of Energy agency, primarily in response to requests from the Japanese government, Wiley said.

So far, though, "We know of no significant known public health exposures," Wiley said.

Still, REAC/TS staff and representatives, including Health Physics Project Manager Steve Sugarman, pointed out that they don't know many of the specifics of the nuclear crisis – including how many people might have been exposed to radiation or contaminated – and the "situation continues to evolve."

If deployed, a team could include a physician, health physicists, and nurse paramedic armed with radiation detector equipment and emergency medical supplies, including DTPA, which is used to treat people who are internally contaminated with actinides such as plutonium, and Prussian blue, used to treat cesium isotope contamination.

Wiley said the problems at the Japanese nuclear facilities are not comparable to the atomic weapons used on Japan during World War II or the Chernobyl disaster in Ukraine in 1986. Coupled with a bad explosion and fire at Chernobyl, that nuclear accident injected fission products high into the atmosphere, he said.

"We do not see anything like that going on here," Wiley said.

Asked if radiation releases could affect the United States, Wiley said: "We have no reason to believe that there is going to be any kind of release of fission products that would be a problem anywhere, even including Japan at this time."

With a full-time staff of 13 people, REAC/TS is managed for DOE by Oak Ridge Associated Universities. Workers are obligated to be able to deploy within four hours in response to domestic emergencies and within six hours to international calls.

Just last year, REAC/TS staff members provided radiation emergency medical training to Japanese officials, said Wendy West, ORAU manager of employee and public communications.

John Huotari can be contacted at (865) 220-5533.

W.H. Official: Lock Up IP Criminals (POLITCO)

By Jennifer Martinez

Politico, March 16, 2011

The White House's top intellectual property official wants stiffer prison sentences for those found guilty of crimes such as selling counterfeit goods for military or law enforcement use, and she also wants illegal streaming of online content to be made a felony level crime when appropriate.

The recommendations were among a set of 20 suggestions Victoria Espinel made to Congress on Tuesday.

Espinel called on lawmakers to pass legislation requiring tougher sentences for organized crime groups and gangs that deal in counterfeit goods or commit other IP crimes, as well as for repeat offenders.

"Because of the high profit margin and shorter prison sentence for intellectual property crimes compared to other offenses, piracy and counterfeiting are a strong lure to organized criminal enterprises, which can use infringement as a revenue source to fund their other unlawful activities," Espinel wrote in a blog post Tuesday.

She also wants lawmakers to enact longer sentences for people who transfer trade secrets outside of the US or peddle counterfeit drugs.

Espinel — the first White House IP czar ever — added that more legislative recommendations for Congress may be on the way in the next few months.

The White House also provided recommendations for how Congress can give law enforcement agencies the tools to crack down tougher on copyright infringement.

In the report, the administration calls for making illegal streaming of content over the Web a felony "in appropriate circumstances." It also calls for giving law enforcement the authority to seek a court order to conduct wiretaps in cases of criminal copyright and trademark offenses.

Additionally, the report asks for Congress to grant the Department of Homeland Security the authority to share with copyright holders, both before and after seizures, information about products and technology used by infringers to access copyrighted content.

Cracking down on the counterfeit drug trade has been a top priority for the IP chief's office in recent months and the report recommended a series of legislative changes intended to further clamp down on the problem. The administration called on Congress to enact a law that requires importers and pharmaceutical companies to flag the Food and Drug Administration and other agencies when they come across counterfeit medical devices and drugs.

In a nod to the recording industry, Espinel recommended that lawmakers enact legislation that requires recording artists and music artists to be paid a performance royalty when their music is played over the radio. If that law is enacted, music labels and performers will be able to collect royalty fees from overseas, the report said.

Various US industries, particularly the entertainment and pharmaceutical sectors, have been anxiously awaiting the release of Espinel's recommendations to Congress. Companies have complained to the administration about rogue sites affecting their bottom lines and sullying their brand reputations to consumers. They have called on Congress to pass legislation that's tough on copyright violators.

The Chamber of Commerce said it was "encouraged" to see that many of Espinel's recommendations were similar to the list of IP policy recommendations it sent to Congress and the White House last month. The powerful business lobby also applauded the call for tougher punishment on illegal Web streaming.

"We know both the House and Senate are looking at this issue and encourage them to work closely with the administration and other stakeholders to combat this growing threat," said Rob Calia, the senior director for counterfeiting and piracy at the Chamber's Global IP Center.

And while advocacy group Public Knowledge has been critical of the administration's Web seizure operation, President Gigi Sohn said the recommendations "largely address important areas of intellectual property enforcement that are often overlooked in more contentious debates at the edges of these issues."

"While there may be room for disagreement on specific methods of implementation, Victoria Espinel has compiled a thoughtful list of targeted recommendations for enforcement," Sohn said.

IN THE BLOGS:

TSA Admits Bungling Of Airport Body-Scanner Radiation Tests (WIRED)

By David Kravets

Wired, March 15, 2011

The Transportation Security Administration is re-analyzing the radiation levels of X-ray body scanners installed in airports nationwide, after testing produced dramatically higher-than-expected results.

The TSA, which has deployed at least 500 body scanners to at least 78 airports, said Tuesday the machines meet all safety standards and would remain in operation despite a "calculation error" in safety studies. The flawed results showed radiation levels 10 times higher than expected.

At least one flier group, the Association for Airline Passenger Rights, is urging the government to stop using the $180,000 machines that produce a virtual-nude image of the body until new tests are concluded in May.

"Airline passengers have enough concerns about flying — including numerous ones about how TSA conducts its haphazard security screenings — so it is TSA's responsibility to ensure passengers are not being exposed to unhealthy amounts of radiation," Brandon Macsata, executive director of the group, said in a statement.

The Electronic Privacy Information Center has been a loud voice opposing the machines. Last week, it urged a federal appeals court to stop using them until further health studies were conducted. Marc Rotenberg, EPIC's executive director, is expected to tell the same thing to a congressional panel Wednesday.

"The agency should have conducted a public rule-making so that these risks could have been more carefully assessed," (.pdf) according to a transcript of his expected testimony before the House Committee on Oversight and Government Reform.

Still, the government said the results proved the safety of the devices.

"It would appear that the emissions are 10 times higher. We understand it as a calculation error," TSA spokesman Sarah Horowitz said in a telephone interview.

The snafu involves tests conducted on the roughly 250 backscatter X-ray machines produced by Rapiscan of Los Angeles, which has a contract to deliver another 250 machines at a cost of about $180,000 each. About 250 millimeter-wave technology machines produced by L-3 Communications of New York were not part of the bungled results.

Rapiscan technicians in the field are required to test radiation levels 10 times in a row, and divide by 10 to produce an average radiation measurement. Often, the testers failed to divide results by 10, Horowitz said.

"Certainly, the errors are not acceptable. It's not every report. We believe the technology is safe," she said. "We've done extensive, independent testing. It doesn't raise alarms in terms of safety."

Rapiscan, in a letter to the TSA, admitted the mistake and is "redesigning the form" used by its "field service engineers" when surveying the Rapiscan Secure 1000 that is deployed to 38 airports.

"Oftentimes, the FSE will bypass the step of dividing by 10. While the resulting entry, at a pragmatic level, is understandable on its face and usable for monitoring purposes, the value, if read literally by persons unfamiliar with our system and the survey process, would imply energy outputs that are unachievable by the Secure 1000 Single Pose," (.pdf) Rapiscan wrote.

A recent Wired.com three-part series examined the constitutionality, effectiveness and health concerns of the scanners, which the TSA mandated as the preferred airport screening method in February 2009. Among other things, the Wired.com series concluded that there was discord among the scientific community about the scanners' health risks to humans, and that they were not tested with mice or other biological samples before being deployed.

The government, however, maintains a thousand screenings equal the amount of radiation of one standard medical chest X-ray.

A federal appeals court hearing EPIC's lawsuit suggested last week it was not likely to halt the scanners' use.

INTERNATIONAL NUCLEAR NEWS:

Japan Faces Potential Nuclear Disaster As Radiation Levels Rise (NYT)

By Hiroko Tabuchi, David E. Sanger, Keith Bradsher

New York Times, March 15, 2011

TOKYO — Japan's nuclear crisis verged toward catastrophe on Tuesday after an explosion damaged the vessel containing the nuclear core at one reactor and a fire at another spewed large amounts of radioactive material into the air, according to statements from Japanese government and industry officials.

In a brief address to the nation at 11 a.m. Tokyo time, Prime Minister Naoto Kan pleaded for calm, but warned that radiation had already spread from the crippled reactors and there was "a very high risk" of further leakage. Fortunately, the prevailing winds were sweeping most of the plume of radioactivity out into the Pacific Ocean, rather than over populated areas.

The sudden turn of events, after an explosion Monday at one reactor and then an early-morning explosion Tuesday at yet another — the third in four days at the plant — already made the crisis at the Fukushima Daiichi Nuclear Power Station the worst nuclear accident since the Chernobyl reactor disaster a quarter century ago.

It diminished hopes earlier in the day that engineers at the plant, working at tremendous personal risk, might yet succeed in cooling down the most damaged of the reactors, No. 2, by pumping in seawater. According to government statements, most of the 800 workers at the plant had been withdrawn, leaving 50 or so workers in a desperate effort to keep the cores of three stricken reactors cooled with seawater pumped by firefighting equipment, while crews battled to put out the fire at the No. 4 reactor, which they claimed to have done just after noon on Tuesday.

That fourth reactor had been turned off and was under refurbishment for months before the earthquake and tsunami hit the plant on Friday. But the plant contains spent fuel rods that were removed from the reactor, and experts guessed that the pool containing those rods had run dry, allowing the rods to overheat and catch fire. That is almost as dangerous as the fuel in working reactors melting down, because the spent fuel can also spew radioactivity into the atmosphere.

After an emergency cabinet meeting, the Japanese government told people living within about 20 miles of the Daiichi plant to stay indoors, keep their windows closed and stop using air conditioning.

Mr. Kan, whose government was extraordinarily weak before the sequence of calamities struck the nation, told the Japanese people that "although this incident is of great concern, I ask you to react very calmly." And in fact, there seemed to be little panic, but huge apprehension in a country where radioactivity brings up memories of Hiroshima and Nagasaki, the haunting images of post-war Japan.

The two critical questions over the next day or so are how much radioactive material is spewed into the atmosphere, and where the winds carry it. Readings reported on Tuesday showed a spike of radioactivity around the plant that made the leakage categorically worse than in had been, with levels measured at one point as high as 400 millisieverts an hour. Even 7 minutes of exposure at that level will reach the maximum annual dose that a worker at an American nuclear plant is allowed. And exposure for 75 minutes would likely lead to acute radiation sickness.

The extent of the public health risk depends on how long such elevated levels persist — they may decline because the fire at No. 4 reactor was extinguished — as well as how far and fast the radioactive materials spread, and whether the limited evacuation plan announced by the government proves sufficient.

In Tokyo, 170 miles south of the plant, the metropolitan government said Tuesday it had detected radiation levels 20 times above normal over the city, though it stressed that that level posed no immediate health threat. In Ibaraki Prefecture, just south of Fukushima Prefecture where the plant is located, the amount of radiation reached 100 times the usual levels.

The succession of problems at Daiichi was initially difficult to interpret, with confusion compounded by incomplete and inconsistent information provided by government officials and executives of the plant's operator, Tokyo Electric Power Company.

But industry executives in close contact with officials in Japan expressed extreme concern that the authorities were close to losing control over the fuel melting that has been ongoing in three reactors at Daiichi, especially at the crippled No. 2 reactor where the containment vessel was damaged.

Tokyo Electric Power said Tuesday that after the explosion at the No. 2 reactor, pressure had dropped in the "suppression pool" — a section at the bottom of the reactor that converts steam to water and is part of the critical function of keeping the nuclear fuel protected. After that occurred, radiation levels outside No. 2 were reported to have risen sharply.

"We are on the brink. We are now facing the worst-case scenario," said Hiroaki Koide, a senior reactor engineering specialist at the Research Reactor Institute of Kyoto University. "We can assume that the containment vessel at Reactor No. 2 is already breached. If there is heavy melting inside the reactor, large amounts of radiation will most definitely be released."

Another executive said the chain of events at Daiichi suggested that it would be difficult to maintain emergency seawater cooling operations for an extended period if the containment vessel at one reactor had been compromised because radiation levels could threaten the health of workers nearby.

If all workers do in fact leave the plant, the nuclear fuel in all three reactors is likely to melt down, which would lead to wholesale releases of radioactive material — by far the largest accident of its kind since Chernobyl.

Even if a full meltdown is averted, Japanese officials have been facing unpalatable options. One was to continue flooding the reactors and venting the resulting steam, while hoping that the prevailing winds did not turn south toward Tokyo or west, across northern Japan to the Korean Peninsula. The other was to hope that the worst of the overheating was over, and that with the passage of a few more days the nuclear cores would cool enough to essentially entomb the radioactivity inside the plants, which clearly will never be used again. Both approaches carried huge risks.

While Japanese officials made no comparisons to past accidents, the release of an unknown quantity of radioactive gases and particles — all signs that the reactor cores were damaged from at least partial melting of fuel — added considerable tension to the effort to cool the reactors.

"It's way past Three Mile Island already," said Frank von Hippel, a physicist and professor at Princeton. "The biggest risk now is that the core really melts down and you have a steam explosion."

The sharp deterioration came after a frantic day and night of rescue efforts focused largely on the No. 2 reactor. There, a malfunctioning valve prevented workers from manually venting the containment vessel to release pressure and allow fresh seawater to be injected into it. That meant that the extraordinary remedy emergency workers had jury-rigged to keep the nuclear fuel from overheating no longer worked.

As a result, the nuclear fuel in that reactor was exposed for many hours, increasing the risk of a breach of the container vessel and more dangerous emissions of radioactive particles.

By Tuesday morning, Tokyo Electric Power said that it had fixed the valve and resumed seawater injections, but that it had detected possible leaks in the containment vessel that prevented water from fully covering the fuel rods.

Then an explosion hit that reactor. After a series of conflicting reports about what level of damage was inflicted on the reactor after that blast, Japan's chief cabinet secretary, Yukio Edano said, "there is a very high probability that a portion of the containment vessel was damaged."

The steel containment vessels that protect nuclear fuel in reactors are considered crucial to maintain the integrity of the reactor and the safety of the fuel.

Mr. Edano, however, said that the level of leaking at the No. 2 reactor remained small, raising the prospect that the container was sufficiently intact to protect the nuclear fuel inside.

New Reactor Fire As Japan Works To Contain Threat (AP)

By Eric Talmadge And Shino Yuasa, Associated Press

Associated Press, March 16, 2011

SOMA, Japan – A fire broke out at a nuclear reactor again Wednesday, a day after the power plant emitted a burst of radiation that panicked an already edgy Japan and left the government struggling to contain a spiraling crisis caused by last week's earthquake and tsunami.

The outer housing of the containment vessel at the No. 4 unit at the Fukushima Dai-ichi nuclear complex erupted in flames early Wednesday, said Hajimi Motujuku, a spokesman for the plant's operator, Tokyo Electric Power Co.

On Tuesday, a fire broke out in the same reactor's fuel storage pond — an area where used nuclear fuel is kept cool — causing radioactivity to be released into the atmosphere. Tokyo Electric Power said the new blaze erupted because the initial fire had not been fully extinguished.

About three hours after the blaze erupted Wednesday, Japan's nuclear safety agency said fire and smoke could no longer be seen at Unit 4, but that it was unable to confirm that the blaze had been put out.

Radiation levels in areas around the nuclear plant rose early Tuesday afternoon but appeared to subside by evening, officials said. But the unease remained in a country trying to recover from the massive disasters that are believed to have killed more than 10,000 people and battered the world's third-largest economy.

The radiation leak caused the government to order 140,000 people living within 20 miles (30 kilometers) of the plant to seal themselves indoors to avoid exposure, and authorities declared a ban on commercial air traffic through the area. Worries about radiation rippled through Tokyo and other areas far beyond that cordon. The stock market plunged for a second day, dropping 10 percent.

The troubles cascaded Tuesday at the Dai-ichi plant, where there have already been explosions at two reactor buildings since Friday's disasters. An explosion at a third reactor blasted a 26-foot (8-meter) hole in the building and, experts said, damaged a vessel below the reactor, although not the reactor core. Three hours later, a fire broke out at a fourth reactor, which had been offline for maintenance.

In a nationally televised address Tuesday, Prime Minister Naoto Kan said radiation had seeped from four of the plant's six reactors. The International Atomic Energy Agency said Japanese officials informed it that the fire was in a pool where used nuclear fuel rods are stored and that "radioactivity is being released directly into the atmosphere." Long after the fire was extinguished, a Japanese official said the pool might still be boiling.

Depending on how bad the blast was at Unit 2, experts said more radioactive materials could seep out. If the water in the storage pond in Unit 4 boils away, the fuel rods could be exposed, leaking more virulent radiation.

Experts noted that much of the leaking radiation was apparently in steam from boiling water — and the falling radiation levels suggest the situation could be stabilizing.

Government spokesman Yukio Edano said the radiation leak potentially affected public health. But authorities and experts said the risks to the public diminished the farther the distance from the plant. At its most intense, the leak released a radioactive dose in one hour at the site 400 times the amount a person normally receives in a year. Within six hours, that level had dropped dramatically.

A person would have to be exposed to that dose for 10 hours for it to be fatal, said Jae Moo-sung, a nuclear engineering expert at Seoul's Hanyang University.

Radiation elsewhere never reached that level. In Tokyo, 170 miles (270 kilometers) to the southwest, authorities reported radiation levels nine times normal — too small, officials said, to threaten the 39 million people in and around the capital. Weather patterns helped, shifting Tuesday night to the southeast, blowing any potential radiation from the plant toward the sea.

"It's not good, but I don't think it's a disaster," said Steve Crossley, an Australia-based radiation physicist. "If the radioactive material gets out, it's a major problem. That doesn't appear to be happening in Japan, and that's the big difference. As long as you are not near it, it doesn't pose a health risk."

The IAEA said Tuesday that all other Japanese nuclear plants were in a safe and stable condition.

Though Kan and other officials urged calm, the developments fueled a growing panic in Japan and around the world amid widespread uncertainty over what would happen next. In the worst case scenario, one or more of the reactor cores would completely melt down, a disaster that could spew large amounts of radioactivity into the atmosphere.

Foreigners began leaving in larger numbers. China organized an evacuation of its citizens from Japan's stricken northeast. The US urged Americans to avoid travel to Japan. Austria moved its embassy from Tokyo to Osaka. Lufthansa diverted its two daily flights to Tokyo to other Japanese cities.

The US Navy shifted some ships from Japan's east coast to western waters to avoid hazards from debris dragged into the sea by the tsunami and to be away from any radiation plume. One ship at its base south of Tokyo detected low levels of radiation from the Fukushima plant.

In evacuation centers for people living near the plant, Japanese worried about radiation contamination, calling it an unseen threat, and complained that the government was not forthcoming with information.

"Nuclear power is the most frightening, even more than a tsunami. The government, the ruling party, administrators, nobody tells us, the citizens, what is really happening," Isao Araki, 63, said at an evacuation center.

Kan's government has been more open and transparent than previous administrations in keeping the nation informed of developments in the nuclear crisis. Edano, his top spokesman, appears frequently before the press with updates that have been widely praised for their frankness and clarity.

However, given past governments' notorious record of covering up bad news on nuclear emergencies, many Japanese are skeptical they are getting a complete picture.

The radiation fears added to the catastrophe that has been unfolding in Japan. Four days after the 9.0-magnitude earthquake and tsunami, millions of people strung out along the east coast had little food, water or heat, and already chilly temperatures dropped further as a cold front moved in. Up to 450,000 people are in temporary shelters.

Officials have only confirmed about 3,300 deaths, but officials have said the toll was likely to top 10,000 in one of the four hardest-hit areas. Experts involved in the 2004 Asian tsunami said there was no question more people died, despite Japan's high state of preparation, and like the earlier disaster, many thousands may never be found.

In a rare bit of good news, rescuers found two survivors Tuesday, one of them a 70-year-old woman whose house was torn off its foundation by the tsunami.

Mostly, though, search teams found few signs of life. More than 200 rescue crews from the US and Britain poured Tuesday into the coastal city of Ofunato, finding little but rubble and people looking for lost possessions. Whole city blocks lay flattened. A yacht came to rest atop the remains of a two-story gas station.

Amid the debris, 32-year-old Ken Suioya used a crowbar to try to force open a safe, which he said had been thrown from his father's destroyed home and into a trench.

"My house has gone, our family's restaurant has gone, our car has gone — this is part of what we have left," he said, gesturing to unyielding gray metal.

As rescue teams and survivors hunted through ruined communities and officials struggled to deliver supplies to the displaced, urgent attention was focused on the Fukushima Dai-ichi nuclear complex, the most severely damaged of three nuclear plants on the battered coast. Three of the plant's six reactors were out of service for maintenance at the time of Friday's

disasters, which compromised cooling systems at all of the reactors. Before Tuesday's fire in Unit 4's storage pool, workers were desperately trying to pump seawater to cool the fuel rods in the three active reactors.

Conditions in Unit 2 are less clear after a blast near a suppression pool, into which fuel rods are plunged to cool them and which also serves as an emergency receptical for excess steam, said plant owner Tokyo Electric Power Co. The nuclear core was not damaged but the bottom of the surrounding container may have been, said Shigekazu Omukai, a spokesman for Japan's nuclear safety agency.

The IAEA's head, Yukoiya Amano, urged the Japanese government to provide better information to the agency about the situation.

Temperatures in the two other offline reactors, units 5 and 6, were slightly elevated, said Edano, the chief cabinet secretary. Fourteen pumps have been brought in to get seawater into the other reactors, and technicians were trying to figure out how to pump water into Unit 4, where the storage pool fire occurred. Early Wednesday, Tokyo Electric Power officials said they had scrapped a plan to use helicopters, deeming them impractical, and said they were considering other options, including using fire engines.

About 70 workers remained at the complex, struggling with its myriad problems. The workers, all in protective gear, are being rotated in and out of the danger zone quickly to reduce their radiation exposure.

The prime minister and other officials warned there is a danger of more leaks and ordered a wider emergency cordon, telling people within 20 miles (30 kilometers) of the Fukushima plant to stay indoors to avoid exposure that could make people sick.

"Please do not go outside. Please stay indoors. Please close windows and make your homes airtight," Edano told residents in the danger zone.

"These are figures that potentially affect health. There is no mistake about that," he said.

Some 70,000 people had already been evacuated from a 12-mile (20-kilometer) radius from the Dai-ichi complex. About 140,000 remain in the wider zone.

The multiple problems at Fukushima appear to be the nuclear industry's most severe accident in 25 years, since the meltdown at the Chernobyl power plant in the former Soviet Union.

Experts said that differing designs in the reactors made it unlikely that Fukushima would degenerate into a widespread contamination problem. The biggest difference is that in Chernobyl's case the reactor core caught fire and there was no containment shell — thick reinforced concrete around the reactor.

"We're a long way from fuel material coming out of the reactor in the way it did in Chernobyl," said Crossley, the physicist. "In this case, the fuel is still contained."

Physicist Edwin Lyman of the Union of Concerned Scientists, an advocacy group that pushes for nuclear industry safety, said it was unlikely that a plume from the Fukushima plant would rise as high as the one from Chernobyl, which means that radioactive material would be deposited closer to the site.

"That may spare Tokyo from the worst of it," he said.

Yuasa reported from Tokyo. Associated Press writer Elaine Kurtenbach in Tokyo and David Stringer in Ofunato contributed to this report.

Fire Erupts Again At Fukushima Daiichi's No. 4 Reactor; Nuclear Fuel Rods Damaged At Other Reactors (LAT)

Fire breaks out for the second time at the No. 4 reactor of the Fukushima Daiichi nuclear complex. Meanwhile, a report says about 70% of the nuclear fuel rods at the No. 1 reactor have been damaged, along with 33% of the rods at the No. 2 reactor.

By Carol J. Williams

Los Angeles Times, March 16, 2011

Another fire at Japan's stricken Fukushima Daiichi nuclear power complex broke out early Wednesday and authorities said about 70% of another reactor's fuel rods had been damaged by the spate of accidents and breakdowns since Friday's earthquake and tsunami.

The ominous disclosure, after authorities insisted throughout the previous day that damage to the overheating reactors was negligible, compounded a sense of escalating hazards and fear five days after the disasters expected to take historic peacetime tolls on Japan's people and economy.

"An estimated 70 percent of the nuclear fuel rods have been damaged at the troubled No. 1 reactor of the Fukushima (Daiichi) No. 1 nuclear power plant, and 33 percent at the No. 2 reactor," Kyodo news agency reported Wednesday, quoting an unnamed official of the Tokyo Electric Power Co. that operates the stricken power complex.

The latest blaze thwarting containment efforts broke out in the No. 4 reactor earlier in the day. It was attributed to disaster responders having failed to fully extinguish a fire that struck the same reactor on Tuesday.

The reported partial meltdowns of the No. 1 and No. 2 reactor cores were thought to be responsible for the plume of radiation that escaped Tuesday, sending background radiation levels soaring to degrees that authorities conceded were harmful to anyone with prolonged exposure.

With the confirmed dead and known missing topping 10,000 and untold thousands of others suspected to still be buried in the sodden wreckage littering the northeast shores of Honshu island, Japan's mainland, government leaders urged calm and patience as hardships persisted four days after the worst earthquake in Japan's recorded history.

Photos: Scenes of earthquake destruction

The devastating tsunami that followed inflicted most of the damage half an hour after Friday's magnitude 9.0 quake, and a terrifying spate of fires, explosions and missteps at the nuclear power complex in Fukushima prefecture has intensified fears of another calamity.

Radiation released from the six-reactor Fukushima Daiichi complex Tuesday caused a 400-fold increase in background levels outside the stricken plant and about 10 times the normal level in Tokyo, the usually thriving capital 150 miles south of the power facility. Those levels described by a top government official as hazardous to human health declined overnight, suggesting the situation might be stabilizing at the three reactors experiencing cooling problems in the nuclear fuel containment vessels, officials said.

The latest fire, reported by Tokyo Electric Power Co. spokesman Hajimi Motujuku, compounded the woes besetting a skeleton crew of about 70 nuclear plant workers struggling to cool the damaged reactors and avert an uncontrolled release of radiation.

Radiation detected near the plant early Wednesday was insufficient to harm human health, Chief Cabinet Secretary Yukio Edano told reporters. He said the levels had also dropped to about twice the usual level in Tokyo, a negligible level that posed no public hazard, he said.

Any risks posed by the emissions were eased by prevailing winds that carried the steam out to sea rather than over the populated inland, the national meteorological agency noted.

NHK television said 450,000 people remained in makeshift shelters outside the evacuated areas, down by about 100,000 from a day earlier as those made homeless by the earthquake and tsunami began making their way to less-affected areas to stay with relatives and friends.

But authorities still struggled to get food, blankets and other relief to the displaced amid continuing road blockages and idled transport between Japan's major cities and the hard-hit agricultural and fishing areas of the northeast.

Three new earthquakes with a magnitude greater than 6.0 hit across a wide swath of Honshu on Tuesday, as well as more than a dozen that registered over magnitude 5.0, the US Geological Survey reported.

Search-and-rescue teams from around the world scoured the wreckage of residential areas where the tsunami dumped tons of debris along miles of coastline. But the operations have ground down into a body-retrieval exercise, with only two survivors reported to have been rescued by Tuesday.

The international outpouring of help for Japan brought in a response from 91 nations and at least a dozen multinational relief organizations, the Japanese Foreign Ministry reported. Most were concentrating on devastated Miyagi prefecture, deploying heavy-lifting equipment to pry loose cars, trucks, boats and other objects from the rubble of wood and metal churned and scattered by the tsunami.

In Sendai, the city of 1 million closest to the earthquake's offshore epicenter, sleet began pelting the ravaged area overnight, a precursor to the snow and falling temperatures forecast for the rest of the week.

As economists began estimating the cost of the disasters, predicting they would exceed those inflicted by Hurricane Katrina in both money and lives, Tokyo's Nikkei index plummeted for a second day, losing another 10% of its value.

Nuclear Crisis Deepens As Third Reactor Loses Cooling Capacity (WP)

By Steven Mufson And Chico Harlan

Washington Post, March 15, 2011

Japan's nuclear emergency grew more dire on Tuesday after the third explosion in four days rocked the seaside Fukushima Daiichi complex and fire briefly raged in a storage facility for spent fuel rods at a fourth, previously unaffected reactor.

Officials from Tokyo Electric Power Co., owner of the nuclear complex, said radioactive substances were emitted after a 6:14 a.m. explosion, which took place in the unit 2 reactor. The blast took place near or in the suppression pool, which traps and cools radioactive elements from the containment vessel, officials said. The explosion appeared to have damaged valves and pipes, possibly creating a path for radioactive materials to escape.

Prime Minister Naoto Kan told the nation Tuesday morning that radiation had already spread from the reactors and there was "still a very high risk of further radioactive material escaping." He advised people within 19 miles of the plant to remain indoors. He urged calm.

Tokyo Electric, which over the weekend said it had 1,400 people working at the complex, said it was evacuating all but 50 workers. Kan hailed those workers, who he said "are putting themselves in a very dangerous situation."

The setbacks came as Tokyo Electric was still wrestling to regain control of ultra-hot fuel rods in two other nuclear units, numbers 1 and 3, by flooding them with sea water.

Tuesday began with a fire that broke out in a pool storing spent fuel rods at the base of unit 4, which had been shut down for inspection before last Friday's earthquake. Radioactive substances might have spewed outside from the fire.

Half an hour later, the explosion at unit 2 took place. Experts said that, unlike the two previous explosions that destroyed outer buildings, this explosion might have damaged portions of the containment vessel designed to bottle up radioactive materials in the event of an emergency.

The explosion — more serious than the earlier ones — was followed by a brief drop in pressure in the vessel and a spike in radioactivity outside the reactor to levels more than eight times what people ordinarily receive in a year, the company said.

The new setbacks came on the heels of a difficult Monday at Fukushima Daiichi unit 2. Utility officials there reported that four out of five water pumps being used to flood the reactor had failed and that the other pump had briefly stopped working. As a result, the company said, the fuel rods, normally covered by water, were completely exposed for 140 minutes.

That could have grave consequences, worsening the partial meltdown that most experts think is underway. By comparison, in the 1979 Three Mile Island, Pennsylvania nuclear plant accident, it took just two hours for half the plant's nuclear fuel to melt.

According to a report by the Kyodo News agency, the fifth pump was later restarted, and seawater mixed with boron was again injected in a desperate bid to cool the reactor, but the fuel rods remained partially exposed and ultra-hot. On Tuesday morning, Tokyo Electric said that 2.7 meters, or less than half, of the rods were still exposed.

The other four pumps were thought to have been damaged by a blast Monday that destroyed a building at the nearby unit 3 reactor, Kyodo reported. That blast, like one on Saturday at unit 1, was caused by a buildup in hydrogen generated by a reaction that took place when the zirconium alloy wrapped around the fuel rods was exposed to steam at 2,200 degrees Fahrentheit.

The International Atomic Energy Agency reported that injections of seawater into units 1 and 3 had been interrupted because of a low level in a seawater supply reservoir, but the seawater injections were later restored.

A commercial satellite photo of the complex showed piles of debris on top of units 1 and 3, which raised new fears about the condition of the pools where spent fuel is stored, especially at unit 1, where a design by General Electric placed the pool on top of the reactor but below the outer structure that was destroyed. But the ability of workers to assess the damage was hindered by fears that another explosion might occur.

In March 2010, 1,760 tons of spent fuel was stored in the six pools, 84 percent of capacity, according to Tokyo Electric.

After Monday's explosion at unit 3, Japanese government officials were quick to assert that it did not damage the core containment structure, and they said there would be little increase in radiation levels around the plant. But the explosion prompted Japan's nuclear agency to warn those within 12 miles to stay indoors. The blast also injured 11 people, one seriously.

The string of earthquake- and tsunami-triggered troubles at the Fukushima Daiichi plant began Friday, when a loss of grid power (caused by the earthquake) followed by a loss of backup diesel generators (caused by the tsunami) led to the failure of cooling systems needed to keep reactor cores from overheating.

The IAEA reported that Japan has evacuated 185,000 people from towns near the nuclear complex. The agency said Japan has distributed 230,000 units of stable iodine to evacuation centers from the area around the Fukushima Daiichi and Fukushima Daini nuclear power plants. The iodine has not been administered to residents; the distribution is a precautionary measure.

The ingestion of stable iodine can help to prevent the accumulation of radioactive iodine in the thyroid.

The US Seventh Fleet said Monday that some of its personnel, who are stationed 100 miles offshore from the Fukushima Daiichi plant, had come into contact with radioactive contamination. The airborne radioactivity prompted the fleet to reposition its ships and aircraft.

Setback In Reactor Fight (WSJ)

By Yuka Hayashi, Andrew Morse

Wall Street Journal, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Japan Works To Contain Nuclear Threat After Quake (USAT)

By Dan Vergano, Usa Today

USA Today, March 16, 2011

A skeleton crew of workers fought to forestall disaster Tuesday at an embattled Japanese nuclear plant, even as earthquake aftershocks and a radiation-spewing fire at the facility rattled the nation.

The fourth day of the crisis at Japan's Fukushima Dai-ichi nuclear plant, northeast of Tokyo, came as the island nation recovered from Friday's magnitude 9.0 earthquake and a tsunami that has killed perhaps 10,000 people.

The plant's reactors have repeatedly vented small amounts of radioactive gas in the crisis, the result of deliberate moves to release pressure in the reactors. "There is still a very high risk of more radiation coming out," Japanese Prime Minister Naoto Kan warned his country early Tuesday.

The two-hour fire at one of the plant's reactor buildings apparently heated used-up nuclear fuel rods kept in a water pool there, triggering the release of radioactive steam that briefly spiked radiation levels to more than 160 times the yearly dose a person naturally receives in a year. Plant officials had considered using helicopters to refill the spent fuel water pool, to avoid worker exposure to the high-radiation zone of that building, but, are now considering using fire hoses instead.

A second fire was reported Wednesday in the same building by plant officials. Tokyo Electric Power Co. spokesman Hajimi Motujuku says the blaze erupted early Wednesday in the outer housing of the reactor's containment vessel. Fire fighters are trying to put out the flames. Japan's nuclear safety agency also confirmed the fire, whose cause was not immediately known.

High radiation levels prompted an evacuation of the plant early Tuesday, leaving only 50 workers in radiation suits behind to continue pouring seawater into three overheating reactors. "They are doing a heroic job," said Anthony Pietrangelo of the Nuclear Energy Institute, an industry organization in Washington D.C.. "I can't pretend to understand what it means to be hit by an earthquake of that magnitude and then a horrendous tsunami."

Most troubling, one reactor showed signs of leaks following an earlier explosion at the facility. Such a leak in the steel-and-concrete containment vessel that houses the nuclear core of a reactor posed the biggest threat of a "major radiological event" yet in the crisis, said Pietrangelo and others.

The Dai-ichi plant had automatically stopped its three operating reactors when the Friday earthquake hit, but the tsunami knocked out cooling of the plant's still-hot nuclear fuel rods. Pietrangelo compared the crisis to 1979's Three Mile Island Disaster, where about half of the nuclear fuel in one reactor melted.

In a bid to forestall a similar fate for the plant's three working reactors — all likely containing partly melted fuel rods already — engineers continued to pour seawater into them.

Japanese officials indicated Tuesday that water levels at two of the reactors seem stable, but are fluctuating at the reactor showing signs of a leak. Keeping the fuel rods cool is the key to preventing a larger meltdown and an even bigger release of radiation.

"They're operating with razor thin margins," said nuclear energy expert David Lochbaum of the Union of Concerned Scientists, which opposes building more nuclear plants. Hydrogen gas explosions at the facility have injured 15 workers and damaged the outer buildings housing all three reactors.

In a last-ditch move, the seawater cools the rods, which boil the water, creating steam. The steam needs to be vented to release pressure on the reactor chamber. More water can then be added to keep the rods immersed.

"Seawater isn't what you would want to be normally using for this operation," says nuclear engineer Brian Woods of Oregon State University in Corvallis. "As long as that seawater is keeping things cool, though, there should be relatively little radioactive gas released."

Keeping the rods covered with water stifles a chemical reaction between steam and the metal covering the fuel rods that makes hydrogen gas. Ideally, he says engineers will "close the cycle" of dumping seawater into the reactors and venting radioactive gas from them in the next few weeks. Reconnecting outside electrical power to the plant would allow engineers to restart the cooling equipment that normally controls reactor temperatures.

"That's the next step, getting that powerful cooling started," Woods says.

Fire Breaks Out As Reactor Problems Grow (FT)

By Jonathan Soble And Michiyo Nakamoto
Financial Times, March 16, 2011
Full-text stories from the Financial Times are available to FT subscribers by clicking the link.

'Worst Case' Nuclear Disaster Hangs On Unlikely Events (BLOOM)

By Mehul Srivastava And Adi Narayan
Bloomberg News, March 16, 2011

For Tokyo Electric Power Co.'s stricken nuclear reactors to release catastrophic amounts of radioactive material into the atmosphere, a rare chain of events needs to happen.

Averting a full-scale meltdown -- which scientists say isn't likely -- depends on cooling the uranium-containing rods at Fukushima Dai-Ichi's Reactor No. 2, said S.K. Malhotra, a scientist at India's Department of Atomic Energy in Mumbai. A worst-case outcome may occur if overheating in the reactor culminates in the rupture of the steel lining protecting radioactive material.

"In the worst scenario, an explosion could occur inside the steel pressure vessel, fuel bundles melt down and the radioactivity is exposed," Malhotra said in a phone interview. "I would say there is a 10 percent probability still."

Japan, which has no significant oil and gas resources, is struggling to avert a meltdown at the power plant after the earthquake on March 11 caused a tsunami that disabled critical cooling systems.

Prime Minister Naoto Kan said the danger of radiation leaks increased at the nuclear facility, located 135 miles (220 kilometers) north of Tokyo. That sent the nation's Topix stock index to its biggest two-day drop since 1987 as concern grew over the government's ability to contain the crisis.

Tokyo Electric has struggled to keep the reactors flooded with water to prevent them becoming so hot that they melt through their steel casing. The partially submerged fuel rods are generating heat, turning water into high-pressure steam inside the core of the plant.

If hot enough, they also start a chemical reaction with their protective coating which produces a small amount of radioactive byproducts, and increases pressure within the core. That pressure is released by letting this combination of steam and gas flow into external chambers, one of which, in reactor unit 2, was rocked by an explosion at about 6 a.m. local time yesterday.

The explosions are frustrating cooling efforts at the nuclear facility, and may have damaged a key containment chamber, said Toshihoro Bannai, director of international relations at Japan's Nuclear and Industrial Safety Agency.

Rods inside three of the reactors have been partially exposed, according to Tokyo Electric. The fuel rods in reactor No. 2 were not fully submerged in water for at least 5 1/2 hours at that time as the utility reduced the number of workers because of increased radiation risks, the company said.

"What we are looking at is a long-term cooling problem," John Prince, a former member of the Safety Policy Unit of the U.K. National Nuclear Corp., told reporters in Adelaide, Australia.

The cooling process stopped after diesel generators pumping water to the plant were disabled by the tsunami, according to information Japanese authorities shared with the World Association of Nuclear Operators.

As the water supply stopped, temperatures inside the core rose, causing a buildup of pressure steam inside a containment area. Some of the vapor was vented to relieve the pressure, leaking a small amount of radioactive material into the environment.

Radiation outside the plant dropped to 0.6 millisieverts per hour from 11.9 millisieverts per hour, the agency said yesterday. Radiation peaked at 400 millisieverts per hour earlier in the day, the International Atomic Energy Agency said yesterday.

The temperature inside the core is "likely to be stable," said Bannai at Japan's safety agency, adding that most of the measuring equipment was "debilitated." Engineers have used secondary generators to pump seawater and boron into the core of the 40-year-old boiling-water reactor.

Without cooling water, the rods heat up. At about 1,100 degrees Celsius, the water and the zirconium metal encasing the uranium reacts to create hydrogen. Some of the hydrogen generated in this process was vented, leaked into the reactor building and exploded on contact with oxygen on at least three occasions.

A fourth blast that occurred at Reactor No. 2 yesterday may have damaged one of the layers designed to contain both the core and the radioactive material, according to Tokyo Electric. Any serious breach of the containment layers can allow potentially dangerous radiation leakage.

Material released through a serious breach in the defenses of the nuclear core, or the containment units, would travel through the atmosphere, depending upon weather conditions. An explosion would spread them further, as would heavy winds. The French, German and Chinese embassy in Tokyo recommended their citizens leave the city.

There are no indications so far that any radioactive material will reach Tokyo, said Gerald Laurence, an adjunct professor of chemistry at the University of Adelaide.

IAEA Director General Yukiya Amano said the new information about damage to reactors 1 and 2 is "worrying." Reactor No. 2's core damage may be 5 percent while reactor damage at unit No. 1 is below 5 percent, Amano said at a press briefing yesterday. The suppression chamber in reactor No. 2 also appears to be damaged, he said.

The IAEA still doesn't know the cause of a fire at the cooling pond of reactor No. 4, where spent fuel rods are stored, and is asking the Japanese government to improve the information it shares with the Vienna-based agency, Amano said.

Three of six reactors were operating at the time of the temblor. Nuclear fission in the functioning reactors stopped within 90 seconds of a power outage caused by the earthquake. Nuclear material can take weeks to cool down completely after the plant is shut down, the nuclear operators association said.

It's unlikely nuclear fuel will be released in an event reminiscent of the accident at the Chernobyl Nuclear Power Plant in Ukraine, said David Fletcher, an adjunct professor of chemical and biomolecular engineering at the University of Sydney, who studied the 1986 disaster while working for the U.K. Atomic Energy Authority.

"The worst you can conceive of is losing a lot of fission products into the atmosphere," Fletcher said. "People think of this scenario where the fuel melts and fails the vessel, and you've got this pile of radioactive fuel in a molten state underneath it. I don't think for a moment that could happen in a modern reactor because they have sufficient cooling to stop that happening."

Radiation exposure hospitalized one Tokyo Electric worker and the company has reduced the number of engineers working on cooling reactor No. 2 because of increased radiation readings, said Bannai. Eleven more workers were injured in this morning's explosion.

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Public Order Still Rules Amid Devastation In Japan (USAT)

By Calum Macleod

USA Today, March 16, 2011

ISHINOMAKI, Japan — Battered but unbowed, the Statue of Liberty still stands tall on a small island in the Kitakami River. Little else does.

The mock statue was once a premier tourist attraction here in this port city in northeastern Japan. Now she raises her torch over a sea of devastation left by the monster tsunami that washed away whole villages and thousands of people.

Beside the statue is a wrecked senior care facility. The facility came from more than a mile away, swept here when the tsunami stuck five days ago. No one has seen the people who lived in it.

"Most of the dead will be elderly," Vice Mayor Etsuro Kitamura said Tuesday.

About 10,000 people in this city of 160,000 are believed dead, Kitamura said. Thousands are missing elsewhere too, though it is not known how many disappeared into the sea or fled to stay elsewhere.

Fumiaki Sato believes his 75-year-old mother is alive.

"I still have hope," he said outside the rice wine store he manages, which was lying sideways on the riverbank.

When the magnitude-9.0 quake shook the area and tsunami alerts blared from sirens, Sato loaded his mother into his pickup to escape. Then the wall of water rushed in.

"I was climbing in when it hit," said Sato, 46. "I was washed away, and when underwater, I saw a huge boat pass over my head."

Sato made it out of the roiling water in only his underpants. He has spent the past five days joining millions of others in a daily search for shelter, food, water, fuel and missing relatives.

The island where Sato's mother disappeared is famous for Japan's popular manga comics. It's also known for the spaceship-style museum, a rare tsunami survivor, that celebrates local manga artist Shotaro Ishinomori. In the 1960s, Ishinomori created the still highly popular series Cyborg 009 and Kamen Rider, the Japanese comic versions of Batman and Spiderman.

Sato and 18 others took refuge there for the past four freezing and powerless nights. The town, a sister city with the port of Everett, Wash., needs such superheroes today, said museum employee Seitaro Omori.

In shattered streets, where fishing boats lie atop crushed cars, statues of well-known manga characters still strike dramatic poses amid the rubble. In one bizarre scene, a manga warrior stands next to a car lifted on top of a piano from an adjacent Yamaha store.

"I wish he could come to life," said Omori, 34, of the special hero Ishinomori created for this town. "Somebody like that is really needed to help people recover mentally from this shock."

Instead of fictional saviors, Ishinomaki relies on a sense of public spirit, order and responsibility.

"When disasters happen in foreign countries, I've seen pictures of people looting stores," said Hidenori Takashi, a Tokyo food company employee who reached Ishinomaki on Monday and found his family safe. "Here, even at crowded shelters, people are cooperating, keeping calm and maintaining social order."

"That's our national character — respect for each other, helping each other and obeying the laws," he said.

Such stoicism extends to his daughter Miku, a dentist's nurse, who clutched the family cat as they climbed through a series of boats — washed on top of a battered bridge — to stay in a relative's house.

She and her mother watched the tsunami from an upstairs window.

"I saw more than 20 people being washed away in the river, with some of them on top of their cars. Everyone was screaming," said Miku, 20.

Takashi says that unless the government can guarantee the food supply, public order may deteriorate and crime may surge.

Hiroko Kodo, a mother of four, is struggling to keep her family sated with the meager shelter rations, in near-freezing conditions.

"We're cold and hungry. My concern now is how much longer we can last without our lifeline" — food and water, Kodo said. And now she has another worry, after receiving a free Red Cross medical bag Monday that included a radio.

"There is water in the mountains, but we're afraid to drink it because of what happened in Fukushima," where a nuclear power plant has leaked radiation.

"Water, food and fuel are a problem," said Hideo Amagai, a first lieutenant in Japan's Self-Defense Forces who assisted those camping out in the manga museum to move to a shelter Tuesday.

"We've got more than most people but even for us it is very limited," said Amagai, who said he was impressed by the attitude of local residents.

"They are very calm, there's no sense of panic," he said. "Instead of crying 'help,' they say, 'would you mind helping us?' "

In the beleaguered town, where almost 40,000 evacuees take refuge, food is scarce, just one rice ball a day, but not the social discipline and courtesies of regular Japanese life. City Hall has transformed into a processing zone for survivors, who pore quietly, and often sadly, over regular registration updates from the 106 separate emergency shelters citywide.

In a neat square of padded mats, just accommodating four petite seniors, with shoes neatly parked outside, Toshiko Suzuki, 70, prepared Tuesday to spend a fifth night at the makeshift shelter on several upper floors of city hall, where kerosene generators provide rare light in an otherwise blacked-out city.

"It's very good here," Suzuki said. "The city workers have given up their sleep and food to help us. They have their own worries, but can't go home."

She is desperate for word from her granddaughter, Sae Suzuki, 15, who graduated from junior high school on the morning of the tsunami.

"She's a very athletic girl, good at basketball, track and field and karaoke," said her worried grandmother. "She went out to play with some classmates – and that was the last we saw of her."

Tazuko Endo, 70, hunts for word from her missing husband and son.

"It's been five days now. If they are safe, why couldn't they just walk home?" she wondered at the City Hall shelter.

While most praise the public response, tempers are beginning to fray at the continuing shortages and deprivations, in Asia's richest country.

"People are slowly getting frustrated and stressed out. At night, some people shout and argue, and complain to the city workers," Suzuki said. Kitamura, the vice mayor, estimates just 5% of evacuees do not "follow the rules and etiquette," he said. But he has far weightier worries.

The town crematorium can handle nine corpses a day, or 18 at the very most, Kitamura said. At that rate, staff could be busy for the next 500 days.

Instead, he must resort to burial, highly unusual in Japan, and ask other cities to assist with cremating the dead.

He also clings to optimism. "We will recover. We are determined."

Death Toll Rises, Stocks Plunge, Foreigners Flee As Nuclear Crisis Escalates (WP)

By Chico Harlan

Washington Post, March 16, 2011

TOKYO — With Japan in the throes of a three-pronged disaster, foreigners began fleeing the country in larger numbers Tuesday, as millions of people endured another frigid night with little food, water or heat.

The Chinese government announced it was organizing an evacuation of its citizens from northeastern Japan, which has been ravaged by a 9.0 magnitude earthquake — elevated from 8.9 — and a devastating tsunami, followed by a mounting nuclear disaster at a major power station 150 miles north of Tokyo.

The United States urged Americans to avoid travel to Japan, Austria moved its embassy from Tokyo to Osaka, and Lufthansa diverted its two daily Tokyo-bound flights to other Japanese cities, the Associated Press reported.

Rescue teams have found little but unrelenting devastation and misery in coastal towns struck by the tsunami, which in some places produced waves more than 30 feet high. Residents looked for possessions Tuesday amid the ruins of the coastal city of Ofunato, where whole blocks lay flattened and a yacht had come to rest atop a two-story gas station, AP reported. In a rare piece of good news, the agency said, rescuers found two survivors Tuesday, including a 70-year-old woman whose house was torn off its foundation by the tsunami.

As temperatures dipped near freezing at night, more than 850,000 households remained without power in the northeast, and at least 1.5 million homes had no running water.

To make matters worse, Japan continued to be struck by dozens of aftershocks, including three of 6.0 magnitude or greater. The strongest, a 6.2 temblor, shook buildings in Tokyo late Tuesday but caused no damage.

Torn up and terrified by a disaster that keeps getting worse, Japan has transformed in just four days from one of the world's most comfortable countries into one of its most distressed.

Amid an escalating nuclear emergency, a dangerous plume of radioactive material leaked Tuesday from the Fukushima Daiichi nuclear power plant, causing panic among stock traders, triggering evacuation orders from foreign companies and generating a deep sense of unease among millions of residents concerned about radiation exposure.

The related disasters caused other complications. Radiation leakage prompted mass evacuations and a no-fly zone covering a 19-mile radius around the facility. Malfunctioning nuclear plants have left the country with an energy shortage, leading to power cuts even at some refugee shelters even as the weather turned colder. The stock market plunged more than 10 percent.

Along the coast, 6,000 are officially confirmed as either dead or missing, according to the police tally. Many more are unaccounted for. Officials in one prefecture estimate that at least 10,000 of its 2.3 million citizens were killed by the tsunami and quake.

Hospitals, short of medicine and supplies, are struggling to treat seriously injured or ill patients, news agencies said, and overwhelmed local officials have not been able to secure enough space for morgues and coffins. The continuing blackout has made it impossible to create dry ice to pack the bodies.

More than 500,000 people have been evacuated from the hardest-hit areas and 15,000 have been rescued, including a 70-year-old woman pulled from her toppled home by rescuers on Tuesday. But time is running out for rescuers to help those still stranded by flooding or trapped in debris.

In the north, a cold front was moving in, leading to a drop in temperatures and snow in some areas.

Officials said about 2,000 bodies were found Monday along the coast of battered Miyagi Prefecture, and a survey of local governments conducted by the Kyodo News agency found that about 30,000 people in the devastated areas remain unaccounted for.

Those who survived now spend much of their time watching public broadcaster NHK, following frightening news about the explosions and fires at the Fukushima Daiichi nuclear power plant.

After a 6:14 a.m. explosion at the Unit 2 reactor Tuesday (5:14 p.m. Monday in Washington), Prime Minister Naoto Kan — wearing a durable blue work jacket — addressed the nation.

"Please listen to my message calmly," he said, before explaining that that radiation had spread from malfunctioning reactors at Fukushima Daiichi into the environment.

Readings in the nearby area suggested very high risk, he said, although within nine hours of the blast they had dropped to lower — but still elevated — levels.

"The radiation level has risen substantially," Kan said. "The risk that radiation will leak from now on has risen."

The government told those within 12.5 miles of the plant to evacuate. It asked those within 19 miles to stay indoors. Those outside of that radius — including the 13 million in Tokyo, 150 miles to the south — wondered whether to trust what little information they received from the government, whose top spokesman said those in the capital would be safe.

Snaking lines formed at Tokyo's Narita and Haneda international airports as foreigners packed the ticket counters, hoping to catch a flight far away from Japan and the lingering threat of radiation poisoning.

Many came to the airport hours or days before their scheduled flights were to leave, hoping for an earlier departure, even though they had already been told several times no earlier flights were available.

"Anywhere but here," said Maria Sumner, a 23-year-old from Washington, Mo., who was headed to San Francisco on Tuesday after a deluge of worried e-mails from family and friends. "It just got to be a little too much," she said.

Meanwhile, the Nikkei 225 recorded one of its largest-ever drops, closing at 8605.15 — down 10.55 percent. Coupled with Monday's 6.2 percent drop, the index has plummeted nearly 17 points in the first two business days since the catastrophe.

Many of the losses were due to a rapid sell-off that occurred right as Kan warned about the radiation risks.

At an earlier news conference Tuesday, four officials from Tokyo Electric Power Co., which operates the nuclear plant, offered almost no information about the damage that occurred during the explosion or the implications.

"What has happened in the stock market reflects the amount of uncertainty — the different rumors that are floating around," said Edwin Merner, a 30-year resident of Tokyo and president of the Atlantic Investment Research Corp. "A certain panic thinking that is going on. I think the main thing is, people just don't know. And they don't necessarily trust the information they have been hearing."

Exodus From Tokyo Begins (WT)

Nuclear radiation fears driving many to flee city

By Christopher Johnson

Washington Times, March 16, 2011

SHIZUOKA, Japan | A quiet exodus from Tokyo began on Tuesday after another explosion and a fire at a nuclear-power plant in Fukushima sent radiation levels above normal in the capital and in other prefectures in the north and east of Japan.

Many fleeing Tokyo residents said they could no longer tolerate tremors jolting them out of bed, four days after the strongest earthquake to hit Japan in recorded history struck Friday, followed by a raging tsunami that may have claimed as many as 10,000 lives.

Many feared that a cloud of nuclear radiation could drift from the plant 170 miles northeast of the capital toward the Kanto Plain, home to about 30 million people in a vast metropolis including Tokyo and Yokohama.

The Tokyo metropolitan government said radiation levels surged to 23 times the normal level Tuesday in the capital.

"The possibility of further radioactive leakage is heightening," Prime Minister Naoto Kan said in a TV address Tuesday morning. "We are making every effort to prevent the leak from spreading. I know that people are very worried, but I would like to ask you to act calmly."

He said radiation spread from the four battered nuclear reactors of the Dai-ichi power plant in Fukushima prefecture, after an explosion in Unit 2 and a fire in Unit 4 on Tuesday.

The fire in a fuel-storage pond, where nuclear rods are cooled, sent radioactive gases into the air. Two workers were missing after the Tuesday blast.

"Radioactivity is being released directly into the atmosphere," a Japanese official told the International Atomic Energy Agency.

Early Wednesday, another fire broke out at the Dai-ichi Unit 4, according to a spokesman for Tokyo Electric Power Co., elaborating that the new fire was the result of the earlier fire not having been completely extinguished.

Japan's Nuclear and Industrial Safety Agency said later Wednesday morning that the flames had been put out, though smoke was still visible on Japanese TV and video feeds.

Hydrogen explosions caused by releasing pressure to prevent a nuclear meltdown hit Unit 1 on Saturday and Unit 3 on Monday.

The Tokyo Electric Power Co., the owner of the nuclear plant, said it could not rule out a meltdown, which would release radioactive material into snowstorms forecast for northern Japan. The company pulled out 750 workers, leaving just 50, and the government imposed a no-fly zone around the reactors.

More US military crews on rescue missions were exposed to low-levels of radiation and decontaminated. The USS Reagan aircraft carrier strike group, which includes seven other ships, flew 29 missions Tuesday to deliver 17 tons of food and supplies.

The Russian Embassy in Tokyo said it is expecting a worst-case scenario of radioactive leakage. Joining several European embassies in advising citizens to leave the capital region, China said it will fly home Chinese from devastated areas, while the Indonesian government said it flew home 99 of its citizens living in the hard-hit Miyagi prefecture.

In Tokyo, increasing numbers of Japanese left the city, but there was no panicky mass exodus.

"I need to make money, but life is more important," said Kenichi Okajima, a Tokyo office worker.

He said he decided to leave work after seeing the latest explosion and the weather report that the winds from north to south could potentially blow radioactive materials to Tokyo.

He said he planned to take his family to the mountains of Toyama, west of the capital.

"We have small children, and we don't want to take any chances about them getting radiation sickness," he said.

A Shinkansen bullet train speeding west from Tokyo was packed on Tuesday afternoon with mothers and children fleeing the city to hotels or homes of relatives across Japan while their husbands continued to work in Tokyo.

Yuichiro Sakata, a student in Tokyo, said his parents in central Japan called him after they saw the TV reports of the third explosion Tuesday morning. He didn't want to leave.

"They said to me, 'Hurry up. You must come home right now.'"

Heeding warnings from the embassies of France, Germany, China and other countries, many foreigners boardedtrains and headed for airports across Japan because of "superlong lines" at Narita International Airport outside Tokyo, as one city resident said on Twitter.

While some foreigners vowed to stay in Tokyo and ride out the wave of fear, many foreigners with Japanese spouses and children opted to leave the city to save their children from the risk of thyroid cancer from overexposure to radiation.

Fred Varcoe, a professor and writer who lives with his Korean wife and daughter on the Chiba coast east of Tokyo, drove to escape to a hotel in Shimizu, near the Mount Fuji volcano about 60 miles west of Tokyo.

He said he was lucky to find an open gas station, amid reports of fuel shortages across the Tokyo area and the devastated prefectures of northern Honshu island.

South from Fukushima, radiation measured at 100 times the normal level in Ibaraki, a prefecture bordering Tokyo, Kyodo News reported, citing Japanese officials. About eight hours after the explosions, the U.N. weather agency said winds were blowing particles over the Pacific Ocean.

Fukushima Nuke Plant Situation 'Worsened Considerably': Think Tank (KYODON)

Kyodo News, March 16, 2011

The situation at the quake-hit Fukushima No. 1 nuclear plant in northeastern Japan "has worsened considerably," the Institute for Science and International Security said in a statement released Tuesday.

Referring to fresh explosions that occurred earlier in the day at the site and problems in a pool storing spent nuclear fuel rods, the Washington-based think tank said, "This accident can no longer be viewed as a level 4 on the International Nuclear and Radiological Events scale that ranks events from 1 to 7."

Noting that a level 4 incident involves "only local radiological consequences," it said the ongoing crisis is "now closer to a level 6, and it may unfortunately reach a level 7" -- a worst case scenario with extensive health and environmental consequences.

"The international community should increase assistance to Japan to both contain the emergency at the reactors and to address the wider contamination. We need to find a solution together," it said.

==Kyodo

Experts Had Long Criticized Potential Weakness In Design Of Stricken Reactor (NYT)

By Tom Zeller Jr.

New York Times, March 16, 2011

The warnings were stark and issued repeatedly as far back as 1972: If the cooling systems ever failed at a "Mark 1" nuclear reactor, the primary containment vessel surrounding the reactor would probably burst as the fuel rods inside overheated. Dangerous radiation would spew into the environment.

Now, with one Mark 1 containment vessel damaged at the embattled Fukushima Daiichi nuclear plant and other vessels there under severe strain, the weaknesses of the design — developed in the 1960s by General Electric — could be contributing to the unfolding catastrophe.

When the ability to cool a reactor is compromised, the containment vessel is the last line of defense. Typically made of steel and concrete, it is designed to prevent — for a time — melting fuel rods from spewing radiation into the environment if cooling efforts completely fail.

In some reactors, known as pressurized water reactors, the system is sealed inside a thick steel-and-cement tomb. Most nuclear reactors around the world are of this type.

But the type of containment vessel and pressure suppression system used in the failing reactors at Japan's Fukushima Daiichi plant is physically less robust, and it has long been thought to be more susceptible to failure in an emergency than competing designs. In the United States, 23 reactors at 16 locations use the Mark 1 design, including the Oyster Creek plant in central New Jersey, the Dresden plant near Chicago and the Monticello plant near Minneapolis.

G.E. began making the Mark 1 boiling-water reactors in the 1960s, marketing them as cheaper and easier to build — in part because they used a comparatively smaller and less expensive containment structure.

American regulators began identifying weaknesses very early on.

In 1972, Stephen H. Hanauer, then a safety official with the Atomic Energy Commission, recommended that the Mark 1 system be discontinued because it presented unacceptable safety risks. Among the concerns cited was the smaller containment design, which was more susceptible to explosion and rupture from a buildup in hydrogen — a situation that may have unfolded at the Fukushima Daiichi plant. Later that same year, Joseph Hendrie, who would later become chairman of the Nuclear Regulatory Commission, a successor agency to the atomic commission, said the idea of a ban on such systems was attractive. But the technology had been so widely accepted by the industry and regulatory officials, he said, that "reversal of this hallowed policy, particularly at this time, could well be the end of nuclear power."

In an e-mail on Tuesday, David Lochbaum, director of the Nuclear Safety Program at the Union for Concerned Scientists, said those words seemed ironic now, given the potential global ripples from the Japanese accident.

"Not banning them might be the end of nuclear power," said Mr. Lochbaum, a nuclear engineer who spent 17 years working in nuclear facilities, including three that used the G.E. design.

Questions about the design escalated in the mid-1980s, when Harold Denton, an official with the Nuclear Regulatory Commission, asserted that Mark 1 reactors had a 90 percent probability of bursting should the fuel rods overheat and melt in an accident.

Industry officials disputed that assessment, saying the chance of failure was only about 10 percent.

Michael Tetuan, a spokesman for G.E.'s water and power division, staunchly defended the technology this week, calling it "the industry's workhorse with a proven track record of safety and reliability for more than 40 years."

Mr. Tetuan said there are currently 32 Mark 1 boiling-water reactors operating safely around the globe. "There has never been a breach of a Mark 1 containment system," he said.

Several utilities and plant operators also threatened to sue G.E. in the late 1980s after the disclosure of internal company documents dating back to 1975 that suggested that the containment vessel designs were either insufficiently tested or had flaws that could compromise safety.

The Mark 1 reactors in the United States have undergone a variety of modifications since the initial concerns were raised. Among these, according to Mr. Lochbaum, were changes to the torus — a water-filled vessel encircling the primary containment vessel that is used to reduce pressure in the reactor. In early iterations, steam rushing from the primary vessel into the torus under high pressure could cause the vessel to jump off the floor.

In the late 1980s, all Mark 1 reactors in the United States were also retrofitted with venting systems to help reduce pressure in an overheating situation.

It is not clear precisely what modifications were made to the Japanese boiling-water reactors now failing, but James Klapproth, the chief nuclear engineer for General Electric Hitachi, said a venting system was in place at the Fukushima plants to help relieve pressure.

The specific role of the G.E. design in the Fukushima crisis is likely to be a matter of debate, and it is possible that any reactor design could succumb to the one-two punch of an earthquake and tsunami like those that occurred last week in Japan.

Although G.E.'s liability would seem limited in Japan — largely because the regulatory system in that country places most liability on the plant operator — the company's stock fell 31 cents to $19.61 in trading Tuesday.

More US Relief Crews Exposed To Radiation In Japan (AP)

Associated Press, March 16, 2011

WASHINGTON – More US military crews were exposed to radiation Tuesday as the Pentagon ramped up relief flights over a Japan reeling from an earthquake, tsunami and nuclear crisis.

The Defense Department said the Navy started giving anti-radiation pills to some of those exposed, and Americans on two military bases south of Tokyo were advised to stay indoors as much as possible. Meanwhile, US aviation and energy officials also worked with Japanese counterparts on the nuclear developments.

With more aid for victims on the way, the US Navy said it was redirecting three ships to work in the Sea of Japan on the country's west coast rather than risk the hazards of radiation and the debris field in the waters off the east coast.

Sensitive air monitoring equipment on the aircraft carrier USS George Washington detected low levels of radioactivity from the Fukushima Dai-ichi nuclear power plant as the carrier sat pier-side at Yokosuka, Cmdr. Jeff Davis, a spokesman for the US 7th Fleet, said Tuesday.

Davis said that while there was no danger to the public from the radiation levels, the commander recommended as a precaution that military personnel and their families at the two bases, Yokosuka and Naval Air Facility Atsugi, limit their outdoor activities and seal ventilation systems at their homes as much as possible.

At the White House Tuesday, spokesman Jay Carney said that unlike some other countries the US was not recommending that American citizens leave Tokyo over radiation concerns. Tokyo is about 170 miles from the nuclear plant and slightly elevated radiation levels were reported in the capital, but Japanese officials said the increase was too small to threaten the 39 million people in and around the city.

Nonetheless, Austria said it is moving its embassy from Tokyo to Osaka and France recommended that its citizens leave the Japanese capital.

Carney said that US officials have determined American citizens in Japan should follow the same guidance Japan is giving to its own citizens. The Japanese government has warned people within 20 miles of the nuclear reactor complex damaged in the earthquake and tsunami to stay indoors to avoid exposure, but officials have said radiation levels in Tokyo didn't represent a threat.

The US embassy in Tokyo has told Americans to avoid traveling to Japan.

The Navy said Monday that radiation was detected by another carrier, the USS Ronald Reagan, and that 17 helicopter crew members had to be decontaminated after returning to the Reagan from search and rescue duty. The Navy said more crews were exposed to very low levels of radiation Tuesday and had to be decontaminated.

Potassium iodide pills were given to a small number of those crew members as a precaution, said Col. Dave Lapan, a Defense Department spokesman.

The Reagan strike group — which includes seven other ships — flew 29 missions Tuesday to deliver 17 tons of food, water, blankets and other relief supplies ashore.

"We continue to monitor the winds closely, moving our ships and aircraft as necessary to avoid the wind line from the Fukushima power plant," Davis said. "Our aircraft and aircrews returning from missions ashore are being monitored carefully for contamination, and we are conducting decontamination procedures as necessary when it is detected."

A three-ship amphibious group, including the 31st Marine Expeditionary Unit aboard the USS Essex, was directed to position itself in the Sea of Japan and was to arrive Thursday for other relief duties.

Meanwhile, Energy Secretary Steven Chu said his department has assembled a team of 34 people and sent 7,200 pounds of equipment to Japan to help monitor and assess the situation with the nuclear reactors.

Carney said Tuesday that President Barack Obama has asked US nuclear regulators to incorporate information and lessons learned from the Japan incident into its overall reviews of the safety and security of reactors in the US

And the Federal Aviation Administration said the United States is working closely with Japan to ensure that problems associated with a stricken nuclear power plant do not jeopardize air travel safety. Spokeswoman Laura Brown said the Japanese civil aviation authority "has established flight restrictions keeping civil aviation flights away from the Fukushima facility" and said US airlines have indicated they are complying with the new rules.

"There is no credible information available at this point indicating the need for further restrictions," Brown said in a statement Tuesday, adding that if the situation worsens the FAA is prepared reroute air traffic or take other measures.

US Military Steps Up Quake Relief Efforts (WSJ)

By Nathan Hodge

Wall Street Journal, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

More US Relief Crews Exposed To Radiation In Japan (AP)

Associated Press, March 15, 2011

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Chu: Energy Dept. In 'Close Contact' With Japan On Nuclear Crisis (HILL)

By Ben Geman

The Hill, March 16, 2011

Energy Secretary Steven Chu told a House panel Tuesday the department is deploying over 30 people to Japan to address the nuclear reactor crisis.

Chu, appearing before the House Appropriations Committee panel that sets Energy Department spending, said DOE and Nuclear Regulatory Commission (NRC) officials are in "close contact" with Japanese officials.

Officials sent to Japan include a nuclear engineer who speaks Japanese and an emergency response representative deployed as part of the US Agency for International Development Disaster Assistance Response Team, Chu said.

"We are positioning Consequence Management Response Teams at US consulates and military installations in Japan. These teams have the skills, expertise and equipment to help assess, survey, monitor and sample areas. They include smaller groups that could be sent out to gather technical information in the area," Chu said.

"We have sent our Aerial Measuring System capability, including detectors and analytical equipment used to provide assessments of contamination on the ground," he added about the effort, which includes 34 people.

Chu reiterated White House comments in recent days that the administration plans to learn from the Japanese crisis but remains committed to nuclear power as a key piece of meeting the nation's energy needs.

"The American people should have full confidence that the United States has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly. Information is still coming in about the events unfolding in Japan, but the administration is committed to learning from Japan's experience as we work to continue to strengthen America's nuclear industry," Chu said.

Chu noted that US officials have long considered the potential for events such as earthquakes and tsunamis.

He reiterated the administration's request to add $36 billion to DOE's loan guarantee authority to help the industry finance development of the first new US reactors in decades. The administration has made one commitment thus far, last year pledging an $8.3 billion guarantee to Southern Co. for two planned reactors in Georgia. But that project still must gain NRC approval to go forward.

"Nuclear energy ... has an important role to play in our energy portfolio," Chu said, noting that the administration "believes we must rely on a diverse set of energy sources, including renewables like wind and solar, natural gas, clean coal and nuclear power."

Radiation Monitoring Equipment In Japan Shortly: Chu (REU)

Reuters, March 16, 2011

Full-text stories from Reuters currently cannot be included in this document. You may, however, click the link above to access the story.

As Japan Crisis Unfolds, Energy Secretary Steven Chu Fails Nuclear And Leadership Test (FOX)

By Iain Murray

FOX News, March 16, 2011

With reactors at the Fukishima Daiichi nuclear plant in danger of a meltdown, the world waits with bated breath for the outcome. Interestingly, physicists, the people who typically know the most about nuclear reactions, appear to be less concerned than the general public. This should be a time for the country's most important physicist, Energy Secretary Steven Chu, to step up to the plate and explain to Americans why he is not worried. Instead, the Secretary is missing in action.

At first glance, the events at Fukishima seem like a perfect illustration of Murphy's Law – "If something can go wrong, it will." First the plant was hit by an earthquake seven times stronger than it was designed to withstand, but withstand it did. Control rods were immediately lowered into the core and the chain reaction stopped. Backup power kicked in.

Then a massive tsunami hit the plant, reportedly demolishing several key installations and knocking out the backup power. The plant continued to run on emergency power.

When the emergency power ran out, the backup emergency power didn't work (due to backup facilities using the wrong plugs, according to some reports). Hydrogen buildup from the rapidly heating core caused explosions in the shell (which is designed to keep the elements out, not radiation in). Attempts to cool the reactor with seawater started too late, leading to the fuel rods being exposed rather than covered in coolant.

Fortunately, even Murphy's Law has its exceptions. Despite all these problems, the reactor – at this writing – was damaged but not yet in meltdown. No one had been exposed to dangerous amounts of radiation and no dangerous material had been released into the surrounding environment. In other words, despite virtually everything going wrong in unforeseeable ways, the reactor has as yet caused no wider harm to people.

Yet you wouldn't know that from the loud calls by politicians and environmental advocacy groups for the United States to abandon nuclear power, claiming it is inherently dangerous.

The Obama administration, to its credit, disagrees. Its proposed energy plan relies on the building of 100 new nuclear reactors in the near to medium term, to allow us to replace coal as America's main generator of electricity. During Monday's White House press briefing, spokesmen from the Department of Energy and the Nuclear Regulatory Commission told reporters that the events in Japan gave no reason to abandon this plan.

Such statements from middle-rank officials are likely to be ignored, and could thus hobble the president's own energy policy. Yet sitting near President Obama around the Cabinet table is our energy secretary who just also happens to be a Nobel-prize winning physicist. Steven Chu has both the authority and the credibility to put paid to scaremongering and refocus America's energy debate to where it should be: the price of oil.

So far, however, Secretary Chu has shown no willingness to tackle public fears regarding the crisis in Japan, beyond a few words of boilerplate at a House hearing on the Energy Department budget on Tuesday morning. One would assume that the

White House would want Dr. Chu to be actively making the case for its energy policy—unless they think that the Secretary is simply not up to the job.

This is especially unfortunate when major environmental advocacy groups (including some with whom Secretary Chu has associated) have exploited the Japanese disaster for political advantage.

Sadly, America's news organizations have taken their bait, by shifting their focus away from the massive devastation and thousands of dead and concentrating instead on something that has yet to kill anyone. I wouldn't be surprised if Greenpeace's donations have gone up—perhaps at the expense of the Red Cross.

Steven Chu is uniquely placed to shift the nation's attention to where it needs to be. The fact that he has not done so exhibits a massive failure of leadership.

Iain Murray is a Vice President at the Competitive Enterprise Institute.

Japan Disaster Another Worry For Global Economy (AP)

By Erika Kinetz, AP Business Writer

Associated Press, March 16, 2011

Japan's earthquake and nuclear crisis have put pressure on the already fragile global economy, squeezed supplies of goods from computer chips to auto parts and raised fears of higher interest rates.

The disaster frightened financial markets in Tokyo and on Wall Street on Tuesday. Japan's Nikkei average lost 10 percent, and the Dow Jones industrials fell so quickly after the opening bell that the stock exchange invoked a special rule to reduce volatility.

Yet the damage to the US and world economies is expected to be relatively moderate and short-lived. Oil prices are falling, helping drivers around the world. And the reconstruction expected along Japan's northeastern coast could even provide a jolt of economic growth.

A weaker Japanese economy could help ease global commodity prices because Japan is a major importer of fuel, agricultural products and other raw materials, notes Mark Zandi, chief economist at Moody's Analytics. Oil prices fell more than $4 to $97.18 a barrel Tuesday because of expectations that quake damage will slow Japan's economy and reduce its demand for energy.

Even "assuming a drastic scenario," Bank of America economist Ethan Harris estimates, the disaster would shave just 0.1 percentage point off global economic growth — to 4.2 percent this year.

"Japan has not been an engine of global or Asian growth for some time," says Nariman Behravesh, chief economist at IHS Global Insight. "This means that the impact of much lower Japanese growth on the world economy will be probably limited and small."

Japan is only half as important to the world's economy as it was during its last major disaster, the 1995 Kobe earthquake. And the area hit hardest by Friday's quake accounts only about half as much economic output as the area damaged by the Kobe quake, the Organization for Economic Cooperation and Development estimates.

Japan proved resilient after the Kobe quake: Manufacturers returned to normal production levels within 15 months, according to the CLSA. Four in every five shops were back open in a year and a half. All told, Japan's comeback defied dire warnings that it would take a decade to rebuild.

Autos and auto parts make up more than one-third of US imports from Japan. As a result, shutdowns of Japanese auto factories could disrupt production at US plants owned by Japanese automakers.

At the same time, some US auto parts makers could benefit if Japanese plants in the United States substitute US parts for those they usually get from Japan, Behravesh says.

A big wild card is the fate of Japan's damaged nuclear power plants. The Fukushima Dai-ichi plant, the center of the concern, let off a burst of radiation on Tuesday. Radiation levels in the surrounding area subsided by evening, but unease in Japan did not.

"If the nuclear crisis turns into a full-blown catastrophe, then the negative effect on growth this year will be much larger," IHS' Behravesh says.

Another unknown is the impact of the disruptions to Japan's power supplies. Behravesh estimates about 10 percent of Japan's electricity generation could be off line for several months. If so, that would disrupt steel, auto and other production.

Investors fear that Japan will struggle to finance reconstruction, which is expected to cost the government at least $200 billion. The Japanese government's debt is already an alarming 225 percent of the country's economic output.

Some worry that Japan will sell some of its vast holdings of US government debt to raise money. Doing so would push the prices of US Treasury bonds down and yields up, raising US interest rates.

But Treasury Secretary Timothy Geithner on Tuesday dismissed the fears of a Japanese fire sale of Treasury debt.

"Japan is a very rich country and has a high savings rate," he said. It "has the capacity to deal not just with the humanitarian challenge but also the reconstruction challenge they face ahead."

What's more, the Bank of Japan has been buying Treasurys and other assets as it pumps money into the financial system to restore calm.

For now, though, the latest quake, the resulting tsunami and the threat of contamination from a damaged nuclear plant have spooked financial markets. Investors are fretting about the effects on companies around the world. Japan, the world's third-largest economy, accounts for about 10 percent of US exports.

The Dow Jones industrials rebounded after starting the day down almost 300 points. They closed down 137 points, or more than 1 percent. The futures markets, which can indicate whether stocks will rise and fall, looked so pessimistic before the opening bell on Wall Street that the stock exchange invoked a special rule designed to ease volatility.

Stocks plunged 5 percent in Germany and 4 percent in France. And in Japan, the benchmark Nikkei average lost more than 10 percent of its value in a matter of hours.

The quake damaged roads, ports, airports and factories in Japan, disrupting the shipment of goods in and out. The disaster blindsided multinational companies that were bracing for trouble in their transportation lines on the other side of the world — at the Suez Canal or elsewhere in the Middle East where protests are destabilizing countries from Bahrain to Libya, says Patrick Burnson, executive editor of Supply Chain Management Review.

It's shut down auto and auto parts factories. Analysts at Tong Yang Securities in South Korea "do not expect production to normalize any time soon" in Japan. Even plants that stay open may have to wait for parts to arrive, a problem made worse because so many factories follow just-in-time supply management and keep few parts on hand.

Car plants in Thailand could have a harder time getting steel, much of which is imported from Japan.

Japan is a major supplier of NAND flash memory chips, commonly used in portable electronics. Japan-based Toshiba Corp., a big maker of the chips, was among the technology companies that temporarily closed facilities.

Prices for the chips jumped 10 percent from before the earthquake to Monday and another 3 percent Tuesday, according to Jim Handy, a director at Objective Analysis and an expert on the electronics and semiconductor industries.

The "wafers" that are key building blocks of computer chips are also commonly made in Japan. A shortage could pinch big buyers such as Intel Corp., the world's biggest semiconductor company, and Texas Instruments Inc. — though one firm, Barclays Capital, believes Texas Instruments has enough in stock to get by. Supplies are lean, though, of capacitors and other electronics used in cellphones, which are also often made in Japan. Nokia Corp. relies heavily on Japan for those electronics.

Chinese companies are bracing themselves for losses and delays from disruptions in shipments of high-end electronics and auto components from Japan and some are looking for import replacements from South Korea or Taiwan, according to the International Business Daily, the official paper of China's Commerce Ministry.

Some analysts note that companies and consumers that now buy Japanese products can often find alternatives made elsewhere.

"What is made in Japan now has lots of competitive alternatives that didn't exist 25 years ago," says Peter Morici, a professor at the University of Maryland and a former director at the US International Trade Commission. "If there aren't as many Camrys in the country this year as there might have been, you might have a couple hundred thousand additional Ford customers. If those people have good experiences with those cars, it could change buying patterns for life."

David Rea, an economist with Capital Economics in London, said, "You'll have Japan's competitors — largely South Korea and Taiwan who are in high end manufacturing, and China as well — come in and undercut Japanese businesses experiencing disruption from the earthquake."

If Japan's infrastructure doesn't get rebuilt quickly enough, Japanese companies may transfer production overseas to pick up the slack, Rea added.

The reconstruction of Japan's northeastern coast might also provide business opportunities for foreign countries. Malaysian timber, for instance, will likely be needed to rebuild homes and other buildings. IHS predicts that the quake will "ultimately boost" US exports to Japan.

Japan's Disruption Throws A Wrench Into World's Economic Gears (MCT)

By Kevin G. Hall

McClatchy, March 16, 2011

WASHINGTON — The disaster unfolding in Japan provided a stark reminder Tuesday of how interconnected the global economy has become, with the price of stocks and commodities skidding everywhere as investors weighed how long one of the world's economic engines will be sputtering.

Investors fretted over how deep the damage is to manufacturing of automotive and telecommunications equipment in Japan, the world's third-largest economy and America's fourth-biggest trade partner.

Japanese manufacturing is deeply integrated into the US and Chinese economies — the world's two largest — so there's ample reason for worry. How quickly Japan recovers will affect everyone from Australian coal miners who export to Japan, to Chinese manufacturers who assemble parts made in Japan, to US dock workers who handle freight from both China and Japan.

Most experts think Japan's production problems will be short-lived, but not without economic dislocations felt around the globe.

"Natural disasters tend to cause short-term displacements that tend to reverse," said Martin Regalia, chief economist for the influential US Chamber of Commerce. "At some point, we're going to be selling into the Japanese economy equipment and products and resources to get them going again, and that will be positive for those sectors of the US economy that do that."

The prospects of rolling power outages and damage to the Japanese power grid were a main concern globally Tuesday, as investors tried to measure how global trade in oil, natural gas and coal will be affected by the deepening problems in Japan.

Concern about Japan sent the Dow Jones Industrial Average down 296 points initially after Tuesday's opening. Buoyed later by a positive statement from the Federal Reserve, US stocks recovered partially from their initial plunge to send the Dow to a more modest drop of 137.74 points to 11,855.42.

Japan's Nikkei index skidded to close down almost 10.6 percent, a massive drop. Taken with losses on Monday, Japanese stocks have lost almost a fifth of their value since last Friday's earthquake, tsunami and subsequent crisis at several nuclear reactors.

This global financial turbulence affects ordinary Americans in ways they might not even know. Many US mutual funds have significant percentages of their assets invested in Japan. The nation's largest retirement-fund investor, Fidelity Investments, has its Japan Fund invested almost completely in Japan, as well as a Pacific Basin fund with more than one-third of its assets tied up in Japan. Similarly, investment giant Vanguard has a Pacific Stock Index fund with holdings in Japanese companies such as Toyota and Mitsubishi.

In one welcome economic ripple from Japan, the global price of benchmark West Texas Intermediate crude oil for April delivery settled down $4.01 at $97.18 on the New York Mercantile Exchange, as Japan's post-quake drop in demand outweighed fears of unrest in the Middle East.

The price of other commodities ranging from copper and lumber to coffee and sugar also fell on concerns that at least for the next month, there'll be a sharp drop in global demand with Japan on the sidelines.

What's clear is that Japan appears to have lost at least 10 percent of its power production. Not only is there significant damage to several nuclear reactors at the Fukushima Daiichi nuclear power plant, but coal-fired plants in the north were also damaged and coal supplies were soaked by the tsunami.

This all challenges Japan's manufacturing prowess, since industry needs electricity. Already automakers and cell-phone companies have been forced to shutter operations, at least temporarily, because of disruption to their famed just-in-time manufacturing processes; that's where manufacturers don't keep large inventories and instead rely on prompt delivery from suppliers on an as-needed basis.

"For the US companies, for Chinese companies, it could be a problem for a few weeks, or a month. The hardest hit will be autos, telecom — with things like cell phones," said Nariman Behravesh, chief economist for forecaster IHS Global Insight. "But sales of other cars and cell phones that aren't dependent on Japanese components may see a boost."

Another consequence of Japan's woes is that Japanese investment will turn increasingly inward. Japan has traditionally been the second-largest foreign investor in the United States after Great Britain, but it'll need to focus its investment on internal repair and restoration indefinitely now.

Japan was also the second-largest holder of US government debt last year, after China. There are some concerns that Japan's government could stop purchasing long-term US government bonds, driving up the interest rate the US government would have to pay to attract other investors.

"I think the concern here is exaggerated, in the sense that some private investors may want to divest their Treasury portfolio (investments) in an attempt to secure funds. But the impact of that would be for the yen to rise in value; that's the last thing the Bank of Japan and the Japanese government want," said Behravesh. He said that Japan's government would purchase even more US debt if necessary to drive down the value of its yen against the dollar in order to help Japanese exporters at such a crucial time.

Trade flows are also sure to be impacted. There's likely to be at least a temporary drop in freight moving through bustling US West Coast ports, such as Los Angeles-Long Beach, San Francisco and Seattle.

"We're trying to avoid the speculation. We're just kind of waiting to see if there are ship diversions, rerouting, and how affected the ports that are not damaged will be," said Phillip Sanfield, a spokesman for the Port of Los Angeles.

Most of the port's trade with Japan, which accounts for 15 percent of the cargo moving through Los Angeles and lags only trade with China, is with the ports of Tokyo and Kobe, which appear to be back in operation. Only 3 percent of the port's trade, measured in value, was with Sendai and other northern ports that were heavily damaged.

Global energy markets will have to adjust to new conditions in Japan, which generates about a third of its electricity from coal, about a quarter from nuclear plants and another quarter from natural gas. Australia and Indonesia are the largest coal suppliers to Japan, and although US coal exporters are not big players there, they are expected to benefit, as Japan needs more coal and natural gas to power its plants.

U.S-Japan Trade At a Glance

Japan is the fourth-largest US trading partner, after neighbors Mexico and Canada and the Asian power, China. Japan took in 4.8 percent of US exports in 2009, the last full year for which data is available. US manufacturers of medical equipment, aircraft and machinery depend heavily on Japanese purchases, as do US farmers and cattlemen.

US imports of Japanese goods accounted for 6.2 percent of all imports into the United States in 2009. Americans purchase imported cars and trucks from Japan, as well as machinery and components for use in final manufacturing or assembly.

The two countries invest heavily in each other as well. The stock of US foreign direct investment in Japan stood at $79.2 billion in 2008, the last full year for available US government data. Japanese foreign direct investment in the United States was three times that at $259.6 billion during the same year, according to State Department statistics.

Japan Adds To Global Economy Woes (WSJ)

By Patrick Barta, Yoshio Takahashi And Bob Davis

Wall Street Journal, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

US A Safer Haven Amid Global Financial Turmoil (LAT)

Most stock markets around the world have been battered in the aftermath of the Japan quake, but losses in the US have been relatively modest. Meanwhile, investors are pouring money into Treasury securities, driving their interest rates down.

By Tom Petruno And Nathaniel Popper, Los Angeles Times, 7:50 Pm Pdt, March 15, 2011

Los Angeles Times, March 16, 2011

Amid the turmoil in global financial markets, hiding out at home has been a decent strategy for US investors.

Escalating social unrest in the Middle East and North Africa over the last few weeks has triggered a rush of money into US Treasury securities, driving their interest rates down sharply.

And in recent days, while most major stock markets around the world have been battered in the aftermath of Japan's devastating earthquake and tsunami, US stocks have held up surprisingly well.

On Tuesday, Japan's Nikkei-225 stock index plunged 10.6% — its biggest one-day drop since October 2008 — as investors panicked over rising levels of radiation escaping from the stricken Fukushima nuclear power complex.

The sell-off in Japan dragged down markets across Asia and in Europe. Yet US stocks climbed back from steep early losses to finish with relatively modest declines. The Dow Jones industrial average ended down 137.74 points, or 1.2%, to 11,855.42, paring what had been a loss of nearly 300 points at the opening bell.

Global upheaval "makes the US a better safe haven," said Gail Dudack, head of Dudack Research Group in New York.

Investors often gravitate to the biggest and most liquid securities in times of trouble, which typically means markets in the US, Japan and Europe.

But Japan can't play that role now, given the massive uncertainty about its economy in the near term.

And concerns about Europe's government debt crisis still pervade those markets, despite the European Union's decision last week to beef up a bailout fund for the most financially distressed countries.

Late Tuesday, Moody's Investors Service downgraded Portugal's debt rating to A3 from A1 and said the outlook was negative. Although the country may be able to reduce its crushing debt costs by using the EU's bailout fund, "Questions would remain as to when the government would be able to re-access the capital markets and on what terms," Moody's said.

Although the US government's soaring debt burden remains a source of deep concern to many investors, Uncle Sam still has no trouble borrowing. And as stock markets have crumbled in recent weeks, safety-seeking investors have flocked back to Treasury securities, pushing their yields down.

The annualized yield on five-year T-notes plunged to a six-week low of 1.98% on Monday from 2.05% on Friday. The yield fell further early Tuesday before ending at 1.96%.

Falling interest rates mean bonds are rising in value.

On Wall Street, stocks have pulled back over the last three weeks after surging early in the year on optimism about the economic recovery. But the losses have been far smaller than the declines in Japan and Europe.

With Tuesday's drop, the Dow is down 4.3% from its multiyear high reached Feb. 18. By contrast, the Japanese market has plunged 21% in the same period and the average European blue-chip stock is down 8.6%.

Some emerging markets also have weathered the latest market turbulence better than investors might have expected. The Brazilian market has eased just 1.6% since Feb. 18 after being hit harder earlier in the year.

Still, it isn't clear that US stocks can avoid deeper losses, particularly if oil prices resume their climb because of conflict in the Middle East and North Africa.

"The risks for the US market are more subject to what happens in the Middle East than what is occurring in Japan," said Alan Ruskin, chief foreign currency strategist at Deutsche Bank in New York.

Oil prices tumbled Tuesday amid a general sell-off in commodities, as investors and traders dumped high-risk assets across the board.

Crude futures in New York fell $4.01 to $97.18 a barrel, the lowest closing price since Feb. 28, despite a declaration of a state of emergency in Bahrain as its government sought to put down the popular uprising challenging the monarchy.

Traders said worries about Middle East oil supplies were being offset, for now, by expectations of lower demand from Japan as its economy reels from the earthquake and tsunami.

Prices of corn, wheat, cotton and coffee also plummeted Tuesday.

"It's just, 'Get out of the risk' — because you don't know what's going to happen" in Japan, said Frank Lesh, a trader at FuturePath Trading in Chicago. "You don't stand in the way of this."

Even gold — usually a popular haven in times of turmoil — slid as some investors took profits from the metal's recent surge. Near-term gold futures in New York fell $32, or 2.2%, to $1,392.60 an ounce.

Rising raw-material costs stoked inflation pressures worldwide in recent months, but traders now are uncertain about commodity demand as Japan's woes raise fresh concerns about global growth.

"This gives us some breathing room" on commodity prices, said Jim Swanson, chief investment strategist at MFS Investment Management in Boston.

US stocks also were buoyed Tuesday after Federal Reserve policymakers, holding a regularly scheduled meeting, said in their post-meeting statement that the domestic economy appeared to be on "firmer footing, and overall conditions in the labor market appear to be improving gradually" since late January.

However, the Fed also pledged to continue with its program of buying Treasury bonds to help suppress interest rates and underpin growth. That $600-billion program will end as planned in late June, the Fed said.

Many stock market bears say Wall Street's powerful rally since late August has been fueled more by the central bank's easy-money policies than by economic fundamentals. Cheap money, critics say, has encouraged speculation in stocks and other high-risk assets.

But market bulls side with the Fed's view that the economy is gradually improving, which could underpin continued growth in corporate earnings. Analysts expect first-quarter operating earnings of the Standard & Poor's 500 companies to be up 13.5% from a year earlier, according to Thomson Reuters.

"The recipe is still there for the profit story to continue," Swanson said.

Some analysts say investors could soon begin focusing on the potential lift that Japanese rebuilding could give the global economy.

"When it comes to natural disasters, they destroy a lot, but in the effort to rebuild they generate a lot of new activity," said Jim Glassman, senior economist at JPMorgan Chase & Co. in New York. "The rebuilding effort is what really dominates in the long run."

Chris Rupkey, chief financial economist at Bank of Tokyo Mitsubishi in New York, said the panic that struck Tokyo shares Tuesday should subside as investors get more information about the extent of the damage at the Fukushima reactors and the threat it poses to the environment.

"If the radiation risk becomes known, this situation could calm down very quickly, and the Nikkei could come back an easy thousand points," Rupkey said.

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Wall Street Plummets On Japan Nuclear Threat (AFP)

AFP, March 16, 2011

NEW YORK (AFP) – Panic selling hit the US stock market Tuesday as traders worried that a nuclear meltdown in quake-hit Japan could threaten the global economy.

The Dow Jones Industrial Average fell around 1.8 percent by midday in New York, losing over 200 points.

The New York Stock Exchange invoked a rarely used rule to smooth volatility, but to little avail as the prospects of multiple nuclear meltdowns at the Fukushima No.1 complex haunted the market.

"The global equity markets are posting solid losses following reports of rising nuclear radiation levels in Japan after more explosions hit an already damaged nuclear power facility," said analysts at Charles Schwab.

Four days after the world's third largest economy was struck by a massive earthquake and punishing tsunami, traders are still no closer to having a clear picture about spill-over risks.

"It is still too early to tell what the full impact of the March 11 earthquake, tsunami and growing nuclear crisis on Japan's infrastructure, industrial base and economic growth will be -- let alone the broader global impacts," said Nariman Behravesh an economist with IHS.

Amid the concern, billions of dollars were wiped of US share values, with blue chip stalwarts General Electric, 3M Company, Bank of America and Caterpillar posting heavy losses.

Traders hedged against many Japan-related and nuclear-related stocks.

GE, which sells nuclear technology, was down 3.1 percent.

Toyota's US-traded shares fell 2.9 percent.

The Dow Jones Industrial Average was 212.07 points lower (1.77 percent) at 11,731.09 by 1600 GMT, after dropping nearly 300 points in the minutes after opening.

The tech-rich Nasdaq Composite dropped 45.14 points (1.67 percent) to 2,655.83 and the S&P 500-stock index, a broader measure of the markets, shed 22.78 points (1.76 percent) at 1,273.61.

That echoed earlier losses on indexes in Japan, Hong Kong and Europe.

Tokyo stocks suffered their biggest one-day fall since the 2008 Lehman shock on Tuesday, with the main Nikkei index ending 10.55 percent lower, after losing as much as 14 percent at one point.

Meanwhile the bond market fretted that Japan -- which is the second largest holder of US debt, holding $886 billion in January -- might trim back its US bond holdings.

But that fear was overshadowed by the perceived safe-haven provided by US debt, and bond prices firmed.

The yield on the 10-year Treasury bond fell to 3.29 percent from 3.35 percent late Monday, while that on the 30-year bond declined to 4.47 percent from 4.52 percent.

Bond yields and prices move in opposite directions.

Japan Crisis Puts World Financial Markets On Edge (AP)

Associated Press, March 16, 2011

NEW YORK – Fears over the escalating nuclear crisis in Japan overtook financial markets around the globe Tuesday, pushing stocks and other investments lower. The Japanese stock market lost 10 percent of its value, and Wall Street dropped steeply before bouncing back.

The Japanese Nikkei average fell to its lowest level in nearly two years after the country's prime minister said four crippled reactors at a nuclear power plant on the country's devastated coast were leaking dangerous amounts of radiation.

In the US, the Dow Jones industrial average fell almost 300 points at the opening bell. The futures market, which can indicate how stocks will perform, looked so ugly before trading began that the New York Stock Exchange invoked a special rule to smooth volatility.

The Dow recovered somewhat later in the day but still closed down 138 points, or more than 1 percent.

"It's a situation where you sell first and ask questions later," said Peter Cardillo, chief market economist at New York-based brokerage house Avalon Partners.

Investors sold stocks primarily because of fear that the disaster in Japan would slow down the global economy. Japan is the world's third-largest economy, manufacturing goods from computer chips to automobiles, and buys 10 percent of US exports.

The jarring day came less than a week after the two-year anniversary of the low point for the markets after the 2008 financial crisis. Stocks have almost doubled in value since March 9, 2009.

Over the last five trading days, however, the Standard & Poor's 500 index has nearly lost 3 percent because of higher oil prices, signs of weaknesses in China's economy, and the still unknown impact of the quake and tsunami in Japan.

"Markets are going to remain on edge until we know the full extent of the situation in Japan," said Michael Ryan, chief investment strategist with UBS Wealth Management.

The Japanese markets have taken a huge hit since the quake and tsunami struck last week. The Nikkei average fell a staggering 10.6 percent Tuesday, more than 1,000 points, and has suffered its worst two-day loss in 40 years.

In addition to Japan, investors on Wall Street fretted about the Middle East, where Saudi Arabian troops moved into Bahrain and Libya's oil exports ground to a halt because of the rebellion against leader Moammar Gadhafi. Government bonds and other assets considered safer investments rose in price.

Stocks pared earlier losses after the Federal Reserve said that the US economy was on "firmer footing." Still, 29 out of the 30 stocks that make up the Dow industrial average closed lower for the day.

Intel Corp., and Cisco Systems Inc. had the steepest falls, in part because they depend on Japanese factories for products or parts. Insurer Aflac Inc., which does 75 percent of its business in Japan, fell nearly 6 percent, the biggest drop in the S&P 500.

The Dow Jones industrial average closed down 137.74 points, or 1.1 percent, at 11,855.42. The S&P fell 14.52 points to 1,281.87. All 10 types of companies that make up the index finished lower. Utilities had the largest fall, losing 1.9 percent, because of concerns that the disaster in Japan will make countries rethink plans for nuclear energy. First Solar, a company that makes solar panels, gained 8.1 percent to lead the S&P index.

The Fed's statement pushed government bond prices down from their highest levels of the year. Bonds typically rise when investors seek safer assets and fall when the economy is growing.

In response to questions from the Senate Banking Committee on Tuesday, Treasury Secretary Timothy Geithner dismissed worries that Japan, which holds the most American government debt after China, would sell its holdings to pay for its rebuilding efforts.

"Japan is a very rich country and has a high savings rate," he said. It "has the capacity to deal not just with the humanitarian challenge but also the reconstruction challenge they face ahead."

If Japan dumped its holdings, it could force Treasury prices down and yields up. That would force long-term interest rates higher and put the US economic recovery at risk.

The opposite happened after an earthquake devastated Kobe, Japan, in 1995, according to a report from economists at the Royal Bank of Canada. By 1997, Japan had actually doubled its Treasury holdings to $300 billion.

The yield on the benchmark 10-year Treasury note fell to 3.32 percent from 3.36 late Monday.

Oil prices fell $4 to $97.18 a barrel, their lowest level in two weeks, because demand for energy is expected to fall in Japan, the world's third-largest importer of oil. Questions over how long it will take the Japanese economy to recover pushed commodity prices lower around the globe. Wheat, corn, and sugar contracts all fell by 5 percent or more.

World Markets Dive As Investors Retreat To Safety (NYT)

By Graham Bowley

New York Times, March 16, 2011

The financial aftershocks from the earthquake in Japan gathered force on Tuesday as investors fled from riskier assets like stocks, oil and gold amid growing worries that the crisis could slow a global economy that only recently seemed to be getting back on its feet.

Unnerved by a 16 percent drop in Japanese shares in the first two trading days of the week, stock markets slumped as investors sought safe havens like United States dollars and Treasury bonds, pushing interest rates lower. By the close of trading in New York, however, shares of United States companies recovered some of their losses after the Federal Reserve said it would keep its accommodative monetary policy in place to stimulate the United States economy.

The Fed's announcement brought calm on a day of market turmoil that raised painful memories for some of 2008, when the financial crisis froze capital markets and precipitated a similar rush for safety. "This was a very scary day for global stock markets," said Carl B. Weinberg, chief economist at High Frequency Economics.

After the roller-coaster session, the Standard & Poor's 500-stock index, which at one point had been down 35 points, closed down 14.52 points, or 1.12 percent, at 1,281.87. On Wednesday in Tokyo, markets regained some lost ground, climbing 6.2 percent in the first half-hour of trading.

But on Tuesday, the uncertainty extended to energy markets, as analysts warned that diminished growth in Japan could prompt a sharp decrease in oil demand.

"We don't know the extent to which the post-tsunami Japan is going to grow, and whether or not there will be consequences for other countries as well," said Chris Lafakis, an energy economist for Moody's Analytics.

Amid the flight to safety, oil prices fell $4.01 to settle at $97.18 a barrel, while gold dropped $30.70 to close at $1,395.70 an ounce. The Treasury's 10-year note rose 14/32, to 102 22/32. The yield fell to 3.30 percent, from 3.36 percent late Monday.

The central fear is that the disaster — especially the danger of increased radiation exposure from stricken Japanese nuclear reactors — could rip a big hole in the supply lines of the world's third largest economy and set back the global recovery.

Indeed, some of the first ripples reached the United States on Tuesday as Subaru said it was canceling all overtime at its plant in Lafayette, Ind., which builds the Outback, Legacy and Tribeca models, in order to reduce the chance that it will run out of some parts from Japan.

"The main economic shock is not the direct loss of business, but spillover effects in terms of damage to the power and transportation industries and disruptions to the supply chain," said Ethan S. Harris, an economist at Bank of America Merrill Lynch. "Specifically, many auto and electronics firms rely on the affected region for parts."

As a result of the volatility, several debt offerings were postponed, while Toys "R" Us was forced to delay a planned syndicated loan.

The ultimate impact on world growth is likely to be small, however. "The quake-ravaged economy, the world's third largest, could lower economic activity in Japan as much as one percentage point, and shave off worldwide growth 0.2 percentage point in 2011," said Bernard Baumohl, an economist at the Economic Outlook Group.

The region affected by the quake accounts for only about 6 percent of Japanese gross domestic product, and economists calculate that the short-term effects might be eventually offset as Japan spends hundreds of billions to rebuild.

Closer to home, a temporary reduction in American exports to Japan might trim 0.1 to 0.2 of a percentage point from United States economic growth in 2011, according to Stuart Hoffman, chief economist at PNC.

One major exporter, General Electric, which designed the reactors at the Fukushima nuclear plant, fell for the second day in a row, closing down 1.6 percent at $19.61. G.E. has either built or licensed 92 nuclear reactors now operating worldwide — about 20 percent of the global total, according to Michael Tetuan, a spokesman for General Electric.

But nuclear power development remains a small part of the company's overall operation; it produces reactors in partnership with Hitachi. The business accounted for just $1 billion in revenues in 2010 — a tiny fraction of the $85 billion generated by its industrial supply business.

"Nuclear is not a major piece of the puzzle for G.E.," said Daniel Holland, an analyst with the investment research firm Morningstar. "This doesn't move the needle a whole bunch."

Despite the problems in Japan, the Japanese yen strengthened, as speculation increased that big Japanese investors like pension funds and banks — Japan is the second-largest holder of United States Treasuries — would dump their overseas holdings and buy yen to return cash home.

At the same time, there were signs that investors were unwinding other trading positions. With interest rates near zero at home, Japanese investors used yen to buy Australian and Canadian dollars, as well as the Brazilian real, in order to invest in higher-yielding assets there. Other foreign investors placed similar bets, bullish on those countries' growth prospects.

But as demand for the yen picks up, those currencies have weakened. Indeed, the Canadian dollar fell 1.5 percent on Tuesday morning, while the Australian dollar fell around 2 percent. The Brazilian real has fallen nearly 4 percent since Friday.

Across Wall Street, traders said the initial reaction among many hedge funds and institutional investors to the Japanese crisis was to sell first and ask questions later.

"It's definitely been risk-off since Friday," said Ward McCarthy, chief financial economist with Wall Street investment bank Jefferies & Company. "Uncertainty tends to breed a desire for safety. As it becomes easier to assess what all of the ramifications are, I suspect that will recede."

For instance, Robin Thorn, who oversees the $1.3 billion PineBridge Global Equities mutual fund, decided on Sunday evening to cut the fund's 9 percent position in Japanese stocks in half.

With the help of his team of more than two dozen analysts in Tokyo — many who have been sleeping in their offices — Mr. Thorn sold off companies that had exposure to nuclear-plant construction. "That turned out to be the right thing in the shorter term," Mr. Thorn said.

But Mr. Thorn said he and his team were also looking for buying opportunities, saying he had increased the fund's stake in companies that will play a role in Japan's rebuilding.

And on Tuesday afternoon as Japanese American Depositary Receipts and exchange-traded funds rebounded sharply from early lows, Mr. Thorn said he expected Japanese markets to rally.

"We feel a lot of the emotional selling has been done," Mr. Thorn said. "And it's clear through the action of US-based investors today that people are now trying to look for bargains."

Markets Take Fright At Nuclear Crisis (FT)

By Richard Milne And Javier Blas In London

Financial Times, March 16, 2011

Full-text stories from the Financial Times are available to FT subscribers by clicking the link.

Japan Crisis Revives Global Nuclear Debate (WP)

By Keith B. Richburg

Washington Post, March 16, 2011

BEIJING — The crisis in Japan has revived anti-nuclear passions around the world, putting governments on the defensive and undermining the nuclear power industry's recent renaissance as the clean energy of the future.

In the most dramatic move, German Chancellor Angela Merkel announced Tuesday that all seven of the country's nuclear power plants built before 1980 would be shut down, at least for now, as safety checks are conducted. The decision came one day after the government, facing strong public opposition to nuclear energy ahead of upcoming regional elections, suspended plans to extend the life of its aging plants.

Switzerland, with five reactors, announced Monday that it would freeze plans to build or replace nuclear power plants, and Austria called for new stress tests on plants across Europe.

Yet other countries, including Italy, where a Franco-Italian partnership is planning to start construction on a nuclear plant in 2013, have called for calm, with authorities saying the crisis should not derail plans to expand nuclear energy.

White House officials defended the use of nuclear power in the United States, which President Obama has embraced throughout his administration. "At this time, we don't have any information that would cause us to do anything different," Gregory B. Jaczko, chairman of the Nuclear Regulatory Commission, said at a White House briefing Monday.

In France, where nuclear plants produce 80 percent of electricity, the Japanese calamity reenergized a long-dormant political debate about the country's heavy reliance on nuclear power.

Government officials sought to reassure the public that France's more than 50 nuclear plants are safe, and President Nicolas Sarkozy told his political coalition that the plants were among the safest in the world.

The main opposition Socialist Party was divided, with key leaders saying it would be foolhardy to abandon a nuclear energy program that has stood since the 1970s but several Socialist figures demanding a reconsideration of nuclear safety measures.

Europe Ecology-Greens Party activists, long opposed to nuclear power, called for a referendum on whether France should get out of the nuclear business and accused the government of playing down the risks.

"We have to end the myths," said Cecile Duflot, a prominent Green leader. "Zero-risk nuclear power production does not exist."

In Russia, Ukraine and Belarus — which will mark the 25th anniversary of the Chernobyl disaster this April — the crisis in Japan has served as a reminder of the dangers of nuclear power, but national leaders say they don't see any alternative.

Russia is building six new nuclear power plants and has plans for more. It also recently signed an agreement with Belarus to build one there.

Ukrainian Prime Minister Mykola Azarov said Tuesday that Kiev is moving ahead with plans to build two new reactors at the Khmelnytsky power plant. "I believe there is no possible alternative to the use of nuclear energy," he said at a news conference during a visit to Istanbul, "and only rich countries can afford to discuss the possibility of closing" nuclear plants.

Environmental groups disagree. "The example of Japan vividly demonstrates that even if properly maintained, nuclear power engineering is extremely dangerous," Greenpeace Russia head Ivan Blokov told Interfax on Monday.

In Britain, where officials have laid out plans for a new generation of 10 nuclear power plants, the government has commissioned a fresh report on nuclear safety, while opponents vowed a new campaign of public pressure.

"The risks from nuclear energy remain unchanged; there were always risks," said Stephen Tindale, a British environmentalist. "But they will clearly need to be properly reassessed in the light of what's happening in Japan, and that's inevitably going to mean that the nuclear renaissance is going to be a smaller renaissance than it would have been."

Even in tightly controlled China, a debate on nuclear safety seemed to be underway.

According to the London-based World Nuclear Association, China has 13 nuclear power reactors in operation and 27 others under construction. An additional 50 reactors are in the planning stage, and more than 140 others have been proposed, the association says. China, like Japan, is prone to earthquakes.

Government officials have said China's nuclear program, the world's most ambitious, will continue unabated, but they have also tried to allay fears about the potential dangers. Officials have said the plants being built here, unlike Japan's older plants, are new-generation models that do not rely on electrical power for their cooling systems but instead are fitted with large tanks of water operating by gravity in the event of a crisis.

But concern about the possibility of a nuclear leak in China dominated discussions on the country's burgeoning microblogging sites, the country's newest forum for the public to voice unfettered views.

"How many nuclear power plants are there in our country? Are they all far away from the seismic zones . . . ?" Zheng Yuanjie, a well-known author of children's books, wrote on his microblog.

In Taiwan, environmentalists, civil engineers and the opposition party called for the government to immediately halt construction of a fourth nuclear plant, slated to go online in late 2012. Just 100 miles off the coast of China, Taiwan lies on the same arc of tectonic plates as Japan.

Trying to allay public fears, President Ma Ying-jeou ordered safety checks Tuesday of Taiwan's three existing plants but dismissed calls to put the fourth plant on hold.

In India, activists and villagers who have waged a two-year struggle against a proposed nuclear plant in Jaitapur, in Maharashtra state, said the events in Japan have given them a new tool to fight the government.

"What is happening in Japan has reenergized our opposition to the nuclear plant here," said Vaishali Patil, an anti-nuclear campaigner.

The proposed plant will be built by the French company Areva. India now has 20 nuclear reactors in seven power plants.

The Indian government set aside sites for American, French and Russian-built nuclear reactors across the country after New Delhi signed a landmark 2005 nuclear accord with the Bush administration.

India's environment minister, Jairam Ramesh, said Tuesday that "if additional safeguards have to be built in as part of the environmental clearance, we will certainly look at it."

Germany Shuts 7 Reactors For 3-Month Review (NYT)

By Judy Dempsey

New York Times, March 16, 2011

BERLIN — With the crisis in Japan raising fears about nuclear power, Chancellor Angela Merkel said on Tuesday that she will temporarily shut down seven German nuclear power plants that began operations before the end of 1980 as officials begin a three-month safety review of all of the country's 17 plants.

The move came as European energy ministers in Brussels considered the introduction of stress tests in order to see how the bloc's 143 nuclear plants would react in emergencies. Construction procedures too might be reassessed, according to Olivier Bailly, a spokesman for the European Union Commission.

"We really need to have a better view of the operation in Europe," Mr. Bailly said as energy ministers met. Nuclear safety will also be raised at the G-20 summit meeting, which will be held in France at the end of the month, Mrs. Merkel said, adding that she had already spoken with Nicolas Sarkozy, the French president.

Mrs. Merkel said the shutdowns in Germany were based on a government decree. Germany is one of the first European countries to halt operations at some reactors in response to the nuclear disaster in Japan. Mrs. Merkel made the announcement after holding emergency talks with the leaders of the 16 German states. The closure of the seven plants means that Germany will have to speed up the development of alternative energy sources, such as renewables, wind and solar power.

It was not immediately clear if the seven plants would remain closed after the end of the three-month review period, said Environment Minister, Norbert Röttgen who briefed reporters after the meeting. On Monday, Switzerland joined Germany in saying that it would reassess the safety of nuclear reactors and possibly reduce reliance on them.

Doris Leuthard, the Swiss energy minister, said Switzerland would suspend plans to build and replace nuclear plants. She said no new ones would be permitted until experts had reviewed safety standards and reported back. Their conclusions will apply

to existing plants as well as planned sites, she added. Swiss authorities recently approved three sites for new nuclear power stations.

Germany will suspend "the recently decided extension of the running times of German nuclear power plants," Chancellor Angela Merkel told reporters in Berlin. "This is a moratorium and this moratorium will run for three months." She said the suspension would allow for a thorough examination of the safety standards of the county's 17 nuclear power plants.

"There will be no taboos," Mrs. Merkel said.

Even when the three months is over, Mrs. Merkel warned, there would be no going back to the situation before the moratorium.

Across Europe, officials worried about the Continent's use of nuclear power as cooling systems failed at a third nuclear reactor in Japan and officials in that country struggled to regain control.

The European Union called for a meeting on Tuesday of nuclear safety authorities and operators to assess Europe's preparedness. Austria's environment minister, Nikolaus Berlakovich, called for a European Union-wide stress test "to see if our nuclear power stations are earthquake-proof."

In Germany, with Mrs. Merkel's center-right coalition facing important regional elections this month, the move was apparently in part an effort to placate the influential antinuclear lobby and give her coalition some breathing space before making a final decision about nuclear energy.

The foreign minister, Guido Westerwelle, called for a new risk analysis of the country's nuclear plants, particularly regarding their cooling systems. He is the leader of the pro-business Free Democratic Party, which strongly supports nuclear power.

A previous government, led by the Social Democrats and Greens, pushed through legislation in 2001 to close all of the country's nuclear plants by 2021. But Mrs. Merkel's center-right government reversed that decision last year and voted to extend the lives of the plants by an average of 12 years.

Nuclear energy provides about 11 percent of Germany's energy supply but its contribution to electricity output is about 26 percent.

In Switzerland, the suspension of plans to build and replace plants will affect all "blanket authorization for nuclear replacement until safety standards have been carefully reviewed and if necessary adapted," Ms. Leuthard, the energy minister, said in a statement.

Switzerland has five nuclear reactors, which produce about 40 percent of the country's energy needs.

Ms. Leuthard said she had already asked the Federal Nuclear Safety Inspectorate to analyze the exact cause of the problems in Japan and draw up new or tougher safety standards "particularly in terms of seismic safety and cooling."

In Russia, Prime Minister Vladimir V. Putin said his government would not revise its ambitious program of building nuclear reactors but would "draw conclusions from what's going on in Japan," Russian news agencies reported. Nuclear power currently accounts for 16 percent of Russia's electricity generation.

From Japan's Devastation, Our Lisbon Moment? (WP)

By Harold Meyerson

Washington Post, March 16, 2011

First came the earthquake, then the tsunami and the fires, and then, over time, a critical decline in belief in a benevolent God.

The Great Lisbon Earthquake of 1755 killed about a fifth of the city's 200,000 residents and leveled 85 percent of its buildings, including almost every major church — on a church holiday, when they were packed with parishioners. It also shook 18th-century philosophers to the core. "Candide," Voltaire's comic polemic against the belief that all was for the best in this best of all possible worlds, was written in the quake's aftermath, as Voltaire was abandoning any notion of godly oversight of the world's affairs. The young Immanuel Kant was sufficiently upset to research and write one of the first books ever on the causes of quakes, before he turned to his life's work of creating ethical codes that functioned in both the presence and absence of God.

Today, the quake, tsunami and, most particularly, the potential of a nuclear catastrophe in Japan should weaken at least one of our own deeply rooted faiths — in our own infallibility. Consider, for a moment, all the systems that the experts said had been rendered safe, foolproof and immune to disaster, and that nonetheless crashed during the past three years. There was the financial system, an assemblage of immense wagers on all manner of things, which an array of mathematicians and economists assured us could not possibly come tumbling down. There was deep-water oil drilling, which the oil companies' geologists, among others, insisted could not possibly result in a cataclysmic spill. And today, there are nuclear power plants, safeguarded, their engineers have told us, against the oh-so-remote possibilities of meltdowns.

These assurances — at least, most of them — were not given in bad faith. Wall Street's quants genuinely believed that they had erected a stable system, as did the geologists and the nuclear engineers. The equations were elegant; things penciled out. At long last, humankind had triumphed over risk.

Except when it hadn't.

What all these wizards did not factor in was that these were all just as much human and social systems as they were mathematical. Behind the equations were human and social assumptions, rooted in such human and social impulses as greed, denial and hubris. The derivatives that the banks' economists had devised were said to distribute risk so widely that they made the system safe; but in fact, they interlocked risk so completely that they brought the system down. But they also brought the banks such massive profits that few on Wall Street wanted to recognize the risks that economists not in Wall Street's sway had detected and identified.

What the systemic failures on Wall Street, in the Gulf of Mexico and in Japan should teach us is that the need for active, disinterested governmental regulation is rooted not in any radical impulse, as the American right continually contends, but in a sober, conservative assessment of the human capacity for mistake and self-delusion, not to mention avarice and chicanery. We can underestimate the risks of a particular undertaking, even when we think we have guarded against them. We fall prey to our own sense of infallibility, often as a way to rationalize what is otherwise a risky endeavor. When those risks go bad, the consequences often fall on those who didn't take those risks themselves, as the millions of Americans who lost their jobs thanks to Wall Street's follies can attest. This is a concept that libertarians don't seem able to grasp, which is why the rise of libertarianism within Republican ranks is bad news for food safety, clean air, economic stability and the like.

The market may in time punish bad actors, which is the ostensible safeguard that libertarians prefer to regulation. Yet as the people sealed inside their homes in the vicinity of Japan's malfunctioning nuclear plant could tell us, untold numbers of innocents may pay a much higher price, more quickly, than the executives and shareholders of offending companies. For that matter, shareholders and non-shareholders alike, all across the planet, may soon feel economic pain as a consequence of Japan's insufficient precautions.

And yet, the war on regulation in America — backed by Wall Street and such energy-industry leaders as the Koch brothers — rolls on. Before last week's quake, House Republicans cut funding for training first responders to radiation disasters. Japan, one hopes, should bring an end to such nonsense. It's time for our own Lisbon moment. We haven't defeated risk. We haven't engineered the glitches out of the system. We need some rules, some regs, and a government willing to devise and enforce them.

The Future Of Nukes, And Of Japan (WSJ)

When all is said and done, nuclear power plants will not top Japan's list of worries.

By Holman W. Jenkins

Wall Street Journal, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

US Sends Supercomputer Experts To Assess Radiation Risks In Japan (NATJO)

By Ronald Brownstein

National Journal Daily, March 16, 2011

The US agency charged with protecting America's nuclear weapons has deployed a team of stateside supercomputer experts to gauge the radiation risks posed by the nuclear crisis in Japan.

In addition to safeguarding the nuclear stockpile, the National Nuclear Security Administration is regarded as the chief responder to any radiological incident within the United States. As such, some experts say NNSA is uniquely positioned to aid in Japan, where explosions rocked a nuclear power plant following an 8.9 magnitude earthquake on Friday.

The ability of the agency, which is part of the Energy Department, to arm decision-makers with accurate information about the extent of the nuclear threat largely rests on supercomputers.

NNSA officials on Monday said they have activated the National Atmospheric Release Advisory Center -- staffed by computer scientists, nuclear scientists and meteorologists -- to provide US authorities with real-time estimates on the spread of radioactive materials in the atmosphere. The squad's specialists plug data in to supercomputer algorithms on radiation doses, exposure, hazard areas, meteorological conditions and other factors to produce predictive models.

"NNSA has probably the world's premier set of codes that are capable of doing advanced simulations on all things nuclear," said Stanley C. Ahalt director of the Renaissance Computing Institute in the Research Triangle area of North Carolina. "Not only

do they have codes that are capable of understanding the degrading of the nuclear stockpile, but also that are capable of simulating, at the physical level, very sophisticated interactions between materials that are necessary for reactors to operate."

The crew is located in California at the Lawrence Livermore National Laboratory, which houses the BlueGene/L and Dawn supercomputers, ranked Nos. 12 and 16 on the biannual list of the world's most powerful supercomputers. A machine in China holds the No. 1 spot on the Top 500 list, but, Ahalt said, "the Chinese don't have anywhere near the experience in working on these types of problems that NNSA has."

Shaking caused by Friday's quake and a subsequent tsunami knocked out cooling systems at the Fukushima Dai-chi nuclear complex, which has led to some melting in reactor cores. "Each of these reactors was constructed at different times with different materials and is at different levels of aging," Ahalt said.

Now, Japanese officials are rushing to cool down fuel rods via manual methods, such as spraying water into the reactors, to prevent a meltdown, which likely would have lasting, deadly effects.

Destruction on the scale of the 1986 Chernobyl accident that leaked massive amounts of radioactive materials into the environment is not expected. "But the residual heat is still captured in those uranium rods," Ahalt noted. NNSA has the tools to form assumptions on how the core material might degrade, he said.

NNSA officials are in communication with Japanese officials, the US agency said on Monday.

"Senior officials and technical experts from the Department of Energy continue to be in close contact with other agencies as well as with our Japanese counterparts as we work to assess what is a very serious and fluid situation," NNSA spokesman Damien LaVera said. "The United States will continue to work closely with the Japanese government and will provide whatever assistance they request to help them bring the reactors under control."

State Department officials on Monday advised US citizens in Japan to heed the directions of Japanese authorities in vacating the affected area.

"Japan's Nuclear Industrial Safety Agency has recommended that people who live within 20 kilometers of the Fukushima Nuclear Power Plant evacuate the area immediately," said John V. Roos, US ambassador to Japan. "We are confident that the government of Japan is doing all it can to respond to this serious situation."

On Sunday, the Nuclear Regulatory Commission, which polices US commercial nuclear power plants, said American officials do not foresee dangerous amounts of radiation reaching the United States.

"All the available information indicates weather conditions have taken the small releases from the Fukushima reactors out to sea, away from the population," NRC officials said in a statement "Given the thousands of miles between the two countries, Hawaii, Alaska, the US Territories and the US West Coast are not expected to experience any harmful levels of radioactivity."

MOX a concern in Japan reactor (AUGC)

By Rob Pavey

Augusta Chronicle, March 16, 2011

Scientists warned this week of yet another wrinkle to Japan's evolving nuclear crisis: one of the doomed reactors is loaded with mixed-oxide fuel that contains plutonium.

"This sort of plutonium fuel is more difficult to control than uranium fuel," said Arjun Makhijani, a nuclear scientist and president of the Institute for Energy and Environmental Research.

The fuel, known generically as "MOX," was made by nuclear giant AREVA in France, where MOX technology has been used for almost two decades.

The rods, made by blending small amounts of plutonium with traditional uranium, were loaded into unit 3 of the Fukushima Daiichi nuclear plant last September.

Makhijani said the unit contains 32 MOX assemblies—or about 5 percent of the fuel now in the reactor, where an explosion this week kindled fears of a radiation release.

"With this fuel, the risks of accidental criticality are different," he said. "You have the same kinds of problems, they are just more intense with plutonium."

AREVA is also part of Shaw AREVA MOX Services—the group building the National Nuclear Security Administration's $4.86 billion MOX plant at Savannah River Site.

The MOX fuels used in the Japan reactor and several dozen others are a mixture of uranium and plutonium reprocessed from spent uranium, but the facility at Savannah River Site is designed to use weapons grade plutonium from dismantled nuclear warheads to make fuels usable in commercial nuclear power reactors.

The plant's mission is to dispose of the weapons grade material to prevent exploitation by terrorists. But the search for utilities willing to use the fuel when production starts in 2018 has moved slowly.

Currently, Tennessee Valley Authority is evaluating the use of MOX fuel in as many as five of its reactors, and a Richland, Wash., utility is mulling its use in one unit, but no formal user agreements have been signed.

Safety officials have pointed out that the problems in Japan were caused by the catastrophic, combined effects of the tsunami and earthquake—not by the type of fuel in the affected reactors.

In an emailed statement Tuesday, a National Nuclear Security Administration spokesman said US officials remain confident in the safety of existing programs.

"The American people should have full confidence that the US has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly," the spokesman said. "Information is still coming in about the events unfolding in Japan, but the Administration is committed to learning from Japan's experience as we work to continue to strengthen America's nuclear industry."

U.K. Nuclear Ambitions Blunted By Disaster Unfolding In Japan (WSJ)

The Source

By Selina Williams

Wall Street Journal, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

China, Also On Fault Lines, Faces New Atomic Scrutiny (WSJ)

By James T. Areddy and Brian Spegele

Wall Street Journal, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Nuclear Plants In EU To Be Tested (WSJ)

By Alessandro Torello And Laurence Norman

Wall Street Journal, March 16, 2011

Full-text stories from the Wall Street Journal are available to Journal subscribers by clicking the link.

Germany Halts All Pre-1980 Nuclear Power Plants To Conduct Safety Reviews (BLOOM)

By Tony Czuczka and Nicholas Comfort

Bloomberg News, March 16, 2011

Germany will halt nuclear reactors accounting for 25 percent of its atomic energy capacity as part of a safety review after explosions at reactors in Japan.

The country will keep its seven oldest nuclear reactors offline as part of a nationwide safety review to run through June, Chancellor Angela Merkel told reporters in Berlin today. Two of the seven are currently offline, while the remainder totals 5.2 gigawatts of the 20.7 gigawatts installed over Germany's 17 reactors.

Germany, which relies on reactors for 23 percent of its power, is the first European country to take such measures after explosions at Japan's Fukushima plant sparked safety concerns. German electricity, a European benchmark, rose on the outlook for lower supply while European Union carbon dioxide permits gained as utilities may burn more fossil fuels to meet demand.

"A general re-think on nuclear power is on the cards," UniCredit SpA analysts including Lueder Schumacher wrote in a note today. The Japanese incident has "country-specific aspects that are unlikely to apply to Europe, but the nuclear debate, especially in Germany, is not governed by reason."

The federal government and premiers of the German states where nuclear-power stations are located have agreed that facilities "that began operation before the end of 1980 are being stopped for the duration of the moratorium," Merkel said after a meeting in Berlin today.

The seven reactors are E.ON AG (EOAN)'s Isar 1 and Unterweser, RWE AG (RWE)'s Biblis A and B, EnBW Energie Baden-Wuerttemberg AG (EBK)'s Phlippsburg 1 and Neckarwestheim 1 as well as Brunsbuettel, which is co-owned by E.ON and Vattenfall AB. Biblis B is already offline for maintenance, while Brunsbuettel has been shut since June 2007 following a short circuit in a nearby power network.

E.ON has begun preparations to halt Isar-1, the Dusseldorf- based company said. EnBW said it will voluntarily shut down Neckarwestheim 1 on a temporary basis. RWE said it will halt Biblis A. The companies commented in separate e-mailed statements today.

Baseload electricity for next quarter in Germany rose to the highest price since November 2008, surging as much as 16 percent to 62.50 euros ($86.80) a megawatt-hour. The next-year contract, a European benchmark, rose as much as 4.8 percent to 58.40 euros a megawatt-hour, its highest since October 2009.

European Union carbon dioxide allowances rose to the highest intraday price since May 2009. Permits for December rose 4.3 percent to 17.32 euros a metric ton on the ICE Futures Europe exchange as of 1:41 p.m. Frankfurt time today.

Nuclear-Free Europe?

Germany's move raises the prospect of a nuclear-free Europe, said Guenther Oettinger, the European Union energy commissioner, in an interview with ARD television today.

"It has to raise the question of whether we in Europe, in the foreseeable future, can secure our energy needs without nuclear power," he said before a meeting with European energy ministers, company executives and regulators in Brussels to discuss reactor safety.

Merkel faces March 27 elections in Baden-Wuerttemberg, a state that's home to four of the country's 17 reactors and has been controlled by her Christian Democratic Union for five decades. Eighty percent of Germans oppose Merkel's decision last year to extend the use of nuclear power by an average of 12 years past the previous phase-out date of about 2022, according to an Infratest poll for ARD television released late yesterday.

The chancellor said the government will use the three-month moratorium on the extension of the life of German nuclear plants, which she announced yesterday, to review whether the country can speed up the introduction of renewable energy.

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