

Rihm, Roger

From: Rihm, Roger
Sent: Thursday, March 17, 2011 11:43 AM
To: Nguyen, Quynh
Subject: Japan-Related Congressional Correspondence

Just FYI, we are going to talk with OCA and develop a plan for handling the large volume of correspondence we are receiving/expecting as a result of recent events. Clearly, a lot of it is likely to involve NRR. Stay tuned; I think it will be early next week before we can get folks together and sort this out.

Y/16/1

Landau, Mindy

From: Landau, Mindy
Sent: Thursday, March 17, 2011 11:47 AM
To: Wyatt, Melissa
Subject: RE: Heads Up

Good work!

From: Wyatt, Melissa
Sent: Thursday, March 17, 2011 11:42 AM
To: Taylor, Renee; Cianci, Sandra; Garland, Stephanie; Hasan, Nasreen
Cc: Landau, Mindy
Subject: Heads Up

Just wanted to give you a heads up ...

The EDO is going to have a meeting with the Agency tomorrow afternoon at 2:00pm for 1 hour in the Auditorium. We will be going out with an EDO Update very soon as well as a Network Announcement, which will contain all the details.

Melissa

Melissa L. Wyatt

Management Analyst, OEDO

 melissa.wyatt@nrc.gov

 301-415-1781



Please consider the environment before printing this e-mail. Thank you.

Y/1/12

Landau, Mindy

From: Landau, Mindy
Sent: Thursday, March 17, 2011 11:52 AM
To: Jarriel, Lisamarie; Hernandez, Pete
Cc: Harrington, Holly
Subject: Talking Points for Allegations Staff

Lisa/Pete,

There will be an EDO Update going out today with a link to this Sharepoint site
<http://portal.nrc.gov/edo/nrr/default.aspx>

prepared by NRR, in cooperation with OPA. The Qs and As should help the allegations staff in their responses to public inquiries. Thanks for your patience!

Mindy

Mindy S. Landau
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Y/153

Taylor, Renee

From: Borchardt, Bill
Sent: Thursday, March 17, 2011 12:04 PM
To: Ellmers, Glenn; Virgilio, Martin; Weber, Michael; Ash, Darren; Muessle, Mary
Cc: Landau, Mindy
Subject: RE: draft EDO Update
Attachments: EDO update draft 2 Mar 17 2011.docx

Thanks Glenn. A revision is attached. Not sure if it's coherent so please feel free to modify.

From: Ellmers, Glenn
Sent: Thursday, March 17, 2011 11:19 AM
To: Borchardt, Bill; Virgilio, Martin; Weber, Michael; Ash, Darren; Muessle, Mary
Cc: Landau, Mindy
Subject: draft EDO Update

As I am sure you aware, the situation at the Fukushima reactor site in Japan continues to be very fluid. The Chairman and I were on Capitol Hill yesterday to brief committees of the both the House and Senate on what is happening, and how the NRC is responding. If you watched any of the proceedings on television or streaming video, you will have seen that while the Chairman had a very long day, he answered a lot of tough questions calmly and forthrightly. (I substituted for him briefly while he was at the White House mid-day to brief the President and his staff.)

Given the available information, we continue to be concerned about the spent fuel pool at one, and possibly two, of the reactors. Based on calculations performed by NRC experts for the situation as a whole, we now believe that it is appropriate for U.S. residents within 50 miles of the Fukushima reactors to evacuate. Our recommendation is based on NRC guidelines for public safety that would be used in the United States under similar circumstances. At the same time, however, we do not expect any part of the U.S. or its territories to experience any harmful levels of radioactivity, given the great distances involved. The NRC is working closely with our federal partners to monitor radiation releases from the Japanese nuclear power plants.

The Operations Center continues to be manned by staff and senior managers on a 24-hour basis. In addition, the agency is being flooded with phone calls from the media, stakeholders, and the general public. Once again, thank you to everyone who is pitching in to help deal with this volume of activity.

Given the dynamic situation, there will be an All-Hands meeting tomorrow at 2:00 p.m. in the One White Flint auditorium, with VTC to the regions, TTC, and headquarters satellite offices. The Chairman [CONFIRM] and I, along with other senior managers, will give you an update on what we know, and answer any questions to the best of our abilities.

Glenn Ellmers
Senior Communications Specialist, OEDO
301-415-0442
OWFN - 17F03
Mail stop: 016E15

Ellmers, Glenn

From: Ellmers, Glenn
Sent: Thursday, March 17, 2011 12:22 PM
To: Landau, Mindy
Subject: EDO update draft 2 Mar 17 2011 (2).docx
Attachments: EDO update draft 2 Mar 17 2011 (2).docx

Y/153

The situation at the Fukushima reactor site in Japan continues to be very serious and dynamic. The NRC has responded quickly and effectively to an incredibly challenging situation. We have staffed the Operations Center 24/7 since last Friday and we have a team of 11 individuals who are in Japan to 1) provide support to the US ambassador and the embassy, 2) interface with the Japanese regulator and licensee, and 3) help to facilitate coordination of the US Government response. The Chairman was on Capitol Hill yesterday to brief committees of the both the House and Senate on what is happening and how the NRC is responding. The quality of the work done by the NRC staff is clearly recognized and appreciated by all of our stakeholders.

Given the available information, we continue to be very concerned about the condition of 3 reactor cores and 2 spent fuel pools. Based on calculations performed by NRC experts for the situation as a whole, we now believe that it is appropriate for U.S. residents within 50 miles of the Fukushima reactors to evacuate. Our recommendation is based on NRC guidelines for public safety that would be used in the United States under similar circumstances. At the same time, however, we do not expect any part of the U.S. or its territories to experience any harmful levels of radioactivity, given the great distances involved. We continue to do analyses to verify our understanding of this issue. The NRC is working closely with our federal partners to monitor radiation releases from the Japanese nuclear power plants.

We will continue to place emphasis on communication activities. The agency is being flooded with phone calls from the media, stakeholders, and the general public. Once again, thank you to everyone who is pitching in to help deal with this volume of activity.

Given the dynamic situation, there will be an All-Hands meeting tomorrow at 2:00 p.m. in the One White Flint auditorium, with VTC to the regions, TTC, and headquarters satellite offices. I will give you an update on what we know, and answer any questions to the best of my ability. In addition, we are expecting to have a Commission meeting early next week. We will provide a link to the briefing materials as soon as possible. In addition, you may find these documents prepared by the Office of Nuclear Reactor Regulation to be of interest: <http://portal.nrc.gov/edo/nrr/default.aspx>

Ellmers, Glenn

From: Ellmers, Glenn
Sent: Thursday, March 17, 2011 12:54 PM
To: Batkin, Joshua; Coggins, Angela; Loyd, Susan
Subject: EDO Update

Bill is eager to get this out ASAP. Please review at earliest possible.
Thanks.

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The situation at the Fukushima reactor site in Japan continues to be very serious and dynamic. The NRC has responded quickly and effectively to an incredibly challenging situation. We have staffed the Operations Center 24/7 since last Friday and we have a team of 11 individuals who are in Japan to 1) provide support to the US ambassador and the embassy, 2) interface with the Japanese regulator and licensee, and 3) help to facilitate coordination of the US Government response. The Chairman was on Capitol Hill yesterday to brief committees of the both the House and Senate on what is happening and how the NRC is responding. The quality of the work done by the NRC staff is clearly recognized and appreciated by all of our stakeholders.

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We will continue to place emphasis on communication activities. The agency is being flooded with phone calls from the media, stakeholders, and the general public. Once again, thank you to everyone who is pitching in to help deal with this volume of activity.

Given the dynamic situation, there will be an All-Hands meeting tomorrow at 2:00 p.m. in the One White Flint auditorium, with VTC to the regions, TTC, and headquarters satellite offices. Overflow seating will be available in the TWFN Exhibit Area as well as the Commission Hearing Room. I will give you an update on what we know, and answer any questions to the best of my ability. In addition, we are expecting to have a Commission meeting early next week. We will provide a link to the briefing materials as soon as possible. Finally, you may find these documents prepared by the Office of Nuclear Reactor Regulation to be of interest: <http://portal.nrc.gov/edo/nrr/default.aspx>

Glenn Ellmers
Senior Communications Specialist, OEDO
301-415-0442
OWFN - 17F03
Mail stop: 016E15

X/156

Taylor, Renee

From: Borchardt, Bill
Sent: Thursday, March 17, 2011 1:00 PM
To: Schmidt, Rebecca; Sheron, Brian; Leeds, Eric; Haney, Catherine; Johnson, Michael
Cc: Weber, Michael; Batkin, Joshua; HOO Hoc; Taylor, Renee
Subject: RE:

Unfortunately this would conflict with the NRC all hands briefing. Can 1 of the 4 "communicators" handle the 11:45?

From: Schmidt, Rebecca
Sent: Thursday, March 17, 2011 12:48 PM
To: Sheron, Brian; Borchardt, Bill; Leeds, Eric; Haney, Catherine; Johnson, Michael
Cc: Weber, Michael; Batkin, Joshua; HOO Hoc; Taylor, Renee
Subject: RE:

The House has now asked for the same briefing at 11:45. Bill are you available for that one too?

From: Sheron, Brian
Sent: Thursday, March 17, 2011 10:05 AM
To: Borchardt, Bill; Leeds, Eric; Haney, Catherine; Johnson, Michael
Cc: Weber, Michael; Schmidt, Rebecca; Batkin, Joshua; HOO Hoc
Subject: RE:

I should be able to attend. I'll meet you in the ops center around 7am.

From: Borchardt, Bill
Sent: Thursday, March 17, 2011 9:44 AM
To: Leeds, Eric; Haney, Catherine; Sheron, Brian; Johnson, Michael
Cc: Weber, Michael; Schmidt, Rebecca; Batkin, Joshua; HOO Hoc
Subject:

Senate EPW staff has requested a briefing Fri @9:30 (location TBD). I believe that Pete Lyons will be representing DOE. I am planning to represent NRC. I invite any of the 4 addressees of this email (the 4 new "Communicators") to come along to get a sense of what the hill is interested in, etc. It is totally your call. I plan to be in the ops center at 7am to get a last minute update and then take metro (7:45) downtown.

Please let me know whether you plan to attend or not.

Bill

Andersen, James

From: Williams, Shawn
Sent: Thursday, March 17, 2011 1:04 PM
To: EDO_ETAs
Cc: Breskovic, Clarence
Subject: Before and After Pictures of the Earthquake in Japan

<http://www.nytimes.com/interactive/2011/03/13/world/asia/satellite-photos-japan-before-and-after-tsunami.html>

You can drag the blue bar to see before and after pictures overlaid on top of each other.

Y/158

Taylor, Renee

From: Borchardt, Bill
Sent: Thursday, March 17, 2011 1:34 PM
To: Landau, Mindy; Virgilio, Martin; Weber, Michael; Ash, Darren
Cc: Muessle, Mary; Andersen, James
Subject: RE: Concerns by Office of Public Affairs

I'm certainly willing to discuss this, and while I think they raise a good question I believe that we should make every reasonable attempt to keep our domestic activities as normal as possible. Having said that, if the key staff are not available for a meeting due to ops center impacts, etc I believe that would be an appropriate basis for postponement. Arming our staff with a few key talking points on Japan and pointers to where interested stakeholders can get additional information would have to be sufficient.

From: Landau, Mindy
Sent: Thursday, March 17, 2011 1:02 PM
To: Borchardt, Bill; Virgilio, Martin; Weber, Michael; Ash, Darren
Cc: Muessle, Mary; Andersen, James
Subject: Concerns by Office of Public Affairs

I just had a meeting with Holly Harrington, who brought up some issues that I think merit consideration. With the onslaught of interest in the event, we probably should give some thought to postponing any public meetings coming up in the next couple of weeks that haven't already been noticed, and that aren't particularly time significant. The end-of-cycle meetings may not fall in this category, but other meetings may be able to be postponed.

We can expect a large media contingent at any public meeting we hold over the next few weeks, and OPA is not staffed up enough to make PAOs available for these meetings, because of the response to the Japanese events. They haven't been able to issue press releases on normal activities at all (like regular public meetings) because of all the press/public interest.

If we decide to delay these meetings we would want to include those at HQ and the Regions.

Thanks,
Mindy

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mindy.landau@nrc.gov

Taylor, Renee

From: Borchardt, Bill
Sent: Thursday, March 17, 2011 1:35 PM
To: Landau, Mindy
Subject: RE: Something to think about

Thanks Mindy. Good points.

From: Landau, Mindy
Sent: Thursday, March 17, 2011 12:05 PM
To: Borchardt, Bill
Subject: Something to think about

Bill,

In your remarks to the staff tomorrow, I think it would be good to say something about how we are dealing with our normal business activities. Right now, there is no normal – many of our processes, FOIA requests, Congressional inquiries, media inquiries, allegations, etc., are in a state of flux because of the level of public scrutiny. We are all going to have to be flexible and adjust our priorities to focus on the accident and its implications, while keeping the non-event activities as seamless as possible.

What I'm also hearing is some knee-jerk reactions from the staff about changes we need to make right away (i.e the Allegations staff wants to put OPA's phone number on the web which they think will divert public inquiries away from them, but would route more inquiries to OPA). We should be measured in the changes that we make to our processes because the interest we are getting may be short term, and the focus may be changing. I think we may need to ride this out for a while before we decide what our path will be for the future.

Just my two cents.

Mindy S. Landau
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mindy.landau@nrc.gov

Landau, Mindy

From: Landau, Mindy
Sent: Thursday, March 17, 2011 1:49 PM
To: Muessle, Mary
Subject: FW: Request for Support from NRO

Mary, if you can think of anyone in RES as well who meets this description, please let me know so OPA can recruit them....

Mindy

From: Johnson, Michael
Sent: Thursday, March 17, 2011 12:02 PM
To: Landau, Mindy
Cc: Muessle, Mary; Andersen, James
Subject: Re: Request for Support from NRO

We'll try to support.
From my blackberry.

From: Landau, Mindy
To: Johnson, Michael
Cc: Muessle, Mary; Andersen, James
Sent: Thu Mar 17 11:28:40 2011
Subject: Request for Support from NRO

Hi Mike,

OPA is requesting about four staff who could assist them, as soon as possible, in responding to inquiries from the press and the public. Obviously, these folks need to have a good working knowledge of the event at a high level, and can also speak about our regulatory processes and have a calm, measured demeanor (and not get too far in the weeds). They may have to be "on loan" for a month or two, depending on how long the public scrutiny continues.

I know that NRR and NSIR are already strapped, but this would be a great opportunity for our fine staff in NRO to help the agency out in big way!

Thanks
Mindy

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Y/1/61

Landau, Mindy

From: Landau, Mindy
Sent: Thursday, March 17, 2011 3:14 PM
To: Nelson, Robert; Rihm, Roger
Cc: Meighan, Sean; Nguyen, Quynh
Subject: RE: Senator Boxer's press release on a letter sent to the Chairman

Thanks Nelson

From: Nelson, Robert
Sent: Thursday, March 17, 2011 2:31 PM
To: Landau, Mindy; Rihm, Roger
Cc: Meighan, Sean; Nguyen, Quynh
Subject: FYI: Senator Boxer's press release on a letter sent to the Chairman

NELSON

K/ 162

Landau, Mindy

From: Landau, Mindy
Sent: Thursday, March 17, 2011 3:20 PM
To: Coggins, Angela; Batkin, Joshua
Subject: EDO Update - would like to get it out before it get too late today - thanks

Mindy S. Landau
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4/16/2

Merzke, Daniel

EXO
From: Merzke, Daniel
Sent: Thursday, March 17, 2011 3:37 PM
To: Howe, Allen
Cc: Andersen, James; Wittick, Brian
Subject: INPO Event Report

I just talked to George Mortensen from INPO concerning releasability of the recent INPO Event Report Level 1 regarding the events in Japan. He says they are in the process of revising it based on questions from licensees, and will probably be released to them tomorrow. They are having their legal department review for a one-time exception to release the document to the public. That being said, he says we can mention the INPO report in the public Commission meeting (apparently Tony Pietrangelo mentioned it to Congress yesterday) on Monday. He also said if the Commission has any specific questions about the requirements laid out in the report, it would be okay to mention them in generic terms. So we're good to go for mentioning the report.

Dan

Y/164

Landau, Mindy

From: Landau, Mindy
Sent: Thursday, March 17, 2011 4:53 PM
To: Ellmers, Glenn; Rihm, Roger; Taylor, Renee; Wyatt, Melissa
Subject: For the network announcement

Make sure you specifically state that a bridge line will be available for those people working at home. Also, Renee already had a call about availability of handouts for WAH folks. Please post the slides (probably to the SharePoint site) so everyone has access and mention that in the network as well.

Thanks to all of you for your hard work this week! We couldn't have survived without you guys! I'll be on my BB most of the day except from 12 – 2:30 when I'm in the air.

Tell Lance payback is hell !!!

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4/16/11

Weber, Michael

From: Weber, Michael
Sent: Thursday, March 17, 2011 5:46 PM
To: Borchardt, Bill
Subject: RESPONSE - CONGRESSIONAL BRIEFING

Brian plans to accompany.

From: Borchardt, Bill
Sent: Thursday, March 17, 2011 9:44 AM
To: Leeds, Eric; Haney, Catherine; Sheron, Brian; Johnson, Michael
Cc: Weber, Michael; Schmidt, Rebecca; Batkin, Joshua; HOO Hoc
Subject:

Senate EPW staff has requested a briefing Fri @9:30 (location TBD). I believe that Pete Lyons will be representing DOE. I am planning to represent NRC. I invite any of the 4 addressees of this email (the 4 new "Communicators") to come along to get a sense of what the hill is interested in, etc. It is totally your call. I plan to be in the ops center at 7am to get a last minute update and then take metro (7:45) downtown.

Please let me know whether you plan to attend or not.

Bill

Y/166

Taylor, Renee

From: Borchardt, Bill
Sent: Friday, March 18, 2011 6:48 AM
To: Ellmers, Glenn
Subject: FW: all employees meeting

From: Ash, Darren
Sent: Thursday, March 17, 2011 6:23 PM
To: Borchardt, Bill
Cc: Boyce, Thomas (OIS); Rich, Thomas; Brenner, Eliot
Subject: all employees meeting

Bill,
As a reminder, in your remarks tomorrow, please ask staff to, if at all possible, watch the Commission meeting at a designated overflow room (i.e., the auditorium, etc), via VTC, and not on their computer. This will help us sustain operations of our network and avoid degradation or more serious issues.

Thanks,
Darren

4/16/11

Taylor, Renee

From: Borchardt, Bill
Sent: Friday, March 18, 2011 3:40 PM
To: Taylor, Renee
Subject: Re: All Hands

Thank you. I'll take your note as a sincere compliment, but are you drinking already?
Bill Borchardt
Via blackberry

----- Original Message -----

From: Taylor, Renee
To: Borchardt, Bill
Sent: Fri Mar 18 15:37:55 2011
Subject: All Hands

Bill,

I called in on the All Hands, wanted to tell what a great job you did.
Although it is not always communicated I thought it important you know how proud I am to be working with you and to be working at the NRC. It was a very informative and reassuring message.

Thank you,
Renee

4/16/11

Taylor, Renee

From: Borchardt, Bill
Sent: Friday, March 18, 2011 6:53 AM
To: Ellmers, Glenn; Leeds, Eric
Subject: all hands

Glenn – please get the outline (and talking points in whatever shape they're in) for Monday's comm mtg so that I can use them for the all hands meeting. Also prepare a 1 pager of additional items that you think I should cover such as Darren's note (that I just sent to you), thanking the nrc staff, etc....

I hope to back from the hill around noon

Y/169

Weber, Michael

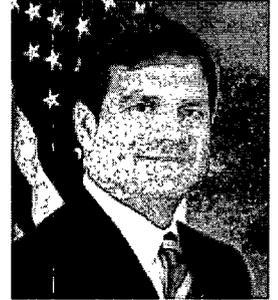
From: Weber, Michael
Sent: Friday, March 18, 2011 8:37 AM
To: LIA05 Hoc; OST02 HOC
Cc: Brenner, Eliot; Hayden, Elizabeth; Powell, Amy; Schmidt, Rebecca; Leeds, Eric
Subject: FYI - GOVERNMENT SECURITY NEWS ARTICLE ON GOVERNORS ORDERING NPP SAFETY REVIEWS

Governors order nuclear plant reviews, congress urges more action

Thu, 2011-03-17 08:26 AM
By: [Mark Rockwell](#)

As concern over U.S. nuclear plant vulnerability grows in Congress, at least two governors ordered safety reviews of nuclear power plants in their states after the Japanese earthquake and tsunami disasters.

On March 16, New York Governor Andrew Cuomo ordered a safety review of a nuclear plant located near a seismic fault 35 miles north of Manhattan. Cuomo said the Indian Point Energy Center on the Hudson River in suburban Westchester County will be reviewed. The plant is near a fault line, but scientists are in disagreement about the level of threat it poses.



Rep. Gus Bilirakis, (R-FL)

On March 14, Florida Governor Rick Scott asked his state's Division of Emergency Management Director Bryan Koon to review emergency action plans for the state's five nuclear reactors in the face of natural or manmade disaster. There are three additional facilities within 100 miles of Florida's borders, Scott's office said.

Scott said Koon and his staff made a comprehensive review of the state's action plans the weekend following the earthquake in Japan and found them prepared. "The information I've received shows that across state agencies, in conjunction with federal partners and utility operators, we are prepared for an effective and rapid emergency response," he said.

Some in the U.S. congress have expressed concern over U.S. preparedness for events similar to those in Japan. The concern is showing up on both sides of the political spectrum. Rep. Gus Bilirakis, (R-FL) chairman of the Homeland Security Committee's Subcommittee on Emergency Preparedness, Response and Communications also urged more action. He commended Gov. Scott's review orders and also plans a hearing on nuclear plant safety on March 17.

Bilirakis is holding a hearing on March 17 to address medical preparedness and response efforts to attacks or disasters involving nuclear plants, among other issues, said his office in a statement. Bilirakis' witness list includes Dr. Alexander Garza, Assistant Secretary of Health Affairs with the Department of Homeland Security's Office of Health Affairs.

Rep. Ed Markey, (D-MA) sent letters on March 14 to the White House urging wider distribution of protective Potassium Iodide pills and questioning the chain of government command during such a nuclear crisis. According to news reports, Bilirakis also supports wider distribution of Potassium Iodide pills.

Sen. Joe Lieberman, a supporter of nuclear power in the U.S., has also urged caution. "It think that we've got to kind of quietly -- 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

4/1/10

anything, we can demand of the new power plants that are coming on line," he said March 13 on CBS's "Face the Nation."

Bilirakis commended Gov. Scott's "proactive" review of emergency preparedness plans at the state's nuclear plants on March 15. He urged other state leaders to ensure effective response plans are in place for nuclear plants. "We must continue to review the response measures we have in place, including the most efficient way to distribute aid during such an emergency," he said.

Mike

Michael Weber
Deputy Executive Director for Materials, Waste, Research,
State, Tribal, and Compliance Programs
U.S. Nuclear Regulatory Commission

301-415-1705
Mail Stop O16E15

Weber, Michael

From: Weber, Michael
Sent: Friday, March 18, 2011 8:40 AM
To: LIA05 Hoc; OST02 HOC
Cc: Brenner, Eliot; Hayden, Elizabeth
Subject: FYI - HOMELAND SECURITY NEWSWIRE REPORT ON STATUS OF THE FUKUSHIMA NUCLEAR EMERGENCY

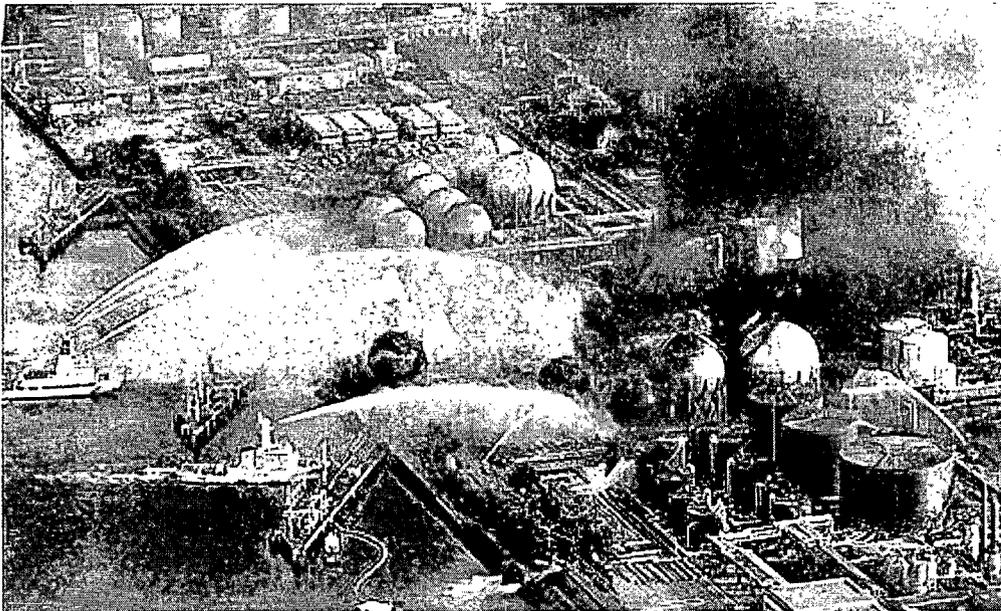
I can't explain the goofy picture of fire boats fighting a fire at a petroleum refinery and passing it off as a picture of the boats filling the spent fuel pools, but....

Japan disaster

Nuclear crisis worsening; growing radiation leaks at reactors nos. 3, 4

Published 18 March 2011

The situation at the Fukushima Daiichi nuclear power plant appears increasingly dire, as efforts to cool overheating reactors have failed; Japanese military fire trucks are now spraying water at the plant's no. 3 reactor; earlier efforts on Thursday to use helicopters to dump water on the rods have failed; the U.S. Nuclear Regulatory Commission chairman is particularly concerned about reactor no. 4 which houses spent fuel rods; spent fuel rods, placed in cooling tanks, are rapidly overheating as they are boiling away the water they are submerged in; the secondary containment unit at reactor no. 4 has been breached and radiation is now freely leaking out of the plant; high radiation levels are hindering efforts to repair the reactors



Fireboats attempted to fill storage pools // Source: zimbio.com

The situation at the Fukushima Daiichi nuclear power plant appears increasingly dire, as efforts to cool overheating reactors have failed.

Y/171

In a desperate attempt, Japanese military fire trucks are now spraying water at the plant's no. 3 reactor. Earlier efforts on Thursday to use helicopters to dump water on the rods have failed. Japanese military helicopters made four passes dropping a total of 8,000 gallons of seawater on reactor no. 3 to little effect.

According to Japanese officials, the reactor needs about 12,000 gallons of water a day to keep from overheating.

It appears that the water missed the reactor and the military said that they had not noticed any decreases in temperature.

Plans to drop water on the plant's no. 4 reactor have been postponed.

Gregory Jaczko, the U.S. Nuclear Regulatory Commission chairman, is particularly concerned about reactor no. 4 which houses spent fuel rods.

The reactor was not active at the time of the massive 8.9 magnitude earthquake that shook Japan, but the subsequent tsunami knocked out the power supply which kept cool water circulating around the spent fuel rods.

Even after a reactor is shut down, the fuel rods continue to produce large amounts of heat due to their high radioactivity. These spent rods are stored in large cooling tanks filled with cold water to keep them from overheating.

The tanks are usually forty-five feet deep and the fuel rods are typically stored in the lower fifteen feet of the pool. When the water pumps failed, the spent rods began to heat the water rapidly boiling it away.

The spent fuel rods at reactor no. 4 are particularly troublesome as they were only removed from the reactor in December 2010, and therefore generate more heat than the spent fuel at other reactors.

As the water boils, the steam generated carries radioactive particles that are eventually released into the air. If the rods remain exposed and out of water for too long they will eventually melt and emit massive amounts of radiation.

These problems have been exacerbated by the fact that the secondary containment unit at reactor no. 4 has been breached and radiation is now freely leaking out of the plant.

Officials are uncertain if there is any water left in the storage pool.

Yoshitaka Nagayama, a spokesman for Japan's Nuclear and Industrial Safety Agency, said, "Because we have been unable to go to the scene, we cannot confirm whether there is water left or not in the spent fuel pool at Reactor No. 4."

High radiation levels have further complicated efforts to cool the plants.

Testifying before Congress on Wednesday, Jaczko said, "We believe that radiation levels are extremely high, which could possibly impact the ability to take corrective measures."

The peak levels of radiation there "would be lethal within a fairly short period of time," he said.

According to Hidehiko Nishiyama, deputy director-general of the Nuclear and Industrial Safety Agency, radiation levels of approximately 250 millisievert an hour were detected 100 feet above the plant.

Radiation levels have dramatically risen and fallen over the past several days. On Tuesday the International Atomic Energy Agency (IAEA) measured radiation levels as high as 400 millisieverts an hour before they plunged to 0.6 millisievert an hour.

The World Nuclear Association says that 50 millisievert of radiation a year is the lowest dose at which there is evidence of cancer in humans. The average person receives about one to two millisieverts of radiation from natural sources like the sun a year.

Jaczo warned that resolving the crisis could "take time, possibly weeks."

Officials are also closely monitoring spent fuel pools at reactors no. 3, 5, and 6 where water levels may have dropped as well.

Mike

Michael Weber
Deputy Executive Director for Materials, Waste, Research,
State, Tribal, and Compliance Programs
U.S. Nuclear Regulatory Commission

301-415-1705
Mail Stop O16E15

Weber, Michael

From: Weber, Michael
Sent: Friday, March 18, 2011 9:04 AM
To: Borchardt, Bill
Cc: Virgilio, Martin
Subject: HEADS UP - RECEIVED BACKGROUND INFORMATION FOR THE MEETING WITH THE AMBASSADOR

As you are probably aware, the Japanese Ambassador's office scheduled a meeting today (1600-1700) downtown at the Japanese Embassy. I presume that you are attending. Herald provided background information to support your participation. It is waiting for you in your office. I looked through it and did not see any new insights. You should be up to speed.

Mike

Michael Weber
Deputy Executive Director for Materials, Waste, Research,
State, Tribal, and Compliance Programs
U.S. Nuclear Regulatory Commission

301-415-1705
Mail Stop O16E15

Y/1702

Taylor, Renee

From: Borchardt, Bill
Sent: Friday, March 18, 2011 9:08 AM
To: Schmidt, Rebecca
Subject: Re: I'm in senate chef

So are we
Bill Borchardt
Via blackberry

----- Original Message -----

From: Schmidt, Rebecca
To: Borchardt, Bill; Sheron, Brian
Sent: Fri Mar 18 09:06:59 2011
Subject: I'm in senate chef

Basement of dirksen

Y/173

Andersen, James

From: Andersen, James
Sent: Friday, March 18, 2011 9:17 AM
To: Laufer, Richard
Subject: RE: Commission Meeting on Japan Event has been announced for Monday (3/21) at 9:00 a.m.

Rich, do you have the final scheduling note, we'd like to put it into the background books.

Jim A.

From: Laufer, Richard
Sent: Friday, March 18, 2011 9:16 AM
To: Kundrat, Christine; Wittick, Susan; Sargent, Kimberly; Fenton, Darlene; Humerick, David; Blakeney, Catherine; Boyd, NancyTurner; Lopez, George; Branch, Richard; Andersen, James; Stenberg, Danita; Shankar, Kala
Cc: Bates, Andrew; Laufer, Richard; Harrington, Holly; Akstulewicz, Brenda; Merzke, Daniel; Brenner, Eliot; Baval, Rochelle; Powell, Amy
Subject: Commission Meeting on Japan Event has been announced for Monday (3/21) at 9:00 a.m.
Importance: High

Just wanted to let you know that the meeting has been approved and announced for Monday morning (3/21) at 9:00 a.m. It should be posted to the NRC website shortly.

Thanks,
Rich Laufer
415-1661

X/174

Andersen, James

From: Andersen, James
Sent: Friday, March 18, 2011 9:19 AM
To: Weber, Michael; Borchardt, Bill; Virgilio, Martin; Leeds, Eric; Howe, Allen; Johnson, Michael; Landau, Mindy; Rihm, Roger; Ash, Darren; Muessle, Mary
Subject: FW: Commission Meeting on Japan Event has been announced for Monday (3/21) at 9:00 a.m.
Importance: High

FYI.

From: Laufer, Richard
Sent: Friday, March 18, 2011 9:16 AM
To: Kundrat, Christine; Wittick, Susan; Sargent, Kimberly; Fenton, Darlene; Humerick, David; Blakeney, Catherine; Boyd, NancyTurner; Lopez, George; Branch, Richard; Andersen, James; Stenberg, Danita; Shankar, Kala
Cc: Bates, Andrew; Laufer, Richard; Harrington, Holly; Akstulewicz, Brenda; Merzke, Daniel; Brenner, Eliot; Baval, Rochelle; Powell, Amy
Subject: Commission Meeting on Japan Event has been announced for Monday (3/21) at 9:00 a.m.
Importance: High

Just wanted to let you know that the meeting has been approved and announced for Monday morning (3/21) at 9:00 a.m. It should be posted to the NRC website shortly.

Thanks,
Rich Laufer
415-1661

Y/175

From: [Sheehan, Neil](#)
To: [Taylor, Robert](#)
Subject: FW: ACTION REQUESTED: Japanese Earthquake-related Information Notice
Date: Friday, March 18, 2011 11:30:32 AM
Attachments: [IN 11-xx B5b Earthquake.docx](#)
[Quake_IN.docx](#)

From: Burnell, Scott
Sent: Friday, March 18, 2011 12:04 AM
To: Sheehan, Neil; McIntyre, David; Brenner, Eliot; Hayden, Elizabeth; Harrington, Holly
Subject: FW: ACTION REQUESTED: Japanese Earthquake-related Information Notice

All;

I've started a draft press release for the Information Notice so that we can keep track with changes and hopefully issue it as soon as the IN (or Bulletin or whatever it turns out to be) goes out. The "Quake_IN" document is in the "G" drive, the Crisis Communication\Japan Quake Tsunami folder.

Scott

From: Bowman, Eric
Sent: Thursday, March 17, 2011 5:02 PM
To: McDermott, Brian
Cc: LIA08 Hoc; Rosenberg, Stacey; McGinty, Tim; Burnell, Scott; Williamson, Edward; Morris, Scott; Lew, David; Wert, Leonard; Pederson, Cynthia; Howell, Art; Westreich, Barry
Subject: ACTION REQUESTED: Japanese Earthquake-related Information Notice

Brian,

The current version of the IN is attached. We chose to use an IN for this as the fastest generic communications vehicle available in light of our desire to issue it prior to the Commission meeting on the subject scheduled for Monday.

V/R Eric

From: McDermott, Brian
Sent: Thursday, March 17, 2011 2:38 PM
To: McGinty, Tim; Burnell, Scott; Williamson, Edward; Morris, Scott
Cc: LIA08 Hoc; Rosenberg, Stacey; Bowman, Eric
Subject: RE: ACTION REQUESTED: Japanese Earthquake-related Information Notice

Tim,

We've tasked the item for review this evening. With comments due to NRR\Tim McGinty by 0700 on 3/18.

Brian

From: McGinty, Tim

Y/176

Sent: Thursday, March 17, 2011 12:57 PM
To: Burnell, Scott; Williamson, Edward; McDermott, Brian; Morris, Scott
Cc: LIA08 Hoc; Rosenberg, Stacey; Bowman, Eric
Subject: FW: ACTION REQUESTED: Japanese Earthquake-related Information Notice

We are fast tracking this proposed IN. I will want the ET in the Ops Center to review it. Attached is an early draft. Feedback welcomed. Tim

From: McGinty, Tim
Sent: Thursday, March 17, 2011 12:42 PM
To: Bowman, Eric; Thomas, Eric; Correia, Richard; Mathew, Roy
Cc: Rosenberg, Stacey; Hiland, Patrick; Westreich, Barry; Boger, Bruce; Leeds, Eric; Quay, Theodore; Blount, Tom; Skeen, David
Subject: RE: ACTION REQUESTED: Japanese Earthquake-related Information Notice

My apologies. We have now been tasked to issue the IN tomorrow. Need your comments and concurrence by mid-afternoon today, COB at the latest. Tim

From: Bowman, Eric
Sent: Thursday, March 17, 2011 11:37 AM
To: Thomas, Eric; Correia, Richard; Mathew, Roy
Cc: Rosenberg, Stacey; McGinty, Tim; Hiland, Patrick; Westreich, Barry
Subject: ACTION REQUESTED: Japanese Earthquake-related Information Notice
Importance: High

All,

We plan to issue the attached Information Notice early next week on the implications of the recent Japanese Earthquake. In support of that effort, your comments and Divisional concurrence are requested by tomorrow afternoon.

Very many thanks in advance for your efforts.

V/R; R/ Eric

Eric E. Bowman
Sr. Project Manager
Generic Communications & Power Uprate Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
301-415-2963
Eric.Bowman@nrc.gov

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

NRC INFORMATION NOTICE 2011-05: TOHOKU-TAIHEIYOU-OKI EARTHQUAKE
EFFECTS ON JAPANESE NUCLEAR POWER
PLANTS

ADDRESSEES

All holders of operating licenses for nuclear power reactors under the provision of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice (IN) to inform addressees of effects of the Tohoku-Taiheiyu-Okai Earthquake on nuclear power plants in Japan. The NRC expects that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. Suggestions contained in this IN are not NRC requirements; therefore, no specific action or written response is required.

DESCRIPTION OF CIRCUMSTANCES

On March 11, 2011, the Tohoku-Taiheiyu-Okai Earthquake occurred near the east coast of Honshu, Japan. This magnitude 9.0 earthquake and the subsequent tsunami caused significant damage to at least four of the six units of the Fukushima Daiichi nuclear power station, including damage to the cooling water systems, a sustained loss of both the off-site and on-site power systems, and a loss of spent fuel pooling (SFP) cooling. Efforts to restore power to emergency equipment have been impacted by damage to the surrounding areas due to the tsunami and earthquake.

Units One through Three, which had been operating at the time of the earthquake, scrambled automatically, inserting their neutron absorbing control rods to ensure immediate shutdown of the fission process. With the loss of electric power to normal and emergency core cooling systems and subsequent failure of back-up decay heat removal systems, Tokyo Electric Power Company (TEPCO), the operator of the plant, resorted to injecting sea water and boric acid into the reactor vessels of these three units, in an effort to cool the fuel and ensure they remained shutdown. During this process, the fuel became partially uncovered. Hydrogen gas built up in

ML110760432

units 1 and 3 as a result of overheated fuel reacting with water. When the gas pressure was vented from the primary containment, hydrogen explosions occurred in both units and damaged the secondary containments. It appears that primary containments remain functional. In addition, units 1, 2, and 3 suffered from decreasing SFP levels due to loss of their SFP cooling systems. TEPCO cut a hole in the side of the unit 2 secondary containment to prevent hydrogen buildup following a sustained period when there was no water injection into the core.

Units Four through Six had been shutdown for refueling outages at the time of the earthquake. The fuel assemblies for Unit Four had been offloaded from the reactor core to the SFP. The Unit four SFP suffered a total loss of water along with structural damage affecting its ability to retain water. Significantly elevated radiation levels were measured outside of Unit 4. The SFPs for Units Five and Six appear intact, but have been heating up. Emergency power is available to provide cooling water flow through the SFPs for Units 5 and 6.

The Japanese Government ordered an evacuation out to 20 km for the area surrounding Fukushima Daiichi. Residents out to 30 km were ordered to shelter in place.

The damage to Fukushima Daiichi nuclear power station appears to have been caused by initiating events outside of the design basis for the facilities.

BACKGROUND

Appendix A to 10 CFR Part 50, General design criteria (GDC) 2, "Design Bases for Protection against Natural Phenomena," or, as appropriate, similar requirements in the licensing basis for a reactor facility requires that structures, systems, and components (SSCs) important to safety be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunamis, and seiches without loss of capability to perform their safety functions. The design bases for these SSCs reflects: (1) appropriate consideration of the most severe of the natural phenomena that have been historically reported for the site and surrounding area, with sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated, (2) appropriate combinations of the effects of normal and accident conditions with the effects of the natural phenomena, and (3) the importance of the safety functions to be performed.

As a result of the terrorist events of September 11, 2001, the NRC issued EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (the ICM Order) dated February 25, 2002, (designated safeguards information (SGI)), which modified then-operating licenses for commercial power reactor facilities to require compliance with specified interim safeguards and security compensatory measures. Section B.5.b of the ICM Order requires licensees to adopt mitigation strategies using readily available resources to maintain or restore core cooling, containment, and SFP cooling capabilities to cope with the loss of large areas of the facility due to large fires and explosions from any cause, including beyond-design-basis aircraft impacts.

By letter dated February 25, 2005 the NRC staff provided guidance for implementing Section B.5.b of the ICM Order. This guidance, designated as SGI, included best practices for mitigating losses of large areas of the plant and measures to mitigate fuel damage and minimize

releases. Following issuance of the B.5.b Phase 1 Guidance, the NRC staff conducted inspections at operating reactor sites using Temporary Instruction (TI) 2515/164 (SGI) and subsequently TI 2515/168 (SGI) to ensure compliance with Section B.5.b of the ICM Order.

In December 2006, Nuclear Energy Institute (NEI) issued NEI 06-12, Revision 2, "B.5.b Phase 2 & 3 Submittal Guideline." NEI 06-12 is designated for Official Use Only – Security Related Information (OUO-SRI). The NRC endorsed NEI 06-12, Revision 2, by letter dated December 22, 2006, also designated OUO-SRI, as an acceptable means for developing and implementing the mitigation strategies requirement in Section B.5.b of the ICM Order. NEI 06-12, Revision 2 provides guidance for implementing a set of strategies intended to maintain or restore core cooling, containment, and SFP cooling capabilities under the circumstances associated with the loss of a large area of the plant due to explosions or fire, in the following areas:

- Adding make-up water to the SFP,
- Spraying water on the spent fuel,
- Enhanced initial command and control activities for challenges to core cooling and containment, and
- Enhanced response strategies for challenges to core cooling and containment.

The specific strategies covered in NEI 06-12, Revision 2, were developed based on the results of assessments conducted at currently licensed power reactor facilities for the purpose of enhancing plant specific mitigation capability for damage conditions caused by a large explosion or fire. These assessments identified a wide spectrum of potential plant specific strategies. NEI 06-12, Revision 2 specifies one set of strategies applicable to all pressurized-water reactors and another set applicable to all boiling-water reactors. Both sets are derived from the results of the plant specific assessments.

The B.5.b Phase 1 Guidance and NEI 06-12, Revision 2, were used by each licensee in preparing information submitted to the NRC that describes a plant specific approach to implementing mitigating strategies and supports each plant specific license condition. The NRC staff has completed its review of the information submitted by each licensee, as well as information obtained during prior NRC inspections, and has issued an OUO-SRI safety evaluation (SE) that documents the bases for its approval of the license condition for each facility. The SE issued for each licensee includes regulatory guidance in Section 3.0 of Appendix A, "Phase 1 Assessment," that recites the generic B.5.b Phase 1 Guidance of Reference 3, as clarified in TI 2515/168, in a form that is designated OUO-SRI rather than SGI.

On March 27, 2009, the NRC amended 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," and Part 73, "Physical Protection of Plants and Materials," with new requirements published in the *Federal Register* dated March 27, 2009 (74 FR 13926). This rulemaking added paragraph (i) to 10 CFR 50.34, "Contents of applications; technical information," to require submittal of a "description and plans for implementation of the guidance and strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities under the circumstances associated with the loss of large areas of the plant due to explosions or fire as required by § 50.54(hh)(2) of this chapter." This rulemaking also added 10 CFR 50.54(hh)(2)

in order to impose the same mitigating strategies requirements on new reactor applicants and licensees as those imposed by the ICM Order and associated license conditions. The Statement of Considerations for this rulemaking specifically noted that the requirements described in Section 50.54(hh) are for addressing certain events that are the cause of large fires and explosions that affect a substantial portion of the nuclear power plant and are not limited or directly linked to an aircraft impact. In addition, the rule contemplates that the initiating event for such large fires and explosions could be any number of beyond-design basis events, including natural phenomena such as those described in GDC 2 (i.e., earthquakes, tornadoes, floods, tsunami, and seiches), without regard to the GDC 2 limitation in magnitude of the design bases for the natural phenomena.

NRC regulations at 10 CFR 50.63 require that light-water-cooled nuclear power plants be capable of withstanding for a specified duration and recovering from a station blackout.

DISCUSSION

The nuclear power industry has taken the actions listed below at each licensed reactor site. Additional information is available in the NEI Fact Sheet, "Industry Taking Action to Ensure Continued Safety at U.S. Nuclear Energy Plants," dated March 16, 2011, available at www.nei.org.

1. Verification of the capability to mitigate conditions that result from severe adverse events, including the loss of significant operational and safety systems due to natural events, fires, aircraft impact and explosions.
2. Verification of the capability to mitigate a total loss of electric power to a nuclear power plant.
3. Verification of the capability to mitigate flooding and the impact of floods on systems inside and outside the plant.
4. Identification of the potential for loss of equipment functions during seismic events appropriate for the site and development of mitigating strategies of potential vulnerabilities.

Assessment of the implications of beyond design-basis natural phenomena, including earthquakes, is continuing as more information becomes available. In the near term, the NRC is considering additional generic communications and additional action that requests operating plants to provide specific information relating to their facilities to enable the NRC staff to complete the Regulatory Assessment. The NRC staff is concurrently developing a TI in order to perform independent assessment of nuclear power plant readiness to address beyond design-basis natural phenomena under the Reactor Oversight Process.

PAPERWORK REDUCTION ACT STATEMENT

This Information Notice does not contain any information collections and, therefore, is not subject to the requirements of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

CONTACTS

This information notice requires no specific action or written response. Please direct any questions about this matter to the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Timothy J. McGinty, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Technical Contact: Eric E. Bowman, NRR
301-415-2963
e-mail: Eric.Bowman@nrc.gov

Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.

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Timothy J. McGinty, Director
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Technical Contact: Eric E. Bowman, NRR
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NAME	RCorreia	CHawes	SRosenberg	TMcGinty
DATE	03/17/2011	03/17/2011	03/17/2011	

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OPA-

PRESS RELEASE

(Source: Draft IN)

**NRC INFORMS U.S. NUCLEAR POWER PLANTS
ON JAPAN QUAKE'S EFFECTS**

The Nuclear Regulatory Commission has issued an Information Notice to all currently operating U.S. nuclear power plants, describing the effects of the March 11 earthquake and tsunami on Japanese nuclear power plants.

The notice provides a brief overview of how the quake and tsunami are understood to have not only disabled several key safety-related systems at the Fukushima Daiichi nuclear power station, but also hampered efforts to return those systems to service. The notice also lists the known damage to the reactors and associated spent fuel pools as of Friday, March 18.

The notice reflects the current belief that the combined effects of the March 11 quake and tsunami exceeded the Fukushima Daiichi plant's design limits. The notice also recounts the NRC's efforts, post-9/11, to enhance U.S. plants' abilities to properly respond to the loss of large areas of a site following a severe event.

The NRC expects U.S. nuclear power plants will review the entire notice to determine how it applies to their facilities and consider actions, as appropriate, to avoid situations such as those at Fukushima Daiichi.

###

OPA

From: Burnell, Scott
To: Taylor, Robert; Brenner, Eliot; Akstulewicz, Brenda
Subject: FW: Press Release for Information Notice
Date: Friday, March 18, 2011 3:23:30 PM
Attachments: Quake_IN.docx
Importance: High

Rob;

We're good with ET approval, so tell NRR to push its buttons.

Brenda, please make this final and we'll wait for Rob to tell us NRR has sent the IN out.
Thanks.

Scott

From: Taylor, Robert
Sent: Friday, March 18, 2011 2:04 PM
To: Brenner, Eliot
Cc: Burnell, Scott
Subject: Press Release for Information Notice

Eliot,

Attached in the press release Scott drafted last night. It has been blessed by Ops Center ET and is ready for the next step (your review?). NRR is still driving to issue the IN today.

Regards,
Rob

Y/177

OPA-

PRESS RELEASE

(Source: Draft IN)

**NRC INFORMS U.S. NUCLEAR POWER PLANTS
ON JAPAN EARTHQUAKE'S EFFECTS**

The Nuclear Regulatory Commission has issued an Information Notice to all currently operating U.S. nuclear power plants, describing the effects of the March 11 earthquake and tsunami on Japanese nuclear power plants.

The notice provides a brief overview of how the earthquake and tsunami are understood to have disabled several key cooling systems at the Fukushima Daiichi nuclear power station, and also hampered efforts to return those systems to service. The notice is based on the NRC's current understanding of the damage to the reactors and associated spent fuel pools as of Friday, March 18.

The notice reflects the current belief that the combined effects of the March 11 earthquake and tsunami exceeded the Fukushima Daiichi plant's design limits. The notice also

recounts the NRC's efforts, post-9/11, to enhance U.S. plants' abilities to cope with severe events, such as the loss of large areas of a site, including safety systems and power supplies.

The NRC expects U.S. nuclear power plants will review the entire notice to determine how it applies to their facilities and consider actions, as appropriate.

###

From: Widomski, Michael
To: Taylor, Robert; McIntyre, David; Harrington, Holly
Subject: Fw: NICCL update: Fact Sheets and TPs
Date: Friday, March 18, 2011 11:11:23 AM
Attachments: FDA.doc
DHS FEMA family preparedness and the natl response framework.docx
CBP USPS.docx
EPA monitoring.docx
HHS KI.docx
Domestic Response to Japan TPs v2.docx
NICCL call summary 3-18-11 10 am.docx
USCG Fact Sheet.doc

Good stuff.

Sent from my BlackBerry Wireless Handheld

From: NATIONAL JIC <NationalJIC@dhs.gov>
To: NATIONAL JIC
Sent: Fri Mar 18 11:06:13 2011
Subject: NICCL update: Fact Sheets and TPs

Per today's NICCL call attached are approved fact sheets, Domestic Talking Points, and NICCL call summary. Below is a link to a helpful radiation chart developed by EPA.

<http://www.epa.gov/radiation/understand/perspective.html>

Y1178

Hyperlink: Questions about food safety
Hyperlink: Questions about medical products

What is FDA doing to assess the situation in Japan?

Based on current information, there is no risk to the U.S. food supply. FDA is closely monitoring the situation in Japan and is working with the Japanese government and other U.S. agencies to continue to ensure that imported food remains safe. FDA already has a very robust screening process for imports and has staff in place at the ports to monitor incoming products. We do not have concerns with the safety of imported food products that have already reached the U.S. and that are in distribution. As part of our investigation, we are collecting information on all FDA regulated food products exported to the U.S. from Japan, including where they are grown, harvested, or manufactured, so we can further evaluate whether, in the future, they may pose a risk to consumers in the U.S. As FDA assesses whether there is a potential health risk associated with FDA-regulated food products imported from Japan, we will develop a monitoring strategy that may include increased and targeted product sampling at the border.

What systems does FDA have in place to protect the US food supply?

The U.S. enjoys one of the world's safest food supplies. FDA has systems in place to help assure that our food supply is wholesome, safe to eat, and produced under sanitary conditions.

FDA has a team of more than 900 investigators and 450 analysts in the Foods program who conduct inspections and collect and analyze product samples. FDA oversees the importation of the full range of regulated products, including food and animal feed, among other responsibilities.

Altogether, FDA electronically screens all import entries and performs multiple analyses on about 31,000 import product samples annually. During Fiscal Year (FY) 2010, the Agency performed more than 175,000 food and feed field exams and conducted more than 350 foreign food and feed inspections.

FDA works to inspect the right imports—those that may pose a significant public health threat – by carrying out targeted risk-based analyses of imports at the points of entry.

If unsafe products reach our ports, FDA's imports entry reviews, inspections, and sampling at the border help prevent these products from entering our food supply.

Although FDA doesn't physically inspect every product, the Agency electronically screens 100 percent of imported foods products before they reach our borders. Based on Agency risk criteria, an automated system alerts FDA to any concerns. Then inspectors investigate further and, if warranted, do a physical examination of the product.

FDA also works cooperatively with U.S. Customs and Border Protection and other agencies to help identify shipments that may pose a threat.

What products come to the US from Japan?

Imports from Japan include human and animal foods, medical devices and radiation emitting products, cosmetics, animal and human drugs and biologics, and dietary supplements. Foods imported from Japan make up less than 4 percent of foods imported from all sources. (Food products from Canada and Mexico each make up about 29 percent of all imported foods.) Almost 60 percent of all products imported from Japan are foods. The most common food products imported include seafood, snack foods and processed fruits and vegetables.

Are there dairy products that come from Japan?

Foods imported from Japan constitute less than 4 percent of foods imported from all sources. Dairy products make up only one-tenth of one percent of all FDA-regulated products imported from Japan. Most dairy products in the US market are produced domestically. FDA is consulting with USDA's Animal Plant Health Inspection Service (APHIS) to ensure the continued safety of dairy products.

Are there food harvesting (fields, fisheries) or processing facilities in the area of the Fukushima nuclear reactor?

While FDA does not track fields or fishery areas in foreign countries, it's important to note that the damage caused by the earthquake and ensuing tsunami has reportedly halted production prior to the explosion at the reactor.

Is there any reason for concern about radiation from these products when they are imported into the US?

Right now, due to the damage to the infrastructure in Japan, FDA believes that export activity is severely limited. FDA is monitoring all import records for Japan to determine when importation will resume and will conduct surveillance to assure safety. FDA does not have any concerns for products that were already in transit when the explosion occurred at the reactor.

What are the current procedures for measuring radiation contamination in food? How will these change? How will FDA ensure consumers' safety?

FDA has procedures and laboratory techniques for measuring radionuclide levels in food, and can also utilize the Food Emergency Response Network (FERN) (<http://www.fernlab.org/>). FERN integrates the nation's food-testing laboratories at the local, state, and federal levels into a network that is able to respond to emergencies involving biological, chemical, or radiological contamination of food. FDA is working with Customs and Border Protection (CPB) to share resources and techniques for measuring contamination. FDA has the ability to measure contamination in products and issued guidance in 1998 regarding safe levels.

Will FDA issue an import bulletin? What sort of techniques will FDA use to measure radiation in food?

FDA will issue an import bulletin or an assignment to the field once an assessment is completed on products and appropriate testing that can be completed. Products travel by vessel, the typical transit time for products to reach the US is about 8 days. FDA and other domestic regulatory labs have validated analytical methods to detect radiological contamination in food.

Is FDA looking at products that might have traveled *through* Japan at the time of the explosion?

FDA will be examining both food products labeled as having originated in Japan or having passed through Japan in transit. The same is true for raw ingredients.

How will the radiation affect fish and seafood that have not yet been fished or harvested?

The great quantity of water in the Pacific Ocean rapidly and effectively dilutes radioactive material, so fish and seafood are likely to be unaffected. However, FDA is taking all steps to evaluate and measure any contamination in fish presented for import into the US.

What are the chances of radiation affecting growing areas in the US? What action will FDA take to ensure the safety of consumers of those products?

At this time, there is no public health threat in the US related to radiation exposure. FDA, together with other agencies, is carefully monitoring any possibility for distribution of radiation to the United States. At this time, theoretical models do not indicate that significant amounts of radiation will reach the US coast or affect US fishing waters. Please see www.epa.gov for more information about monitoring efforts.

Hypothetically, if they were needed, what are the FDA-approved products for radiation exposure?

There are three FDA-approved potassium iodide (KI) products for use as an adjunct to other public health protective measures in the event that radioactive iodine is released into the environment. The three over-the-counter products are:

- Iosat Tablets (130 mg), Anbex, Inc., Williamsburg, Va., <http://www.anbex.com>
- ThyroSafe Tablets (65 mg), Recipharm AB, Jordbro, Sweden, <http://www.thyrosafe.com>
- ThyroShield Solution (65 mg/mL), Fleming & Company Pharmaceuticals, Fenton, Mo. <http://www.thyroshield.com>

When administered in the recommended dose, KI is effective in reducing the risk of thyroid cancer in individuals or populations at risk for inhalation or ingestion of radioactive iodine. KI floods the thyroid with non-radioactive iodine and prevents the uptake of the radioactive molecules, which are subsequently excreted in the urine. Potassium iodide works only to prevent the thyroid from uptaking radioactive iodine. It is not a general radioprotective agent.

Is potassium iodide the only medication available for radiation exposure?

Potassium iodide is the only FDA-approved medication available for exposure to radioactive iodine. There are FDA-approved products available that increase the rate of elimination of other radioactive elements. They include:

- Calcium-DTPA and Zinc DTPA, Hameln Pharmaceuticals
 - Approved to treat known or suspected internal contamination with plutonium, americium, or curium to increase the rates of elimination.
- Radiogardase (Prussian blue insoluble capsules), HEYL Chemisch-Pharmazeutische Fabrik GmbH & Co. KG
 - Approved to treat known or suspected internal contamination with radioactive cesium and/or radioactive or non-radioactive thallium to increase their rates of elimination.

We have heard that potassium iodide is in short supply? Is that correct?

FDA is aware of an increased demand for KI products. FDA is working with these companies to facilitate increased production. We can't provide an exact date on when that might happen, but it will occur as quickly as possible.

Several components of the federal government maintain stockpiles of medical supplies for emergency situations. For instance, the CDC maintains the Strategic National Stockpile for civilian use, while the Department of Defense maintains their own supplies for support of military operations. The respective federal organizations should be contacted with any additional requests about the specific items and quantities in those stockpiles. Deployment of these stockpiles is governed by policies and procedures developed by the individual organizations based on available information and potential benefits and risks to public health.

Does FDA recommend that consumers purchase potassium iodide as a protective step?

No. There is no public health event requiring anyone in the US to take KI because of the ongoing situation in Japan.

With exports from Japan disrupted, is there any possibility that some medical products could be in short supply?

FDA has been contacted by a few companies who receive product from Japan and we are working with them on their supply issues.

If I see web sites advertising potassium iodide or alternative cures, should I buy the products?

Due to the public concern related the nuclear incident in Japan, there has been an increased demand for drugs, such as Potassium iodide (KI), used to prevent and treat the harmful effects of radiation.

According to the Nuclear Regulatory Commission, all the available information continues to indicate that Hawaii, Alaska, the U.S. Territories, and the U.S. West Coast are not expected to experience any harmful levels of radioactivity.

The FDA is alerting consumers to be wary of internet sites and other retail outlets promoting products making false claims to prevent or treat effects of radiation or products that are not FDA-approved. These fraudulent products come in all varieties and could include dietary supplements, food items, or products purporting to be drugs, devices or vaccines.

Consumers should be wary of the following:

- claims that a product not approved by FDA can prevent or treat the harmful effects of radiation exposure;
- suggestions that a potassium iodide product will treat conditions other than those for which it is approved, i.e., KI floods the thyroid with non-radioactive iodine and prevents the uptake of the radioactive molecules, which are subsequently excreted in the urine;
- promotions using words such as “scientific breakthrough,” “new products,” “miraculous cure,” “secret ingredient,” and “ancient remedy”;
- testimonials by consumers or doctors claiming amazing results;
- limited availability and advance payment requirements;
- promises of no-risk, money-back guarantees;
- promises of an “easy” fix; and,
- claims that the product is “natural” or has fewer side effects than approved drugs.

Don't be fooled by professional-looking Web sites. Avoid Web sites that fail to list the company's name, physical address, phone number, or other contact information. For more tips for online buying, visit Buying Medicines and Medical Products Online. To determine if a particular drug is FDA approved, check The Orange Book (<http://www.accessdata.fda.gov/scripts/cder/ob/default.cfm>) or Drugs@FDA (<http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm>).

Consumers and health care professionals are encouraged to report adverse side effects or medication errors from the use of both approved and unapproved radiation exposure products to the FDA's MedWatch Adverse Event Reporting program at www.fda.gov/MedWatch or by calling 800-332-1088.

Personal & Family Preparedness:

As the recent tragic events in Japan have reminded all of us, emergencies can strike at any time - and often when you least expect them. The best way to make sure that your family is taken care of when disaster does strike is to make sure you are prepared. The Ready Campaign encourages all Americans to have an emergency supply kit, an emergency plan, and to be informed about the different emergencies that can happen in your area and the appropriate responses. To make sure your family is ready before disaster strikes, visit Ready.gov today to start building your family's emergency plan today:

<http://ready.adcouncil.org/beprepared/fep/index.jsp>

National Response Framework:

The Department of Homeland Security, working through the Federal Emergency Management Agency, has developed and maintains the National Response Framework (NRF), a guide that details how the Nation conducts all-hazards responses - from the smallest incident to the largest catastrophe. The NRF makes clear the roles and responsibilities of federal agencies for all domestic incidents, so that every member of the nation's emergency management team understands how the federal response will be coordinated. For more information on the NRF, visit <http://www.fema.gov/emergency/nrf/index.htm>.

- U.S. Customs and Border Protection (CBP) is monitoring developments in Japan carefully and is specifically assessing the potential for radiological contamination associated with the ongoing impact of the earthquake and tsunami to Japan's nuclear facilities.
- Out of an abundance of caution, CBP has issued field guidance reiterating its operational protocols and providing specific field personnel direction with regard to monitoring of maritime and air traffic from Japan.
- In general, travelers that have been exposed to radiation are not a risk to other persons. When a radiation alarm occurs, CBP has protocols in place to isolate the affected traveler, baggage, or cargo, and resolve the concern. Travelers who manifest signs of radiation sickness will be referred to health authorities and provided appropriate treatment.
- CBP employs several types of radiation detection equipment in its operations at both air and sea ports. CBP frontline personnel are equipped with Personal Radiation Detectors (PRDs) that can detect the presence of radiological materials. All airports and seaports have sensitive Radiation Isotope Identification Devices (RIIDs) to determine both the presence and type of radiation encountered. Upon radiation detection, CBP exercises specific protocols to resolve any security or safety concerns for inbound travelers, baggage, and cargo.
- CBP resolves over half a million radiation alarms per year in the course of their normal duties.
- In addition to airplanes and ports, CBP utilizes radiation portal monitors at international mail facilities as well. The monitors provide a non-intrusive method to screen mail items for the presence of nuclear and radiological materials. The U.S. Postal Service assists Customs and Border Protection officers with response and mitigation of items when radiation is detected to ensure the safety of our employees and the American public.

As the Nuclear Regulatory Commission has said, we do not expect to see radiation at harmful levels reaching the U.S. from damaged Japanese nuclear power plants. As part of the federal government's continuing effort to make our activities and science transparent and available to the public, the Environmental Protection Agency (EPA) will continue to keep all RadNet data available in the current online database. EPA is working with its federal partners and has deployed additional monitors to Hawaii, Alaska, Guam and the Northern Mariana Islands.

As always, EPA is utilizing this existing nationwide radiation monitoring system, RadNet, which continuously monitors the nation's air and regularly monitors drinking water, milk and precipitation for environmental radiation. The RadNet online searchable database contains historical data of environmental radiation monitoring data from all fifty states and U.S. territories.

EPA monitors are not picking up any harmful levels of radiation on our RadNet monitors across the US.

Radiation and Potassium Iodide (KI)

Purpose

This fact sheet from the Centers for Disease Control and Prevention (CDC) gives you some basic information about Radiation and Potassium Iodide (KI). It explains what you should think about before you or a family member takes KI.

What Is Radiation?

Radiation is a form of energy that is present all around us. Different types of radiation exist, some of which have more energy than others.

What Is Radioactive Contamination?

Radioactive contamination occurs when radioactive material is deposited on or in an object or a person. Radioactive materials released into the environment can cause air, water, surfaces, soil, plants, buildings, people, or animals to become contaminated. A contaminated person has radioactive materials on or inside their body.

Key Facts

- At this time, CDC does not recommend that people in the United States take KI or iodine supplements in response to the nuclear power plant explosions in Japan.
- You should only take KI on the advice of emergency management officials, public health officials, or your doctor.
- There are health risks associated with taking KI.

What is KI?

Potassium iodide (also called KI) is a salt of stable (not radioactive) iodine. Stable iodine is an important chemical needed by the body to make thyroid hormones. Most of the stable iodine in our bodies comes from the food we eat. KI is stable iodine in a medicine form.

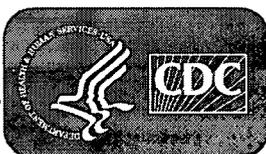
What does KI do?

If radioactive iodine is released into the air after a radiological or nuclear event it can be breathed into the lungs. In most cases, once radioactive iodine has entered the body, the thyroid gland quickly absorbs it. After it has been absorbed into the thyroid gland, radioactive iodine can then cause thyroid gland injury. Because KI acts to block radioactive iodine from being taken into the thyroid gland, it can help protect this gland from injury.

It is also important to know what KI cannot do. *KI cannot* protect parts of the body other than the thyroid from radioactive iodine. *KI cannot* protect the body from any radioactive elements other than iodine. If radioactive iodine is not present, then taking KI is not protective. To date, no radioactive iodine has been detected in the United States or U.S. territories.

How does KI work?

The thyroid gland cannot tell the difference between stable and radioactive iodine and will absorb both. KI works by blocking radioactive iodine from entering the thyroid. When a person takes KI, the stable iodine in the medicine gets absorbed by the thyroid. There is so much stable iodine in the KI that the thyroid gland becomes "full" and cannot absorb any more iodine—either stable or radioactive—for the next 24 hours.



U.S. Department of Health and Human Services

Centers for Disease Control and Prevention

How well does KI work?

It is important to know that KI may not give a person 100% protection against radioactive iodine. How well KI blocks radioactive iodine depends on:

- How much time passes between contamination with radioactive iodine and taking KI (the sooner a person takes KI after being exposed to radioactive iodine, the better),
- How fast KI is absorbed into the blood, and
- The total amount of radioactive iodine to which a person is exposed.

A single dose of KI protects the thyroid gland for 24 hours. **Taking a higher dose of KI, or taking KI more often than recommended, does not offer more protection and can cause severe illness or death.**

Medical conditions that may make it harmful to take KI

It may be harmful for some people to take KI because of the high levels of iodine in this medicine. You should not take KI if:

- You know you are allergic to iodine (If you are unsure about this, consult your doctor. A seafood or shellfish allergy does not necessarily mean that you are allergic to iodine.) OR
- You have certain skin disorders (such as dermatitis herpetiformis or urticaria vasculitis).

When should I take KI?

After a radiological or nuclear event in the United States, local public health or emergency management officials will tell the public if there is a need to take KI or other protective actions. **After an event in the US, you should follow the instructions given to you by these local authorities.**

At this time, CDC does not recommend that people in the United States take Potassium Iodide (KI) or iodine supplements in response to the nuclear power plant explosions in Japan.

The use of non-FDA approved iodine supplements cannot be guaranteed for safety or efficacy. These products do not have an FDA-approved dosing schedule. The supplements are not necessarily manufactured using FDA-approved quality control methods. Saturated Solution of Potassium Iodide (SSKI or Lugol's Solution) is not an FDA-approved drug.

Scientists are tracking the location of radioactive iodine released from the power plant in Japan. No radioactive iodine has been detected in the U.S. The EPA monitors for radioactivity through a national network of monitoring stations called RADNET.

Other Sources of Information

- General information about the use of Potassium Iodide, including information about use by pregnant women and children (<http://www.bt.cdc.gov/radiation/ki.asp>).
- CDC Emergency Response Site for Radiation Emergencies (<http://www.bt.cdc.gov/radiation/index.asp>).
- Guidance for People Living in Japan from the U.S. Embassy in Japan (<http://japan.usembassy.gov/>)

Domestic Response to Japan TPs

- Over the last several days, the American people have been both heartbroken and deeply concerned about the developments in Japan.
- We've seen an earthquake and tsunami render unimaginable -- an unimaginable toll of death and destruction on one of our closest friends and allies in the world. And we've seen this powerful natural disaster cause even more catastrophe through its impact on nuclear reactors that bring peaceful energy to the people of Japan.
- First, we are bringing all available resources to bear to closely monitor the situation, and to protect American citizens who may be in harm's way. Even as Japanese responders continue to do heroic work, we know that the damage to the nuclear reactors in Fukushima Daiichi plant poses a substantial risk to people who are nearby. That is why, we have called for an evacuation of American citizens who are within 50 miles of the plant. This decision was based upon a careful scientific evaluation and the guidelines that we would use to keep our citizens safe here in the United States, or anywhere in the world.
- Beyond this 50-mile radius, the risks do not currently call for an evacuation. But we do have a responsibility to take prudent and precautionary measures to educate those Americans who may be endangered by exposure to radiation if the situation deteriorates. That's why the President authorized the voluntary departures of family members and dependents of U.S. officials working in northeastern Japan.
- All U.S. citizens in Japan should continue to carefully monitor the situation and follow the guidance of the U.S. and Japanese governments. And those who are seeking assistance should contact our embassy and consulates, which continue to be open and operational.

Here at home, the government is doing a number of things as well:

- The US Government will be studying every aspect of the Japanese disaster and the Japanese government's response, with the goal of learning as much as possible from that review.
- As the Nuclear Regulatory Commission has said as well as other nuclear and public health experts, we do not expect to see radiation at harmful levels reaching the U.S. from damaged Japanese nuclear power plants. 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.
- Accordingly, public health experts and the CDC do not recommend that people in the United States take precautionary measures in response to the nuclear power plant explosions in Japan beyond staying informed. And going forward, we will continue to keep the American people fully updated.
- As part of the federal government's continuing effort to make our activities and science transparent and available to the public, the Environmental Protection Agency (EPA) will continue to keep all RadNet data available in the current online database. RadNet is an existing nationwide radiation monitoring system that continuously monitors the nation's air and regularly monitors drinking water, milk and precipitation for environmental radiation. In addition, EPA is working with its federal partners to deploy additional monitoring capabilities to parts of the western U.S. and U.S. territories.
- The FDA, USPS and CBP are of course closely monitoring the situation in Japan and all are working with other U.S. agencies and or the Japanese government to continue to ensure that imported food, mail and airplanes remains safe.
- And finally, given the range of potential manmade and natural disasters we can see here in America, the United States Government has in place preparedness and response plans that provide the flexibility and agility we need to respond aggressively and effectively to any hazard, including nuclear accidents. FEMA and the Department of Homeland Security thoroughly and regularly exercise these plans with their federal, state and local partners, and will be working to apply the lessons learned from the current situation in Japan to their planning efforts.

NICCL call summary, 03/18/2011 10:00 a.m

Nick from WH thanked everyone for quick turnaround on all fact sheets. Facts sheets and talking points submitted yesterday on keeping United States safe.

CBP had a great day with the media yesterday. Media assuring citizens we are protected and we are working to protect our citizens.

Secretary of State met with Ireland Deputy Prime Minister/Foreign Minister and gave brief remarks on situation in Japan.

If there is a detection of radiation on the monitors deployed to the West Coast, EPA has the lead for addressing the issue.

Fact sheets and talking points can be made public.

Embassy in Tokyo extended hours and will work over the weekend. Buses are scheduled to evacuate citizens to safety.

Banner included on EPA site to monitor air. Nothing out of the ordinary and site will be updated during the day.

MEDIA: press@epa.gov PUBLIC: radiation.questions@epa.gov

FDA posted questions and answers on food safety and consumer fraud on KI on their site 03/17. Today revising TP on import monitoring. They are increasing monitoring and taking steps to inform public.

HHS is continuing to monitor crisis.

CBP put out information on ports of entry and clarified protocols. Reiterated same monitoring is done daily. Nothing harmful has been detected.

Postal service is assisting CBP on monitoring mail from Japan for radiation.

DOD had previous radiological exercise scheduled. They are working with ABC to show capabilities.

No scheduled calls this weekend. Only if needed. No state call this afternoon. Will push out approved fact sheets to state and local. Approved fact sheets attached

Talking points regarding radiation exposure and seagoing vessels

Q.1. - What is the Coast Guard doing now to assist or prevent [radiation] from getting to U.S. and its territories?

- As the Nuclear Regulatory Commission has said as well as other experts, we do not expect to see radiation at harmful levels reaching the U.S. from damaged Japanese nuclear power plants. As we do every day, the Coast Guard is monitoring and assessing current reports on any possible impacts on the U.S. marine transportation system (U.S. merchant vessels, mariners, and U.S. ports and facilities).
- The Coast Guard is providing a Notice to Mariners recommending, as a precaution, that vessels avoid transiting within 50 miles of the Fukushima Nuclear Power Plant.

In the event a vessel bound for a U.S. port transits within the 50-mile cautionary area, the U.S. Coast Guard will require the vessel's master to submit this information in their routine 96-hour Advanced Notice of Arrival.

If vessels are suspected of being contaminated, the Coast Guard will ensure advanced screening of vessels and exercise control measures as appropriate prior to port entry to assess and mitigate any threat to U.S. ports or population.

Q.2. - Do you have any impacts to your current operations or readiness as a result of this incident?

- The nuclear situation in Japan is not significantly impacting current Coast Guard operations or readiness. All domestic port operations are continuing normally. No Coast Guard assets are operating near the damaged zone or in Japan.

Q.3. – What else is the Coast Guard doing regarding this incident?

- The U.S. Coast Guard will continue to track and monitor commercial shipping operating in the vicinity of Japan, providing precautionary notices to prevent possible nuclear contamination of vessels and cargo.
- The Coast Guard will ensure advanced screening of any vessels suspected of contamination prior to entry in U.S. ports.

Q.4. - What steps will be taken in the event contamination is discovered during your operations as a result of this incident?

- The Coast Guard's Radiation Detection Program is an integral part of our nation's everyday radiation detection architecture. Together with U.S. Customs and Border Protection (CBP) and local port partners, Coast Guard Captains of the Port routinely follow established protocols for responding to a report or detection of radioactive contamination when it is discovered aboard a vessel, on or in a shipping container or within a port facility itself.

- Coast Guard radiation detection resources can be deployed during arriving vessel at-sea boardings, and Coast Guard procedures exist for addressing radiation detected on vessels. These include identification, "zeroing-in" on and isolating potential sources of radiation. Additional radiological detection equipment, including radiation detection portals, is located within US port facilities.
- The Coast Guard has the authority to direct contaminated vessels to a safe location, e.g., keep at sea, or direct to a safe anchorage away from population centers and/or infrastructure, in U.S. waters, until vessels, cargo and personnel are decontaminated. Vessels deemed a possible risk due to known last ports of call or transit routes may be targeted for an at-sea boarding and screening before being allowed to enter port.
- Coast Guard Captains of the Port work with CBP Laboratories and Scientific Services and the Department of Energy Radiological Assistance Program for local assistance in cases of radiation detection.
- The Coast Guard will also be working with the U.S. Department of Homeland Security and other federal government agencies to develop strategies and policies to mitigate any potential risk posed to the U.S. homeland by radiation threats conveyed by commercial shipping.

From: [Brenner, Eliot](#)
To: [SIMON LOMAX, BLOOMBERG/ NEWSROOM:](#)
Cc: [Burnell, Scott](#); [McIntyre, David](#); [Taylor, Robert](#); [Harrington, Holly](#); [Brenner, Eliot](#)
Subject: RE: (BN) 'Miniscule' Amounts of Radiation From Japan Plants
Date: Friday, March 18, 2011 6:50:36 PM

Go ahead and take door #1

-----Original Message-----

From: SIMON LOMAX, BLOOMBERG/ NEWSROOM: [<mailto:slomax@bloomberg.net>]
Sent: Friday, March 18, 2011 6:48 PM
To: Brenner, Eliot
Subject: (BN) 'Miniscule' Amounts of Radiation From Japan Plants

Hi Eliot -- please find at the bottom of this message the story that i'd like to update with your info about the height of the radioactive material. i can attribute it one of two ways (#1 is my preference):

1. "Quote," the U.S. Nuclear Regulatory Commission said in an e-mailed statement. (this would be my preferred option)
2. Paraphrase, said a U.S. Nuclear Regulatory Commission official who declined to be identified because the agency hasn't made a public statement on the matter.

If you can let me know which one to go with I'll update ASAP.
Cheers,
Simon.

+-----+
'Miniscule' Amounts of Radiation From Japan Plants Found in U.S.
2011-03-18 22:42:28.443 GMT

By Simon Lomax and John Hughes

March 19 (Bloomberg) -- A "miniscule" amount of radiation that probably came from damaged nuclear reactors in Japan was picked up at a California monitoring station yesterday, the U.S. government said.

The level of radiation registered in Sacramento was about "one-millionth of the dose" a person gets from rocks, bricks, the sun and natural background sources and "poses no concern," the U.S. Environmental Protection Agency and Energy Department said in a joint statement.

A similar level of the radioactive isotope, xenon-133, was detected in Washington state on March 16 and 17, according to the agencies. It was "consistent with a release from the Fukushima reactors in Northern Japan," according to the statement. The EPA and Energy Department have monitoring systems and neither found "radiation levels of concern."

Japan is seeking to avert a meltdown at the Fukushima Dai-ichi plant, which was damaged by a March 11 earthquake and tsunami. Helicopters and fire trucks used water buckets and cannons to help cool the plant, which has been crippled by explosions, fires and radiation leaks.

Tokyo Electric Power Co., the plant's owner, said it's also

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trying to connect a power line to the site to restart water pumps used to keep fuel rods from overheating.

President Barack Obama said yesterday his nuclear advisers don't expect "harmful levels" of radiation will reach the U.S.

Airlines and ships can operate into Japan's airports and sea ports, excluding those damaged by the tsunami, the International Civil Aviation Organization said, citing information from the World Health Organization and other international agencies.

Passenger Screening

Screening for radiation of international passengers from Japan isn't considered necessary at this time, the organization said in an e-mailed statement yesterday.

The earthquake and tsunami crippled the company's Dai-Ichi plant, triggering fires, explosions and radiation leaks. Doctors and scientists have said the plant is unlikely to pose a health risk for people living more than 36 miles (50 kilometers) from the site.

The containment devices in Japan, even if compromised, offer more protection than reactors at the world's worst nuclear disaster at Chernobyl, Ukraine, in 1986, said Donald Bucklin, former medical director of Palo Verde Nuclear Generating Station in Arizona, the largest U.S. nuclear plant.

Radiation can damage DNA, the building blocks of human life, said Bucklin, now medical review officer for U.S. HealthWorks, the nation's largest private provider of occupational health care. While the body repairs most damage, some radiation-caused mutations can make cells malignant, he said.

Radiation, Tokyo

Radiation spewed from the reactor in a meltdown might rise to as high as 500 meters (1,640 feet), and is unlikely to reach Tokyo, 135 miles away, John Beddington, U.K.'s chief science officer, said on a conference call March 16 with the British Embassy in Tokyo. The Chernobyl explosion sent radioactive dust 30,000 feet high and continued for months.

The public-health risk would be equal to little more than two additional chest x-rays, said John Lee, a professor of nuclear engineering and radiological sciences, at the University of Michigan in Ann Arbor. A Chernobyl type of explosion is impossible, he said.

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Japan Catastrophe Portal: [JCAT <GO>](#)

BMAP of Disasters: [BMAP 80438 <GO>](#)

U.S. reactor status: [NRCR <GO>](#)

--With assistance from Michelle Cortez in Chicago and John Lauerman in Boston. Editors: Steve Geimann, Larry Liebert

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Nuclear Events Web-based System (NEWS) Event Detail

Event Title:	Loss of the cooling function to the ultimate heat sink due to the big tsunami		
Event Date:	2011-03-11	Date Sent:	2011-03-18 10:11:00 UTC
Location/Facility:	FUKUSHIMA-DAINI-1	Event Type:	Power Reactor
Country:	Japan	Reactor Type:	Boiling Water Reactors
Event Sender:	Masahiro Yagi	INES Rating:	3

Event Abstract:

Fukushima Dai-ni Nuclear Power Station Units 1, 2 and 4, which is in rated power operation, have automatically shut down around 14:46(JST) on March 11, 2011, because of the Tohoku regional Pacific Ocean Offshore Earthquake. Following the earthquake, the big tsunami attacked the power station and the seawater pump rooms were flooded. The licensee lost the function operability of sea water pumps for last heat removal. The turbine driven pump started operation and the exhausted steam increased the pressure of the suppression pool. The turbine driven pump became inoperable.

As a result of the efforts by the people on site, some seawater pumps were recovered and restarted. The suppression pools were cooled and the pressure was decreased. And the sea water pumps became to discharge the heat to the ultimate heat sink through the residual heat removal system.

Finally, the temperature of the reactors was decreased below 100 degree C and the reactors became cold shut down condition.

Nuclear Events Web-based System (NEWS) Event Detail

Event Title:	Loss of the cooling function to the ultimate heat sink due to the big tsunami		
Event Date:	2011-03-11	Date Sent:	2011-03-18 10:13:00 UTC
Location/Facility:	FUKUSHIMA-DAINI-2	Event Type:	Power Reactor
Country:	Japan	Reactor Type:	Boiling Water Reactors
Event Sender:	Masahiro Yagi	INES Rating:	3

Event Abstract:

Fukushima Dai-ni Nuclear Power Station Units 1, 2 and 4, which is in rated power operation, have automatically shut down around 14:46(JST) on March 11, 2011, because of the Tohoku regional Pacific Ocean Offshore Earthquake. Following the earthquake, the big tsunami attacked the power station and the seawater pump rooms were flooded. The licensee lost the function operability of sea water pumps for last heat removal. The turbine driven pump started operation and the exhausted steam increased the pressure of the suppression pool. The turbine driven pump became inoperable.

As a result of the efforts by the people on site, some seawater pumps were recovered and restarted. The

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suppression pools were cooled and the pressure was decreased. And the sea water pumps became to discharge the heat to the ultimate heat sink through the residual heat removal system. Finally, the temperature of the reactors was decreased below 100 degree C and the reactors became cold shut down condition.

Nuclear Events Web-based System (NEWS) Event Detail

Event Title:	Loss of the cooling function to the ultimate heat sink due to the big tsunami		
Event Date:	2011-03-11	Date Sent:	2011-03-18 10:17:00 UTC
Location/Facility:	FUKUSHIMA-DAINI-4	Event Type:	Power Reactor
Country:	Japan	Reactor Type:	Boiling Water Reactors
Event Sender:	Masahiro Yagi	INES Rating:	3

Event Abstract:

Fukushima Dai-ni Nuclear Power Station Units 1, 2 and 4, which is in rated power operation, have automatically shut down around 14:46(JST) on March 11, 2011, because of the Tohoku regional Pacific Ocean Offshore Earthquake. Following the earthquake, the big tsunami attacked the power station and the seawater pump rooms were flooded. The licensee lost the function operability of sea water pumps for last heat removal. The turbine driven pump started operation and the exhausted steam increased the pressure of the suppression pool. The turbine driven pump became inoperable.

As a result of the efforts by the people on site, some seawater pumps were recovered and restarted. The suppression pools were cooled and the pressure was decreased. And the sea water pumps became to discharge the heat to the ultimate heat sink through the residual heat removal system.

Finally, the temperature of the reactors was decreased below 100 degree C and the reactors became cold shut down condition.

Nuclear Events Web-based System (NEWS) Event Detail

Event Title:	Effect to the Nuclear Facilities from the earthquake on east area of Japan		
Event Date:	2011-03-11	Date Sent:	2011-03-12 00:41:00 UTC
Location/Facility:	FUKUSHIMA-DAIICI-1,2 FUKUSHIMA-DAINI-1, Japan	Event Type:	Power Reactor
Country:	Japan	Reactor Type:	Boiling Water Reactors
Event Sender:	Masahiro Yagi	INES Rating:	3

Event Abstract:

14:46 (UTC 5:46) March 11, an earthquake hit east area of Japan. Summary of earthquake and current status of each nuclear facility is as follows;

1. Summary of Earthquake

- (1) Time of Occurrence: 14:46 (UTC 5:46) March 11, 2011, Friday
- (2) Epicenter: Off-Coast of Sanriku (North Latitude: 38; East Longitude: 142.9), 10km deep, M8.8

2. The status of operation at Power Stations(Number of automatic shutdown(units): 10 (as of 00:30(UTC:11:46), March12)

a. Onagawa Nuclear Power Station (Onagawa-machi and Ishinomaki-shi, Miyagi Prefecture)

(1) The status of operation

Unit 1 (524MWe): automatic shutdown

Unit 2 (825MWe): automatic shutdown

Unit 3 (825MWe): automatic shutdown

(2) Readings of monitoring post etc.

Variation in the monitoring post readings: No

Variation in the main stack monitor readings: No

(3) Report concerning other malfunction

Report of fire: CO2 extinguishment started at 17:15

b. Fukushima Dai-ichi Nuclear Power Station, Tokyo Electric Power Co.,Inc.(TEPCO) (Okumamachi and Futaba-machi, Futaba-gun, Fukushima Prefecture)

(1) The status of operation

Unit 1 (460MWe): automatic shutdown

Unit 2 (784MWe): automatic shutdown

Unit 3 (784MWe): automatic shutdown

Unit 4(784MW): in periodic inspection outage

Unit 5(784MW): in periodic inspection outage

Unit 6(1,100MW): in periodic inspection outage

(2) Readings at monitoring post etc.
 Variation in the monitoring post readings: No
 Variation in the main stack monitoring readings: No
 (3) Report concerning other malfunction
 Article 10* of Act on Special Measures Concerning Nuclear Emergency Preparedness (Fukushima Dai-ichi, Unit 3)
 (*A heightened alert condition)
 Article 15** of Act on Special Measures Concerning Nuclear Emergency Preparedness (Fukushima Dai-ichi, Units 1 and 2)
 (** Nuclear emergency situation)
 Situation of power source to recover water injection function at the Station.
 Three or four electric power source cars are waiting in the premise. Part of cable was obtained and connecting work is under way. This work is done with paying attention to tsunami. (2:00, March 12)
 Pressure in the Confinement Vessel has arisen. The pressure could have arisen to 600kPa as compared to the design pressure of 400kPa.

c. Fukushima-Daini Nuclear Power Station(TEPCO)
 (Naraha-cho/Tomioka-cho, Futaba-gun, Fukushima pref.)

(1) The status of operation
 Unit1(1,100MW): automatic shutdown
 Unit2(1,100MW): automatic shutdown
 Unit3(1,100MW): automatic shutdown
 Unit4(1,100MW): automatic shutdown
 (2) Readings at monitoring post etc.
 Variation in the monitoring post readings: No
 Variation in the main stack monitoring readings: No
 (3) Report concerning other malfunction
 Report of fire: No
 Article 10* of Act on Special Measures Concerning Nuclear Emergency Preparedness (Fukushima Dai-ni, Units 1,2 and 4)
 (*A heightened alert condition)

Nuclear Events Web-based System (NEWS) Event Detail

Event Title:	Abnormal rise of radioactive dosage value at site boundary (INES Level 4)		
Event Date:	2011-03-12	Date Sent:	2011-03-12 15:05:00 UTC
Location/Facility:	FUKUSHIMA-DAIICHI-1	Event Type:	Power Reactor
Country:	Japan	Reactor Type:	Boiling Water Reactors
Event Sender:	Masahiro Yagi	INES Rating:	5

Event Abstract:

The core damage by loss of all cooling function due to the big tsunami.-Provisional 2

Fukushima Dai-ichi Nuclear Power Station Unit 1, 2 and 3, which is in rated power operation, have automatically shut down around 14:46 (JST) in March 11, 2011 because of the Tohoku regional Pacific Ocean Offshore Earthquake.

After that, the power station was attacked by tsunami.

Electricity rooms and seawater pump rooms were flooded, and the cooling function became only the coolant injection of the turbine driven pump. The turbine driven pump operation increased the pressure of the suppression chamber, and it became impossible to continue the operation.

It means loss of all cooling function, and the declaration of a state of emergency was done.

The release valve was opened several times and injections of the sea water into the reactor vessel were carried out with fire extinguishing pumps. The gas in the containment vessel was also vented.

Then, the radioactive dose rate at site boundary had exceeded the limit value of 0.5 mSv/h.

This value is thought smaller than the value resulting in the release of a few per cent of core inventory of a power reactor from the fuel assemblies.

But the radioactive dose rate at the suppression chamber was high. And it is thought that hydrogen gas was generated enough to damage the reactor building.

The behavior of the pressure of the reactor vessel and the containment vessel, and the behavior of the water level of the reactor vessel were complicated. Some measurements were not possible because of failures of measurement equipment. As a result, the detailed estimate can not be done.

But these values are thought the values resulting in the release of more than a few per cent of core inventory of a power reactor from the fuel assemblies.

The inhabitants of the range of 20 km took refuge. At least, one worker received a dose (about 106 mSv) in excess of the annual limit (100 mSv). But we can not rate on impact on people and the environment because the correspondence work still continues.

Nuclear Events Web-based System (NEWS) Event Detail

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Nuclear Events Web-based System (NEWS) Event Detail

Event Title:	The core damage by loss of all cooling function due to the big tsunami.		
Event Date:	2011-03-11	Date Sent:	2011-03-18 09:51:00 UTC
Location/Facility:	FUKUSHIMA-DAIICHI-2	Event Type:	Power Reactor
Country:	Japan	Reactor Type:	Boiling Water Reactors
Event Sender:	Masahiro Yagi	INES Rating:	5

Event Abstract:

Fukushima Dai-ichi Nuclear Power Station Unit 1, 2 and 3, which is in rated power operation, have automatically shut down around 14:46 (JST) in March 11, 2011 because of the Tohoku regional Pacific Ocean Offshore Earthquake. After that, the power station was attacked by tsunami. Electricity rooms and seawater pump rooms were flooded, and the cooling function became only the coolant injection of the turbine driven pump. The turbine driven pump operation increased the pressure of the suppression chamber, and it became impossible to continue the operation. It means loss of all cooling function, and the declaration of a state of emergency was done. The release valve was opened several times and injections of the sea water into the reactor vessel were carried out with fire extinguishing pumps. The gas in the containment vessel was also vented. Then, the radioactive dose rate at site boundary had exceeded the limit value of 0.5 mSv/h. This value is thought smaller than the value resulting in the release of a few per cent of core inventory of a power reactor from the fuel assemblies. But the radioactive dose rate at the suppression chamber was high. And it is thought that hydrogen gas was generated enough to damage the reactor building. The behavior of the pressure of the reactor vessel and the containment vessel, and the behavior of the water level of the reactor vessel were complicated. Some measurements were not possible because of failures of measurement equipment. As a result, the detailed estimate can not be done. But these values are thought the values resulting in the release of more than a few per cent of core inventory of a power reactor from the fuel assemblies.

The inhabitants of the range of 20 km took refuge. At least, one worker received a dose (about 106 mSv) in excess of the annual limit (100 mSv). But we can not rate on impact on people and the environment because the correspondence work still continues.

Nuclear Events Web-based System (NEWS) Event Detail

Event Title:	The core damage by loss of all cooling function due to the big tsunami.		
Event Date:	2011-03-11	Date Sent:	2011-03-18 09:56:00 UTC
Location/Facility:	FUKUSHIMA-DAIICHI-3	Event Type:	Power Reactor
Country:	Japan	Reactor Type:	Boiling Water Reactors
Event Sender:	Masahiro Yagi	INES Rating:	5

Event Abstract:

Fukushima Dai-ichi Nuclear Power Station Unit 1, 2 and 3, which is in rated power operation, have automatically shut down around 14:46 (JST) in March 11, 2011 because of the Tohoku regional Pacific Ocean Offshore Earthquake.

After that, the power station was attacked by tsunami.

Electricity rooms and seawater pump rooms were flooded, and the cooling function became only the coolant injection of the turbine driven pump. The turbine driven pump operation increased the pressure of the suppression chamber, and it became impossible to continue the operation.

It means loss of all cooling function, and the declaration of a state of emergency was done.

The release valve was opened several times and injections of the sea water into the reactor vessel were carried out with fire extinguishing pumps. The gas in the containment vessel was also vented.

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The behavior of the pressure of the reactor vessel and the containment vessel, and the behavior of the water level of the reactor vessel were complicated. Some measurements were not possible because of failures of measurement equipment. As a result, the detailed estimate can not be done.

But these values are thought the values resulting in the release of more than a few per cent of core inventory of a power reactor from the fuel assemblies.

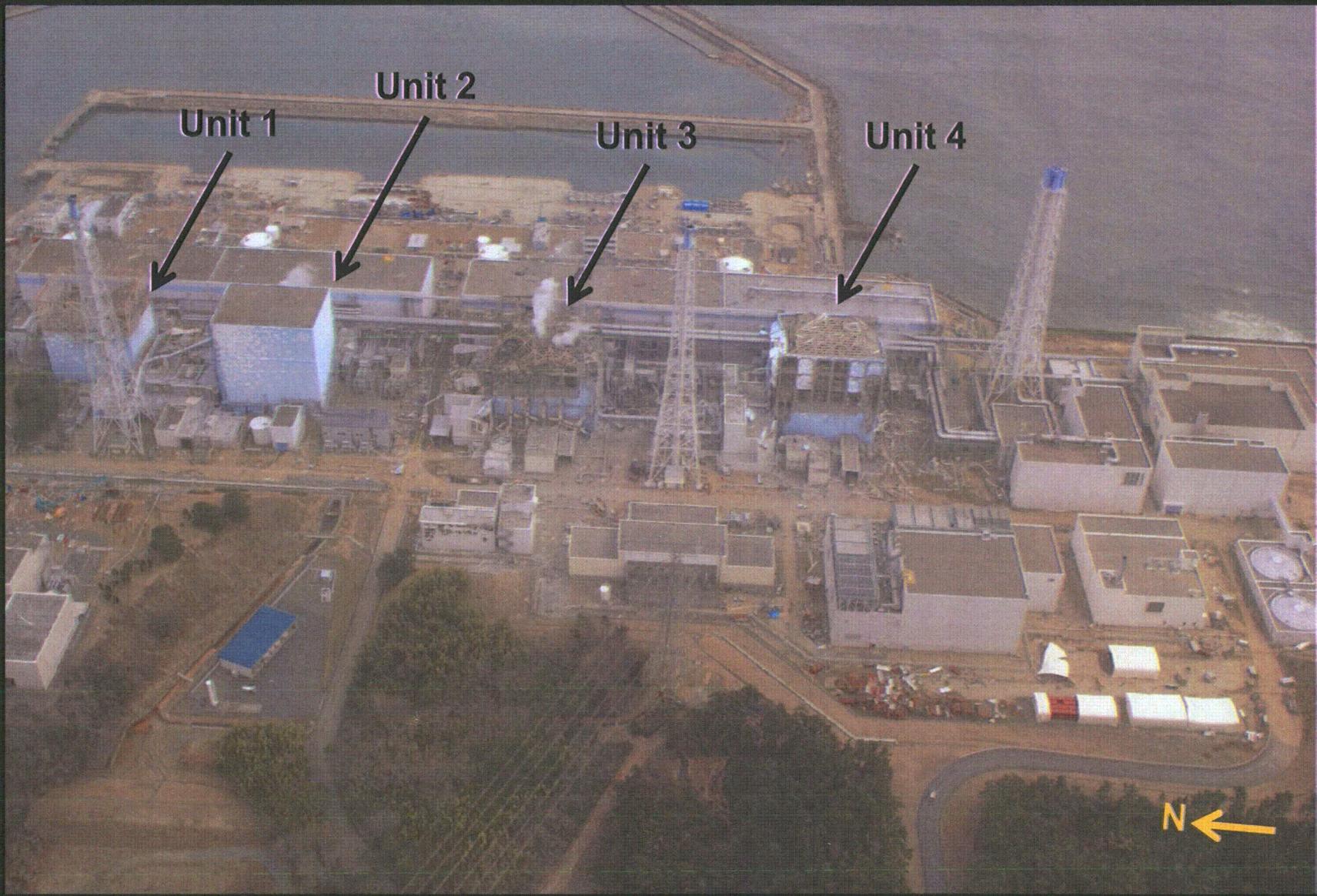
The inhabitants of the range of 20 km took refuge. At least, one worker received a dose (about 106 mSv) in excess of the annual limit (100 mSv). But we can not rate on impact on people and the environment because the correspondence work still continues.

Nuclear Events Web-based System (NEWS) Event Detail

Event Title:	Loss of cooling function and water supplying function on the spent fuel pool due to the big tsunami.		
Event Date:	2011-03-11	Date Sent:	2011-03-18 10:05:00 UTC
Location/Facility:	FUKUSHIMA-DAIICHI-4	Event Type:	Power Reactor
Country:	Japan	Reactor Type:	Boiling Water Reactors
Event Sender:	Masahiro Yagi	INES Rating:	3

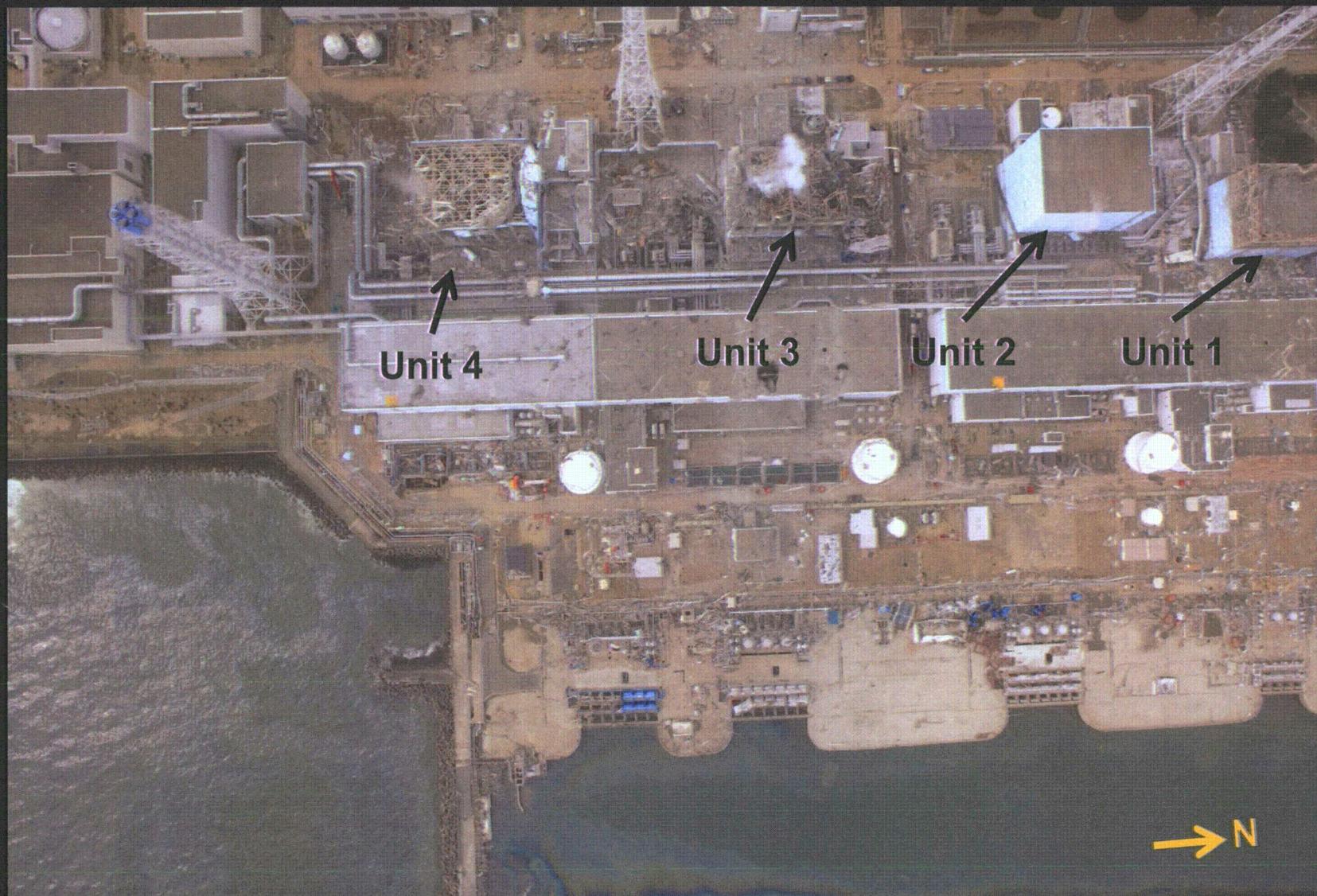
Event Abstract:

Fukushima Dai-ichi Nuclear Power Station Unit 4, which was in shutdown mode, was attacked by the Tohoku regional Pacific Ocean Offshore Earthquake around 14:46 (JST) in March 11, 2011. After that, the power station was attacked by a tsunami. Electricity rooms and seawater pump rooms were flooded, and the cooling function and water supplying function on the spent fuel pool became inoperable. The temperature of the spent fuel pool has been increasing, and the water level of the spent fuel pool was thought to be decreasing. The water in the spent fuel pool boiled by residual heat of spent fuels, and the reactor building was damaged by an explosion which seems to be a hydrogen explosion. It is carrying out to pour the sea water for cooling spent fuels.



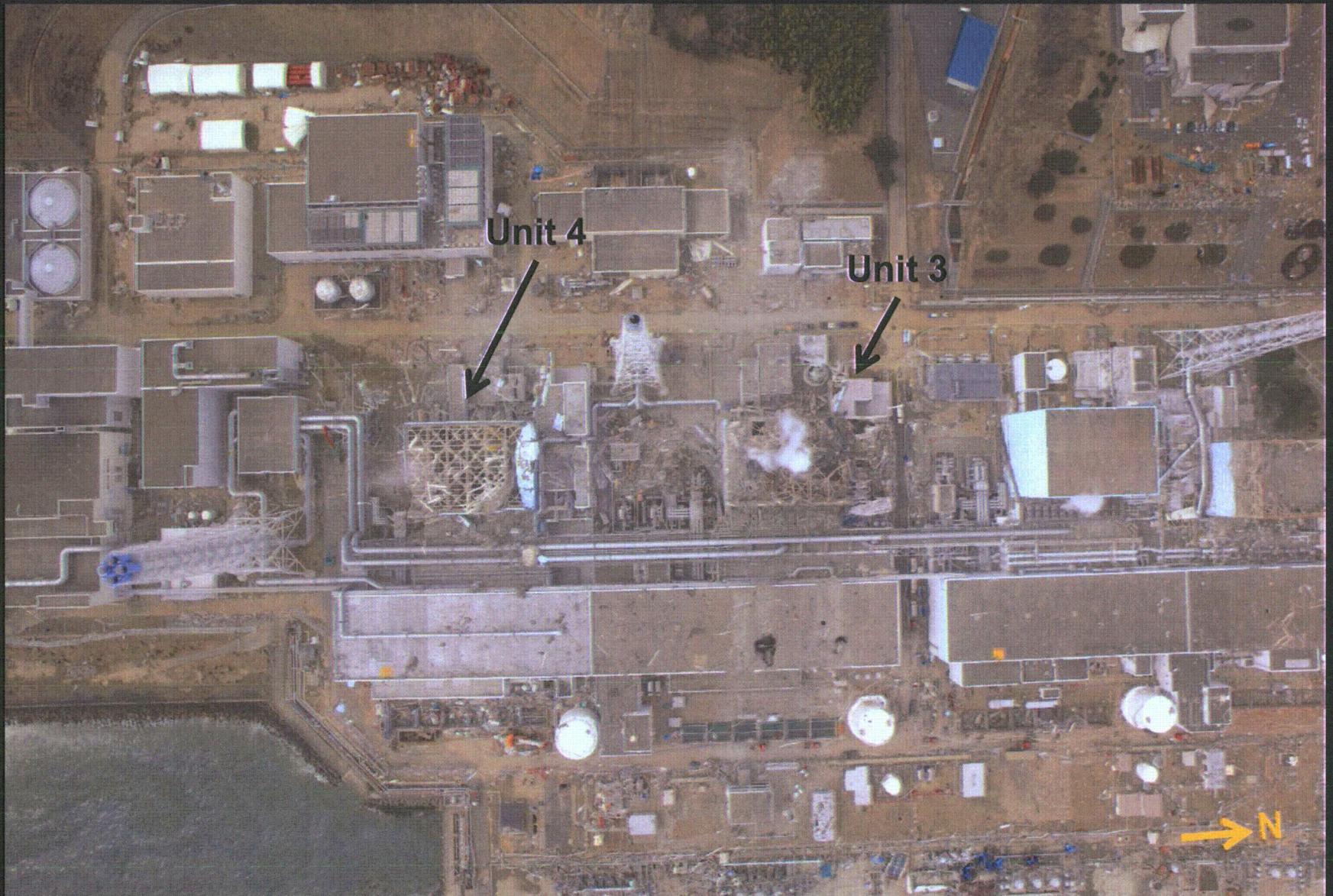
Fukushima Dai'ichi Nuclear Power Station

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Fukushima Dai'ichi Nuclear Power Station

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Fukushima Dai'ichi Nuclear Power Station

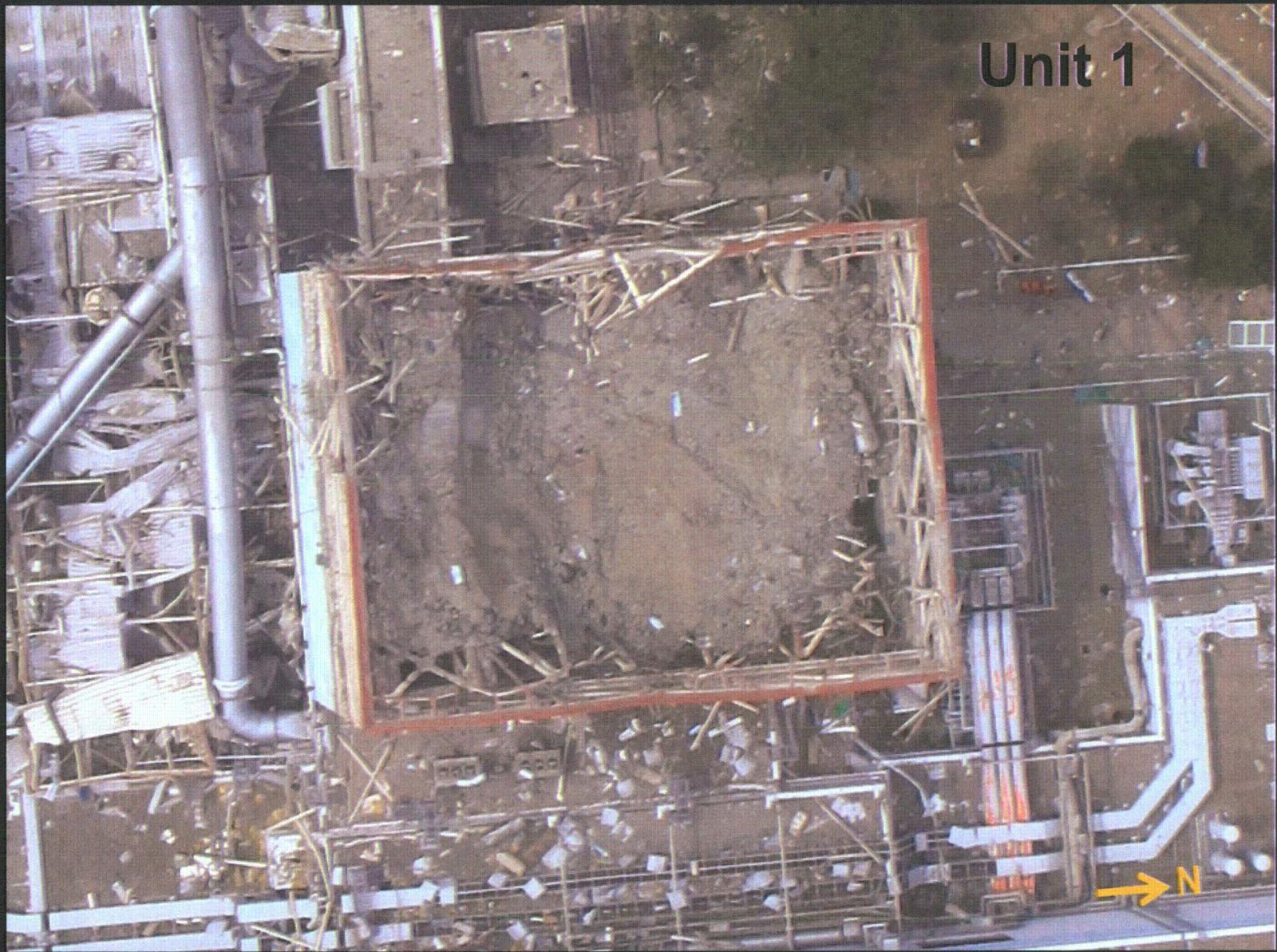
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Unit 1

Fukushima Dai'ichi Nuclear Power Station

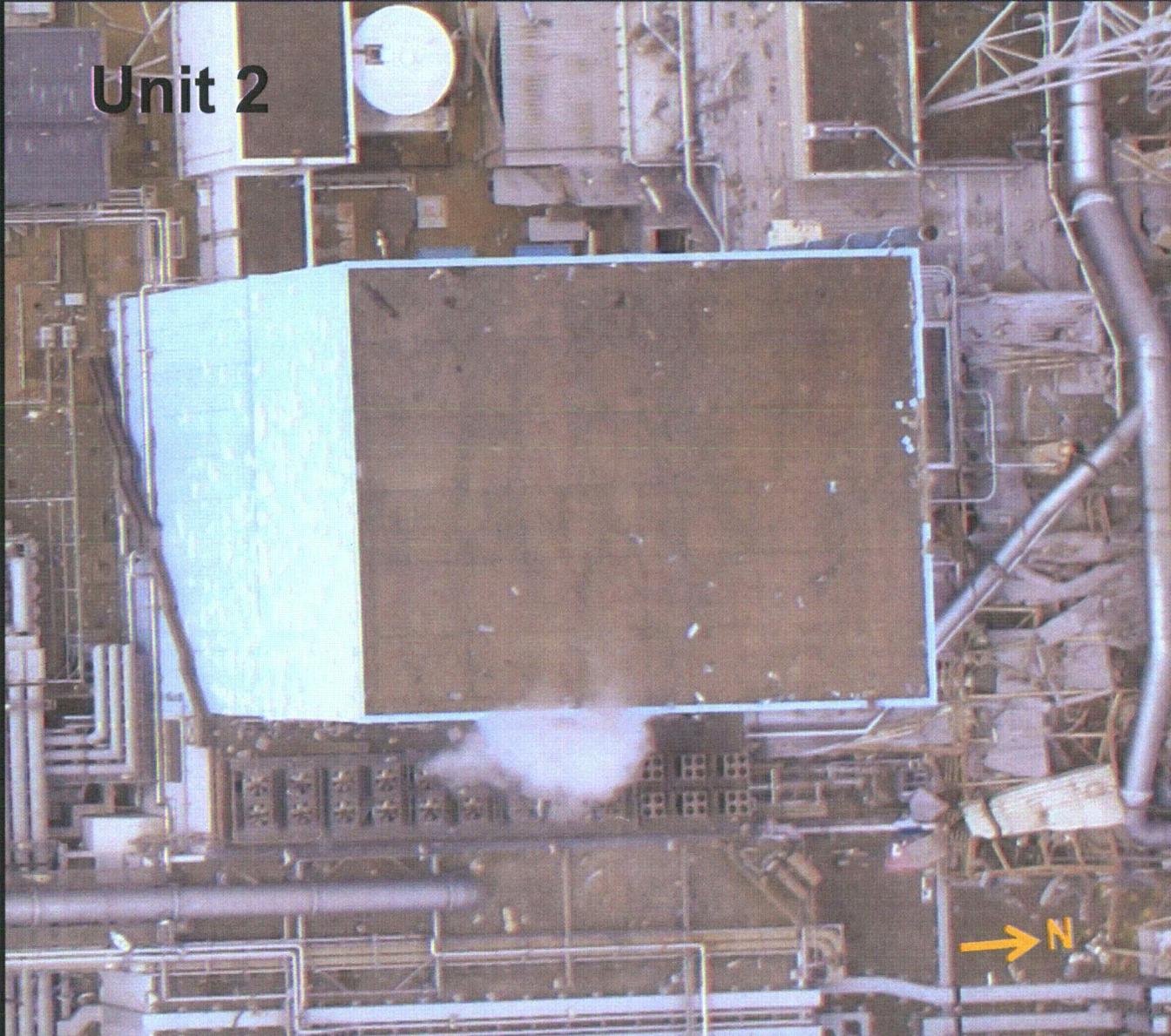
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Fukushima Dai'ichi Nuclear Power Station

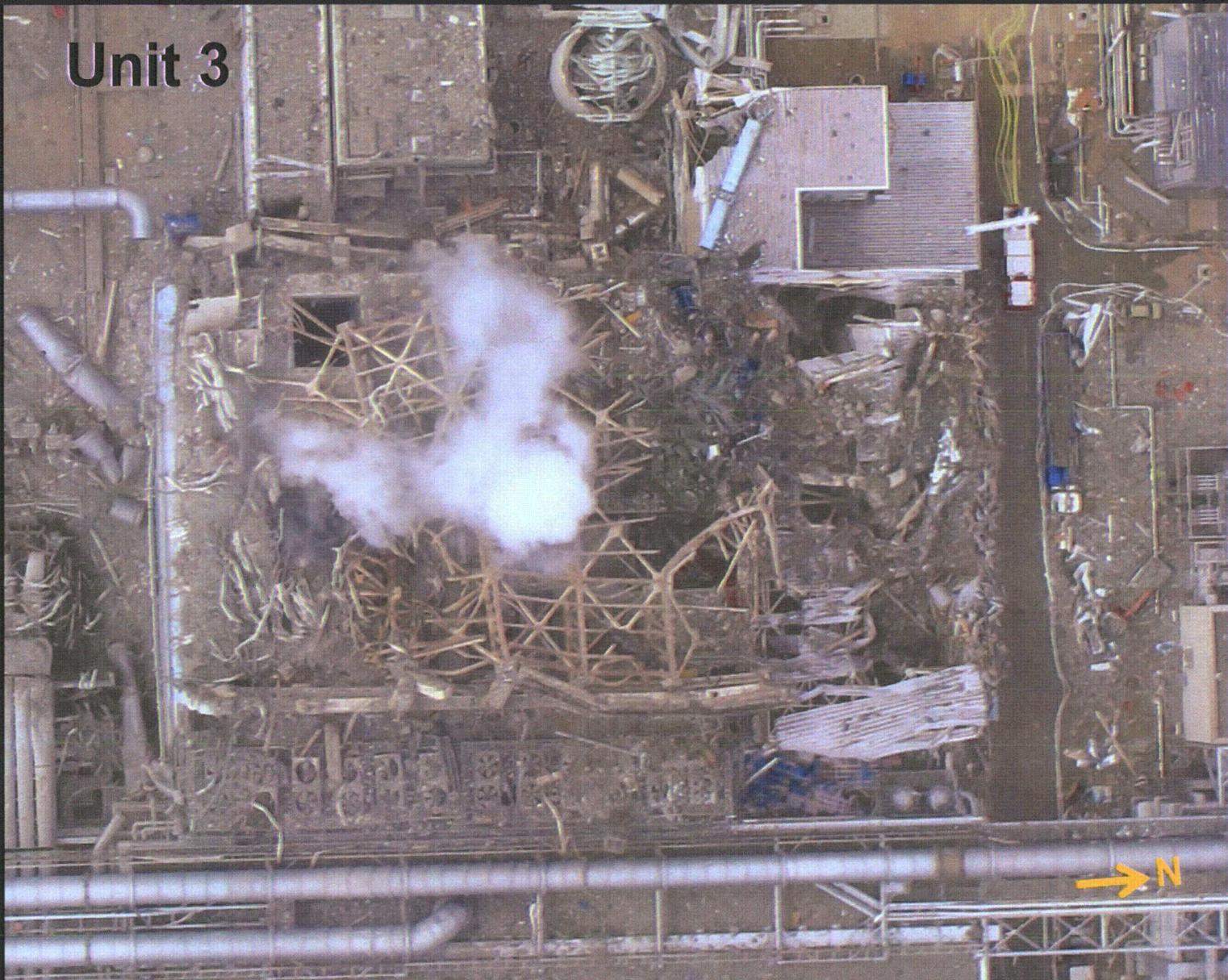
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Unit 2



Fukushima Dai'ichi Nuclear Power Station

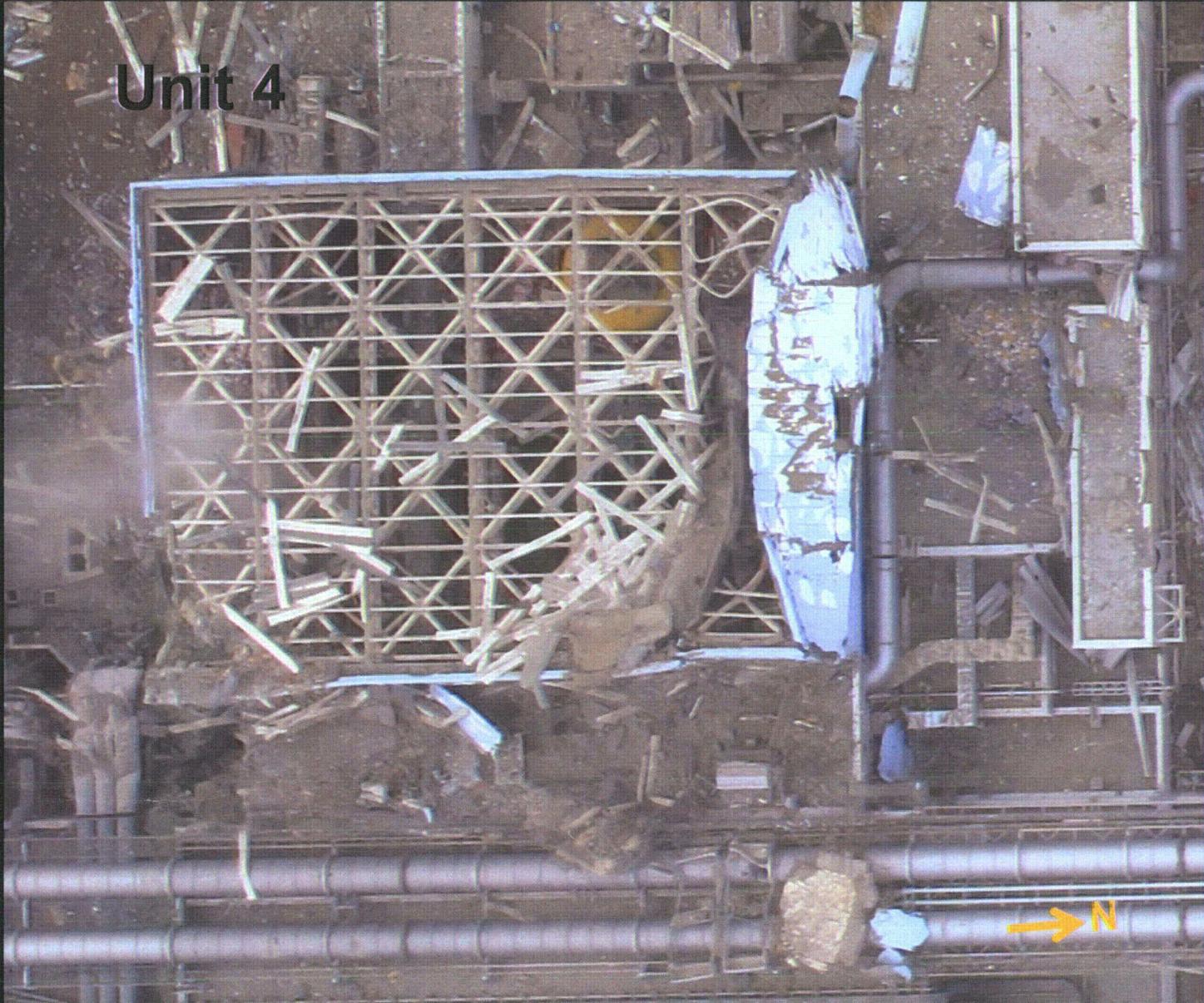
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Unit 3

Fukushima Dai'ichi Nuclear Power Station

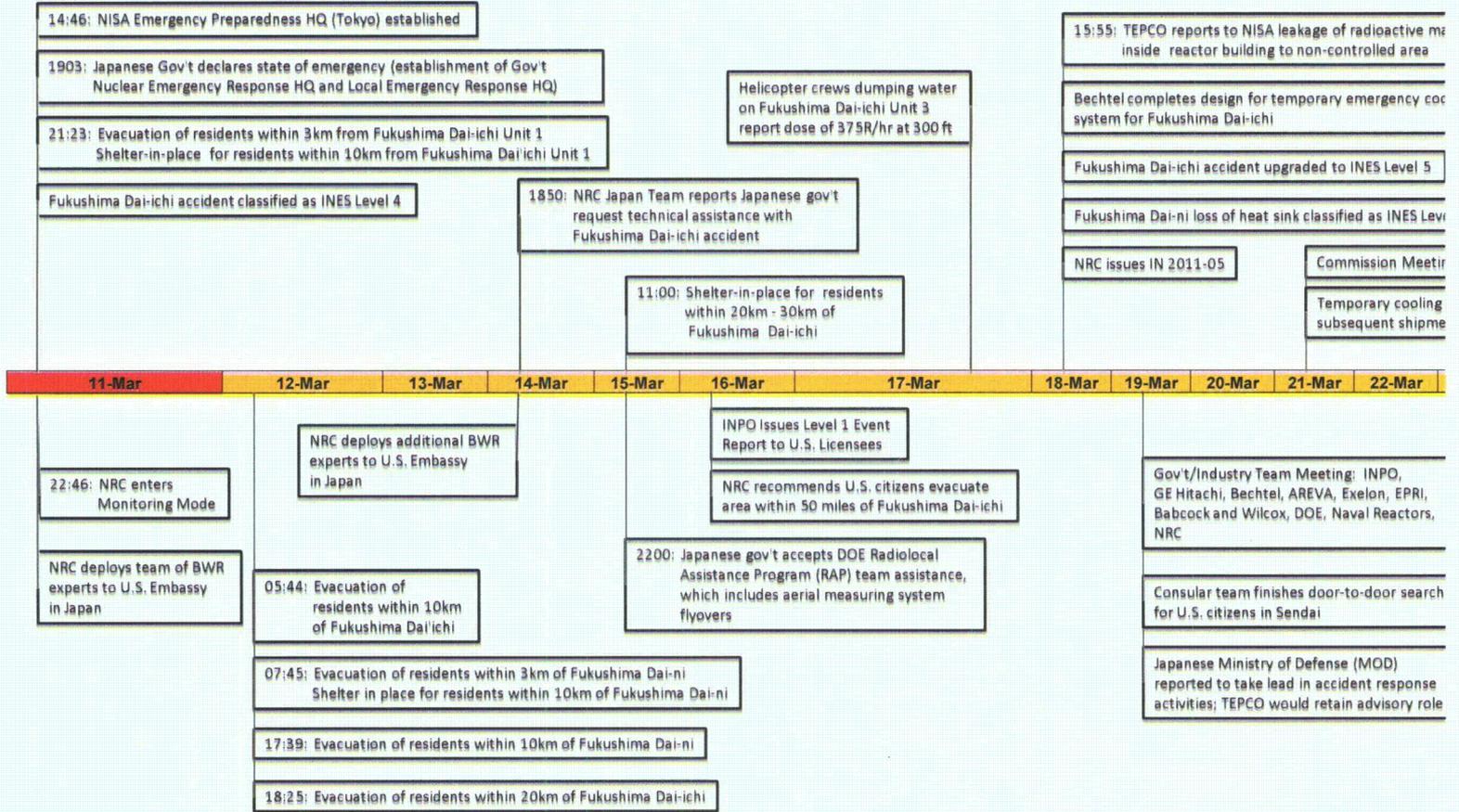
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Unit 4

Fukushima Dai'ichi Nuclear Power Station

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5
Gray, Mel

From: Roberts, Darrell
Sent: Friday, March 18, 2011 5:23 PM
To: Dentel, Glenn; Gray, Mel; Burritt, Arthur; Krohn, Paul; Jackson, Donald; Bellamy, Ronald; Powell, Raymond
Cc: Clifford, James
Subject: FW: *Once Again!* Media Advisory: Nuclear Regulatory Commission to Hold Public Meeting on NRC Response to Recent Japan Event
Attachments: MA_03-18-2011_JapanBriefing.docx

Although we've already decided to delay the AAMs for TMI and SB, the attached subject meeting, coupled with the Chairman's televised briefing of the Senate/House this week, should go a long way toward meeting some of the prerequisites you laid out in your options paper this week for conducting the AAMs.

DJR

From: Dean, Bill
Sent: Friday, March 18, 2011 5:18 PM
To: Matakas, Gina; Lew, David; Jones, Cynthia; Roberts, Darrell; Clifford, James; Lorson, Raymond; Baker, Pamela; Walker, Tracy; Collins, Daniel; Weerakkody, Sunil; Wilson, Peter
Subject: Fw: *Once Again!* Media Advisory: Nuclear Regulatory Commission to Hold Public Meeting on NRC Response to Recent Japan Event

We will want to watch this so maybe we can adjust the schedule for the morning meeting to start at 0830? Or if that is a challenge, we can postpone.

Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

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
Sent: Fri Mar 18 16:26:25 2011
Subject: *Once Again!* Media Advisory: Nuclear Regulatory Commission to Hold Public Meeting on NRC Response to Recent Japan Event

I apologize, this time with the attachment!

Greetings,

This was issued at approximately 3pm today via Listserv. It was not posted to the live web.

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

March 18, 2011

PUBLIC MEETING ON EVENT

by its staff on the NRC's
on March 21 at 9 a.m. at NRC
on meeting will be open to
public-involve/public-

for a CBS broadcast network
the feed should contact the
; will be pooled with AP,

s, please notify the Office of
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1 which to take photos.
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e in advance of the meeting at
als. The NRC offices are
; is available at the White

Following Web address:

nrc.gov also offers a SUBSCRIBE

to NRC's website.



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>

March 18, 2011

*****MEDIA ADVISORY*****

NUCLEAR REGULATORY COMMISSION TO HOLD PUBLIC MEETING ON NRC RESPONSE TO RECENT JAPAN EVENT

The U.S. Nuclear Regulatory Commission will be briefed by its staff on the NRC's response to the ongoing nuclear event in Japan in a public meeting on March 21 at 9 a.m. at NRC Headquarters, 11555 Rockville Pike, Rockville, Md. The commission meeting will be open to public observation and will be webcast at: <http://www.nrc.gov/public-involve/public-meetings/webcast-live.html>.

Due to limited space availability, the meeting will be set up for a CBS broadcast network pool camera crew. Broadcast media outlets interested in receiving the feed should contact the network pool at 202-457-4444. For still photographers, this meeting will be pooled with AP, Reuters, AFP and Getty only.

In order for us to try to ensure sufficient seating for reporters, please notify the Office of Public Affairs at the contact information above if you plan to attend. There will be additional space available in our auditorium on a first-come, first-serve basis.

Pool photographers will have limited space at the meeting in which to take photos. Movement must be kept to a minimum so as not to be distracting and entry into the inner well closest to the Commission briefing table is prohibited. Plan to arrive in advance of the meeting at the Marinelli Road entrance of the NRC with proper media credentials. The NRC offices are located across the street from the White Flint Metro station. Parking is available at the White Flint metro parking garage on Marinelli Road.

###

News releases are available through a free *listserv* subscription at the following Web address: <http://www.nrc.gov/public-involve/listserver.html>. The NRC homepage at www.nrc.gov also offers a SUBSCRIBE link. E-mail notifications are sent to subscribers when news releases are posted to NRC's website.

Japan Lessons Learned

Near term and Long Term Reviews

FY 11 Supplemental Request (Assumes costs will be

Costs per Office to support near and long term reviews

- NRR \$5M and 5 FTE (per Mary Givviness/Jack Grobe)
- RES \$1M and 1 FTE (per Andrea Valentin/Jennifer Uhle)
- FSME \$500K and 1 FTE (per Terry Reis – Charlie Miller approved)
- NRO TBD
- NMSS TBD
- NSIR (outside of Ops Center response) - ???

Bickett, Carey

From: Nuclear Plant Journal [anu@goinfo.com]
Sent: Friday, March 18, 2011 2:52 PM
To: Bickett, Carey
Subject: NPJ March 18, 2011 Japan Update

Having trouble viewing this email? [Click here](#)



Nuclear Plant Journal

An International Publication
Published in the United States

Nuclear Plant Journal E-News

Japan Update
March 18, 2011

Dear CAREY,

In this issue of NPJ E-News you'll find an update of the Fukushima Nuclear Plants in Japan. Information is current as of March 18, 2011, 13:00 CDT. All items are directly quoted, without any editing.

In this issue

Chief Cabinet Secretary

TEPCO

JAIF

Chief Cabinet Secretary's Update

Operation for filling the spent fuel pool with water at Unit-3 was conducted yesterday. It seems that water reached the pool. However, how much is unknown. Same operation will be conducted today.

- Operation for filling the spent fuel pool with water from the ground will be conducted at unit-1 also, if it doesn't affect the operation for unit-3.
- Operation for installing cables and distribution system to the power plant to provide AC power from the grid is going on.
- [Click for more...](#)

Status Updates of TEPCO Facilities

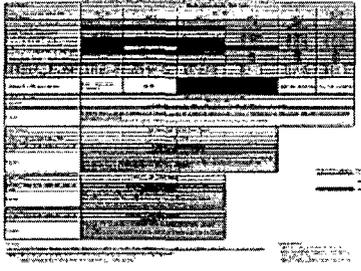
On March 18th, regarding the spent fuel in the common spent fuel pool, we have confirmed that the water level of the pool is secured. A detailed inspection is under preparation.

On March 17th, we patrolled buildings for dry casks and found no signs of abnormal situation for the casks by visual observation. A detailed inspection is under preparation.

Y/1/12

Since March 12th, we had been preparing measures for reducing the pressure of reactor containment vessels (partial discharge of air containing radioactive materials to outside), but on March 17th, we released such preparation in all Units.

[Click for more...](#)



JAIF Status Update

A [single-page PDF document](#) provides a simple summary of each of the units at Fukushima nuclear power plants.

Quick Links...

[NPJ Website](#)

[Cost-free Subscription](#)

Contact Information

phone: 630-313-6739

email: NPJ@goinfo.com

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Nuclear Plant Journal | 1400 Opus Place, Suite 904 | Downers Grove | IL | 60515

Gray, Mel

From: Cathy Hawes [cmh2@nrc.gov]
Sent: Friday, March 18, 2011 6:17 PM
To: Gray, Mel
Subject: IN 2011-05 Tohoku-Taiheiyou-Oki Earthquake Effects on Japanese Nuclear Power Plants (ML110760432)
Attachments: ML110760432.pdf

Attached is an PDF version Information Notice 2011-05, Tohoku-Taiheiyou-Oki Earthquake Effects On Japanese Nuclear Power Plants, dated March 18, 2011, (ML110760432), that has been posted to the NRR GCC Web, along with the URL for Web access to generic communications files on the NRC Homepage:
<http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/2011/>.

To subscribe or unsubscribe send an email to lyris@nrc.gov , no subject, and use one of the following commands in the message portion:

subscribe gc-nrr (first and last name)
unsubscribe gc-nrr (first and last name)

thanks
Cathy

Y/1182

9.3.11.11.11.11

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, DC 20555-0001

March 18, 2011

NRC INFORMATION NOTICE 2011-05: TOHOKU-TAIHEIYOU-OKI EARTHQUAKE
EFFECTS ON JAPANESE NUCLEAR POWER
PLANTS

ADDRESSEES

All holders of or applicants for operating licenses for nuclear power reactors under the provision of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

All holders of or applicants for a standard design certification, standard design approval, manufacturing license, limited work authorization, early site permits or combined license issued under 10 CFR Part 52, "Licenses, Certifications and Approvals for Nuclear Power Plants."

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice (IN) to inform addressees of effects of the Tohoku-Taiheiyou-Oki Earthquake on nuclear power plants in Japan. The NRC expects that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. Suggestions contained in this IN are not NRC requirements; therefore, no specific action or written response is required.

DESCRIPTION OF CIRCUMSTANCES

The following summary of events is provided based on the best information available at this time. The situation in Japan regarding recovery efforts for the Fukushima Daiichi Nuclear Power Station continues to evolve on an hourly basis.

On March 11, 2011, the Tohoku-Taiheiyou-Oki Earthquake occurred near the east coast of Honshu, Japan. This magnitude 9.0 earthquake and the subsequent tsunami caused significant damage to at least four of the six units of the Fukushima Daiichi nuclear power station as the result of a sustained loss of both the offsite and on-site power systems. Efforts to restore power to emergency equipment have been hampered or impeded by damage to the surrounding areas due to the tsunami and earthquake.

ML110760432

Units 1 through 3, which had been operating at the time of the earthquake, scrambled automatically, inserting their neutron absorbing control rods to ensure immediate shutdown of the fission process. Following the loss of electric power to normal and emergency core cooling systems and the subsequent failure of back-up decay heat removal systems, water injection into the cores of all three reactors was compromised, and reactor water levels could not be maintained. Tokyo Electric Power Company (TEPCO), the operator of the plant, resorted to injecting sea water and boric acid into the reactor vessels of these three units, in an effort to cool the fuel and ensure the reactors remained shutdown. However, the fuel in the reactor cores became partially uncovered. Hydrogen gas built up in Units 1 and 3 as a result of exposed, overheated fuel reacting with water. Following gas venting from the primary containment to relieve pressure, hydrogen explosions occurred in both units and damaged the secondary containments. It appears that primary containments for Units 1 and 3 remain functional, but the primary containment for Unit 2 may be damaged. TEPCO cut a hole in the side of the Unit 2 secondary containment to prevent hydrogen buildup following a sustained period when there was no water injection into the core.

In addition, Units 3 and 4 have low spent fuel pool (SFP) water levels. Efforts continue to supply seawater to the SFPs for Units 1 through 4 using various methods. At this time, the integrity of the SFPs for Units 3 and 4 is unknown.

Fukushima Daiichi Units 4 through 6 were shutdown for refueling outages at the time of the earthquake. The fuel assemblies for Unit 4 had been offloaded from the reactor core to the SFP. The SFPs for Units 5 and 6 appear to be intact, but the temperature of the pool water appears to be increasing. Emergency power is available to provide cooling water flow through the SFPs for Units 5 and 6.

The Japanese Government ordered an evacuation out to 20 km for the area surrounding Fukushima Daiichi. Residents out to 30 km were ordered to shelter in place.

The damage to Fukushima Daiichi nuclear power station appears to have been caused by initiating events outside of the design basis for the facilities.

BACKGROUND

10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," General Design Criterion (GDC) 2, "Design Bases for Protection against Natural Phenomena," or similar appropriate requirements in the licensing basis for a reactor facility, requires that structures, systems, and components (SSCs) important to safety be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunamis, and seiches without loss of capability to perform their safety functions. The design bases for these SSCs reflect: (1) appropriate consideration of the most severe of the natural phenomena that have been historically reported for the site and surrounding area, with sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated, (2) appropriate combinations of the effects of normal and accident conditions with the effects of the natural phenomena, and (3) the importance of the safety functions to be performed.

As a result of the terrorist events of September 11, 2001, the NRC issued EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (the ICM Order) dated February 25, 2002. The ICM Order, which is designated as Safeguards Information (SGI), modified then-operating licenses for commercial power reactor facilities to require compliance with specified interim safeguards and security compensatory measures. Section B.5.b of the ICM Order requires licensees to adopt mitigation strategies using readily available resources to maintain or restore core cooling, containment, and SFP cooling capabilities to cope with the loss of large areas of the facility due to large fires and explosions from any cause, including beyond-design-basis aircraft impacts.

By letter, dated February 25, 2005, the NRC staff provided guidance for implementing Section B.5.b of the ICM Order. This guidance, designated as SGI, included best practices for mitigating losses of large areas of the plant and measures to mitigate fuel damage and minimize releases. Following issuance of the B.5.b Phase 1 Guidance, the NRC staff conducted inspections at operating reactor sites using Temporary Instruction (TI) 2515/164 (SGI) and subsequently TI 2515/168 (SGI) to ensure compliance with Section B.5.b of the ICM Order.

In December 2006, the Nuclear Energy Institute (NEI) issued NEI 06-12, Revision 2, "B.5.b Phase 2 & 3 Submittal Guideline." NEI 06-12 is designated for Official Use Only – Security Related Information (OUO-SRI). The NRC endorsed NEI 06-12, Revision 2, by letter dated December 22, 2006, also designated OUO-SRI, as an acceptable means for developing and implementing the mitigation strategies requirement in Section B.5.b of the ICM Order. NEI 06-12, Revision 2, provides guidance for implementing a set of strategies intended to maintain or restore core cooling, containment, and SFP cooling capabilities under the circumstances associated with the loss of a large area of the plant due to explosions or fire. NEI 06-12 provides guidance in the following areas:

- Adding make-up water to the SFP,
- Spraying water on the spent fuel,
- Enhanced initial command and control activities for challenges to core cooling and containment, and
- Enhanced response strategies for challenges to core cooling and containment.

The specific strategies covered in NEI 06-12, Revision 2, were developed based on the results of assessments conducted at currently licensed power reactor facilities for the purpose of enhancing plant specific mitigation capability for damage conditions caused by a large explosion or fire. These assessments identified a wide spectrum of potential plant specific strategies. NEI 06-12, Revision 2, specifies one set of strategies applicable to all pressurized-water reactors and another set applicable to all boiling-water reactors. Both sets are derived from the results of the plant specific assessments.

The B.5.b Phase 1 Guidance and NEI 06-12, Revision 2, were used by each licensee in preparing information submitted to the NRC that describes a plant specific approach to implementing mitigating strategies and supports each plant specific license condition. The NRC staff has completed its review of the information submitted by each licensee, as well as information obtained during prior NRC inspections, and has issued an OUO-SRI safety

evaluation (SE) that documents the bases for its approval of the license condition for each facility. The SE issued for each licensee includes regulatory guidance in Section 3.0 of Appendix A, "Phase 1 Assessment," that recites the generic B.5.b Phase 1 Guidance of Reference 3, as clarified in TI 2515/168, in a form that is designated OUO-SRI rather than SGI.

By publishing new requirements in the *Federal Register* dated March 27, 2009 (74 FR 13926), the NRC amended 10 CFR Part 50, 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," and 10 CFR Part 73, "Physical Protection of Plants and Materials." This rulemaking added paragraph (i) to 10 CFR 50.34, "Contents of Applications; Technical Information," and paragraph (d) to 10 CFR 52.80 "Contents of Applications; Additional Technical Information," to require submittal of a "description and plans for implementation of the guidance and strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities under the circumstances associated with the loss of large areas of the plant due to explosions or fire as required by § 50.54(hh)(2) of this chapter." This rulemaking also added 10 CFR 50.54(hh)(2) to impose the same mitigating strategies requirements on all reactor applicants and licensees as those imposed by the ICM Order and associated license conditions. The Statement of Considerations for this rulemaking specifically noted that the requirements in 10 CFR 50.54(hh) are intended to address certain events that are the cause of large fires and explosions that affect a substantial portion of the nuclear power plant and are not limited or directly linked to an aircraft impact. In addition, the rule contemplates that the initiating event for such large fires and explosions could be any number of beyond-design basis events. Such events include natural phenomena such as those described in GDC 2 (i.e., earthquakes, tornadoes, floods, tsunamis, and seiches), without regard to the GDC 2 provisions governing the severity of natural phenomena.

NRC regulations at 10 CFR 50.63, "Loss of All Alternating Current Power," require that light-water-cooled nuclear power plants be capable of withstanding for a specified duration and recovering from a station blackout.

DISCUSSION

The nuclear power industry has taken the actions listed below at each licensed reactor site. Additional information is available in the NEI Fact Sheet, "Industry Taking Action to Ensure Continued Safety at U.S. Nuclear Energy Plants," dated March 16, 2011, available at www.nei.org.

1. verification of the capability to mitigate conditions that result from severe adverse events, including the loss of significant operational and safety systems due to natural events, fires, aircraft impact and explosions
2. verification of the capability to mitigate a total loss of electric power to a nuclear power plant
3. verification of the capability to mitigate flooding and the impact of floods on systems inside and outside the plant
4. identification of the potential for loss of equipment functions during seismic events appropriate for the site and the development of mitigating strategies to address potential vulnerabilities

NRC assessment of the implications of beyond design-basis natural phenomena is continuing as more information becomes available. The NRC staff is currently developing a TI to guide staff in performing independent assessments of nuclear power plant readiness to address beyond design-basis natural phenomena under the Reactor Oversight Process. The NRC is considering additional generic communications and additional action including requesting operating plants to provide specific information relating to their facilities to enable the NRC staff to complete a regulatory assessment of beyond design basis phenomena.

PAPERWORK REDUCTION ACT STATEMENT

This Information Notice does not contain any information collections and, therefore, is not subject to the requirements of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

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CONTACTS

This information notice requires no specific action or written response. Please direct any questions about this matter to the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

/RA/

Laura A. Dudes, Director
Division of Construction Inspection,
and Operational Programs
Office of New Reactors

/RA/

Timothy J. McGinty, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Technical Contact: Eric E. Bowman, NRR
301-415-2963
e-mail: Eric.Bowman@nrc.gov

Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.

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ADAMS Accession Number: ML110760432 * by e-mail

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DATE	03/17/2011	03/17/2011	03/17/2011	03/17/2011	03/17/2011
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DATE	03/18/2011	03/17/2011	03/17/2011	03/18/2011	03/18/2011

OFFICIAL RECORD COPY

E DO

From: Andersen, James
To: Howe, Allen; Leeds, Eric; Boger, Bruce
Cc: Merzke, Daniel
Subject: FW: Briefing on NRC Response to Recent Nuclear Events in Japan followed by Agenda Planning, Monday, 3/21 Beginning 9 am
Date: Friday, March 18, 2011 7:45:02 AM
Attachments: 110321 NRC Response to Events in Japan VERSION B Scheduling Note.docx

Latest version of the scheduling note and SECY plan to announce the meeting.

REL
Jim A.

SECY

From: Vietti-Cook, Annette
Sent: Thursday, March 17, 2011 7:33 PM
To: Svinicki, Kristine; Apostolakis, George; Magwood, William; Ostendorff, William
Cc: Sharkey, Jeffrey; Lepre, Janet; Sosa, Belkys; Blake, Kathleen; Bubar, Patrice; Crawford, Carrie; Nieh, Ho; Zorn, Jason; Coggins, Angela; Batkin, Joshua; Burns, Stephen; Rothschild, Trip; Bates, Andrew; Baval, Rochelle; Laufer, Richard; Borchardt, Bill
Subject: Briefing on NRC Response to Recent Nuclear Events in Japan followed by Agenda Planning, Monday, 3/21 Beginning 9 am

Because of the short timeframe and great interest in this event, I am sending this to you directly. Attached for your review and approval is the Scheduling Note for the Commission Briefing on NRC Response to Recent Nuclear Events in Japan. The Commission agreed on Tuesday, March 15, 2011, to hold this meeting on short notice. My plan is to announce the Commission Briefing tomorrow morning on the NRC public website, which provides the title of the meeting, date, time and location. A Federal Register Notice is also sent, but will not be published before the meeting. My understanding is that OPA will be doing a press release. Once you have approved the Scheduling Note it will be posted on the public website along with NRC staff presentation slides that are consistent with the Commission's approved scheduling note. This is our usual practice. Staff is working on background material and slides which we expect tomorrow.

This Commission meeting will be followed by an Agenda Planning Session in the 18th floor conference room. The Commission would discuss the scheduling of meetings the Commission would like to have in response to the events in Japan. The Commission will also consider the scheduling of the meetings and papers that are already on its agenda.

Annette

K/184

Draft: 3/17/11

SCHEDULING NOTE

Title: BRIEFING ON NRC RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN (Public Meeting)

Purpose: To provide the Commission a status on the recent events in Japan, NRC's response, and planned actions.

Scheduled: March 21, 2011
9:00 am

Duration: Approx. 2 hours

Location: Commissioners' Conference Room OWFN

Participants: **Presentation**

NRC Staff Panel **50 mins.***

Bill Borchardt, Executive Director for Operations

Topics:

- Overview of Japanese event and U.S. response
- Discussion of expectation of no harm to U.S. population
- Discussion of general radiation health effects
- Discussion of current regulatory approaches for reactors
- Path forward; near term and longer term

Commission Q & A **50 mins.**

Discussion – Wrap-up **5 mins.**

Documents:

Background materials due to SECY: prior to the briefing.

Slides due to SECY: prior to the briefing.

NAR
From: Boger, Bruce
To: Buchholz, Jeri
Cc: Tracy, Glenn; Leeds, Eric; Nelson, Robert; Wert, Leonard; Lew, David; Miller, Mark; Cohen, Miriam
Subject: Re: Japan Situation
Date: Friday, March 18, 2011 11:47:30 AM

Works for me. Thanks for closing the loop.

REL
JAR
From: Buchholz, Jeri
To: Boger, Bruce
Cc: Tracy, Glenn; Leeds, Eric; Nelson, Robert; Wert, Leonard; Lew, David; Miller, Mark; Cohen, Miriam
Sent: Fri Mar 18 10:09:45 2011
Subject: FW: Japan Situation

Bruce:

Glenn asked me to reply on his behalf.

I have been in regular contact with Chuck Casto regarding support to the team in Japan and he assures me that everyone on the team is able to stay in contact with their families and appreciates the support that they have been receiving.

Yesterday, our EAP counselor, Sarah Linnerooth worked with Robert Nelson to develop a script for the NRC to use when contacting family members so as not to cause unnecessary alarm. Communications with family member requires a great deal of sensitivity. I would encourage you to use the EAP, specifically Sarah, for this purpose whenever possible.

Let me know if you have additional concerns or questions.

Jeri L. Buchholz

Associate Director for Human Resources
Policy and Operations
Office of Human Resources

NAR
From: Boger, Bruce
Sent: Thursday, March 17, 2011 8:31 AM
To: Tracy, Glenn
Cc: Leeds, Eric; Nelson, Robert; Wert, Leonard; Lew, David; Miller, Mark; Cohen, Miriam
Subject: Japan Situation

Glenn, Relative to the NRC folks in Japan, have folks been considering how to interact with their families to share information on what's going on in Japan? Perhaps the travelers have been able to achieve regular phone contact, but now with a voluntary evacuation a greater concern at home may exist. Your thoughts? Bruce

release
Y/1/85

NRR
From: Leeds, Eric
To: Borchardt, Bill; Virgilio, Martin; Weber, Michael
Cc: Grobe, Jack; Boger, Bruce; LIA04 Hoc; Brenner, Eliot; Hayden, Elizabeth
Subject: FYI: Press Release for Information Notice
Date: Friday, March 18, 2011 5:55:46 PM

Our first communication to the industry on the Fukushima event has been issued and is public, along with the OPA press release. FYI

REL
Eric J. Leeds, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
301-415-1270

NRR
From: McGinty, Tim
Sent: Friday, March 18, 2011 5:17 PM
To: Leeds, Eric; Boger, Bruce; Howe, Allen
Subject: FW: Press Release for Information Notice

The Information Notice is publically available (on the Generic Communications part of the NRC public website), has been declared in ADAMS, and OPA is going to issue a press release. FYI. Tim

NRR
From: Bowman, Eric
Sent: Friday, March 18, 2011 4:56 PM
To: Taylor, Robert; Rosenberg, Stacey
Cc: McGinty, Tim; Burnell, Scott; Akstulewicz, Brenda
Subject: RE: Press Release for Information Notice

It's just been declared and is going on the internet site now.

Thanks!

Eric

NRR
From: Taylor, Robert
Sent: Friday, March 18, 2011 4:44 PM
To: Rosenberg, Stacey; Bowman, Eric
Subject: RE: Press Release for Information Notice

Any word on the IN status?

NRR
From: Rosenberg, Stacey
Sent: Friday, March 18, 2011 3:30 PM
To: Taylor, Robert
Subject: RE: Press Release for Information Notice

Thanks so much Rob!!

NRR
From: Taylor, Robert
Sent: Friday, March 18, 2011 3:27 PM

Y/186

To: Bowman, Eric
Cc: Rosenberg, Stacey; McGinty, Tim; Burnell, Scott; Akstulewicz, Brenda
Subject: FW: Press Release for Information Notice
Importance: High

Eric,

You are a go for issuing the IN. Please reply to all when the IN is out to let us know we can go with the press release. Thanks for your patience.

Regards,
Rob

From: Burnell, Scott, *OPA*
Sent: Friday, March 18, 2011 3:24 PM
To: Taylor, Robert; Brenner, Eliot; Akstulewicz, Brenda
Subject: FW: Press Release for Information Notice
Importance: High

Rob;

We're good with ET approval, so tell NRR to push its buttons.

Brenda, please make this final and we'll wait for Rob to tell us NRR has sent the IN out. Thanks.

Scott

From: Taylor, Robert, *NR*
Sent: Friday, March 18, 2011 2:04 PM
To: Brenner, Eliot
Cc: Burnell, Scott
Subject: Press Release for Information Notice

Eliot,

Attached in the press release Scott drafted last night. It has been blessed by Ops Center ET and is ready for the next step (your review?). NRR is still driving to issue the IN today.

Regards,
Rob

JRH

From: Hudson, Jody
To: Leeds, Eric; Boeger, Bruce; Wiggins, Jim; Evans, Michele
Cc: Cohen, Miriam; Tracy, Glenn
Subject: KM and Japan Response
Date: Friday, March 18, 2011 12:52:01 PM

Hi All,

REL We don't want to get in the way and impede any response efforts. However, if you need any help from us with things NRC can be doing now concerning knowledge capture as the Japan response evolves, please let me know.

Regards

Jody Hudson

Chief Learning Officer
Human Resources Training & Development
U.S. Nuclear Regulatory Commission
Mailstop: GW-4A01
301-492-2215

4/18/11

From:
To:

OST01 HOC

INSIK

Abrams, Charlotte; Adams, John; Afshar-Tous, Mugeh; Alemu, Bezakulu; Alter, Peter; Anderson, James; Ashkeboussi, Nima; Baker, Stephen; Bergman, Thomas; Berry, Rollie; Bloom, Steven; Blount, Tom; Boger, Bruce; Bower, Anthony; Brandon, Lou; Brandt, Philip; Brock, Kathryn; Brown, Cris; Brown, David; Brown, Eva; Brown, Frederick; Bukharin, Oleg; Camper, Larry; Carpenter, Cynthia; Case, Michael; Casto, Greg; Cervera, Margaret; Chazell, Russell; Chen, Yen-Ju; Chokshi, Nilesh; Chowdhury, Prosanta; Circle, Jeff; Clement, Richard; Clinton, Rebecca; Collins, Frank; Cool, Donald; Costa, Arlon; Crutchley, Mary Glenn; Cruz, Zahira; Dacus, Eugene; DeCicco, Joseph; Decker, David; Dembek, Stephen; Devlin, Stephanie; Doane, Margaret; Dorman, Dan; Dozier, Jerry; Droggitis, Spiros; Dudek, Michael; Dudes, Laura; Emche, Danielle; English, Lance; Erlanger, Craig; Esmaili, Hossein; Figueroa, Roberto; Fiske, Jonathan; Franovich, Rani; Fuller, Edward; Galletta, Thomas; Gambone, Kimberly; Giitter, Joseph; Gordon, Dennis; Gott, William; Grant, Jeffery; Grobe, Jack; Hale, Jerry; Hardesty, Duane; Hart, Ken; Hart, Michelle; Hasselberg, Rick; Henderson, Karen; Hiland, Patrick; Holahan, Patricia; Holahan, Vincent; Holian, Brian; Huyck, Doug; Howard, Tabitha; Huffert, Anthony; Hurd, Sapna; Isom, James; Jackson, Karen; Jessie, Janelle; Johnson, Michael; Jolicoeur, John; Jones, Andrea; Jones, Cynthia; Kahler, Carolyn; Kammerer, Annie; Karas, Rebecca; Khan, Omar; Kowalczyk, Jeffrey; Kozal, Jason; Kratchman, Jessica; Kugler, Andrew; Lamb, Christopher; Larson, Emily; LaVie, Steve; Lewis, Robert; Li, Yong; Lombard, Mark; Lubinski, John; Lynch, Jeffery; Mamish, Nader; Manahan, Michelle; Marksberry, Don; Marshall, Jane; Mavros, Lauren; Mazaika, Michael; McConnell, Keith; McCoppin, Michael; McDermott, Brian; McGinty, Tim; McMurtray, Anthony; Merritt, Christina; Meyer, Karen; Miller, Charles; Miller, Chris; Milligan, Patricia; Mohseni, Aby; Moore, Scott; Morlang, Gary; Morris, Scott; Mroz (Sahm), Sara; Munson, Clifford; Murray, Charles; Nerret, Amanda; Norris, Michael; Norton, Charles; Ordaz, Vonna; Padovan, Mark; Patel, Jay; Parillo, John; Pope, Tia; Purdy, Gary; Quinlan, Kevin; Ragland, Robert; Ralph, Melissa; Reed, Elizabeth; Reed, Wendy; Reis, Terrence; Riley (OCA), Timothy; Rini, Brett; Rodriguez-Luccioni, Hector; Rosenberg, Stacey; Ross-Lee, MaryJane; Roundtree, Amy; Ruland, William; Salay, Michael; Salus, Amy; Sanfilippo, Nathan; Scarbrough, Thomas; Schaperow, Jason; Schmidt, Duane; Schoenebeck, Greg; Schrader, Eric; Schwartzman, Jennifer; Seber, Dogan; Shane, Raeann; Shea, James; Shepherd, Jill; Sheron, Brian; Skeen, David; Sloan, Scott; Smiroldo, Elizabeth; Smith, Theodore; Stahl, Eric; Stang, Annette; Steger (Tucci), Christine; Stieve, Alice; Stone, Rebecca; Stransky, Robert; Sturz, Fritz; Sullivan, Randy; Sun, Casper; Tappert, John; Temple, Jeffrey; Thaggard, Mark; Thomas, Eric; Thorp, John; Tobin, Jennifer; Trefethen, Jean; Tschiltz, Michael; Turtill, Richard; Uhle, Jennifer; Valencia, Sandra; Vaughn, James; Vick, Lawrence; Wastler, Sandra; Watson, Bruce; Weber, Michael; Webber, Robert; White, Bernard; Wiggins, Jim; Williams, Donna; Williams, Joseph; Williamson, Linda; Willis, Dori; Wimbush, Andrea; Wittick, Brian; Wray, John; Wright, Lisa (Gibney); Wright, Ned; Wunder, George; Young, Francis; Zimmerman, Roy

Cc:

OST02 HOC; OST01 HOC

Subject:

Work Schedule and Pay Guidance for Reponders to Japan Events

Date:

Friday, March 18, 2011 5:07:09 AM

Attachments:

Work Schedule and Premium Pay Guidance for Japan Response 3.docx

From: Davidson, Lawrence *HLR*

Sent: Thursday, March 17, 2011 5:14 PM

To: OST02 HOC; McMurtray, Anthony

Cc: Evans, Michele; Johns, Nancy; Scott, Tracy; Tallarico, Alison

Subject: FW:

Please distribute to everyone who serves in and supports the Ops Center in response to the events in Japan...

From: Davidson, Lawrence *HLR*

Sent: Thursday, March 17, 2011 2:06 PM

To: Abraham, Susan; Abrams, Charlotte; Ader, Charles; Akstulewicz, Frank; Albert, Ronald; Allwein, Russell; Alston, Timothy; Andersen, James; Anderson, Joseph; Armentrout, Deborah; Ash, Darren; Ash, Melissa; Astwood, Heather; Auluck, Rajender; Austin, Joseph; Ayres, David; Bahadur, Sher; Bailey, Marissa; Bailey, Stewart; Baker, Pamela; Banas, Paul; Barss, Dan; Bartlett, Bruce; Bartley, Jonathan; Bartley, Mallon; Batkin, Joshua; Baum, Robin; Bayliff, Shirley; Beardsley, James; Beasley, Benjamin; Bell, Hubert; Bell, Marvin; Bellamy, Ronald; Bellinger, Alesha; Benjamin, Jamie; Benner, Eric; Benney, Brian; Bergman, Thomas; Biggins, James; Bladey, Cindy; Blamey, Alan; Bloom, Steven; Bloomer, Tamara; Blount, Tom; Boger, Bruce; Boland, Anne; Bolduc, Angela; Bonser, Brian; Borchardt, Bill; Borden, William; Bouling, Ramona; Bower, Fred; Bower, Phyllis; Boyce, Tom (RES); Boyce, Thomas (OIS); Brady, Joseph; Brenner, Eliot; Brezovec, Michael; Broaddus, Doug; Brooks, Kenneth; Brown, Frederick; Brown, Tony; Brown, Milton; Brown, Rohn; Bubar, Patrice; Buchholz, Jeri; Buckley, Michael; Bumpass, Sheila; Burns, Stephen; Burritt, Arthur; Burton, Stephen; Burton, William; Bush-Goddard, Stephanie; Cain, Chuck; Caldwell, Robert; Calle, Joselito; Cameron, Jamnes; Campbell, Andy; Campbell,

Y/189

Larry; Campbell, Stephen; Campbell, Vivian; Camper, Larry; Caniano, Roy; Cardenas, Daniel; Carlson, Robert; Carpenter, Cynthia; Case, Michael; Casto, Chuck; Casto, Greg; Cataldo, Paul; Catts, Michelle; Champion, Bryan; Chang, Helen; Chang, Lydia; Cheok, Michael; Chernoff, Harold; Chernoff, Margaret; Chokshi, Nilesh; Christensen, Harold; Clark, Jeff; Clay, Earnestine; Clayton, Brent; Clifford, James; Cobey, Eugene; Cochrum, Steven; Coe, Doug; Cohen, Miriam; Cohen, Ronald; Cohen, Stephen; Colaccino, Joseph; Coleman, Judy; Collins, Daniel; Collins, Elmo; Conte, Richard; Cook, Christopher; Corbett, James; Cordes, John; Correia, Richard; Costello, Ralph; Coyne, Kevin; Croteau, Rick; Crowe, Eddy; Cruz, Jeffrey; Csontos, Aladar; Cabbage, Amy; Cubellis, Louis; Cullison, David; Curtis, David; Daley, Robert; Daly, Jill; Dambly, Jan; Daniel, Susan; Danna, James; Dapas, Marc; Davis, Henry; Davis, Jack; Davis, Marlone; Dean, Michael; Dean, Bill; Dehn, Janine; Delligatti, Mark; Dembek, Stephen; Demoss, Gary; Dennig, Robert; Dentel, Glenn; Desai, Binoy; Dias, Antonio; Diaz-Toro, Diana; Dickson, Billy; Dingbaum, Stephen; DiPaolo, Eugene; Dixon, John; Dixon-Herrity, Jennifer; Doane, Margaret; Dodmead, James; Doerflein, Lawrence; Donaldson, Leslie; Donnell, Tremaine; Donoghue, Joseph; Doornbos, Roger; Dorman, Dan; Dorsey, Jeryll; Dosch, William; Dreisbach, Jason; Droggitis, Spiros; Dudes, Laura; Dumbacher, David; Duncan, Eric; Dwyer, James; Dyer, Jim; Eads, Johnny; Easson, Pamela; Egan, Dennis; Egli, Richard; Einberg, Christian; Elkins, Scott; Ellegood, John; Elliott, Robert; Ellsbury, Richard; Erlanger, Craig; Ernstes, Michael; Brown, Cris; Evans, Carolyn; 'Michele.ca@nrc.gov'; Farnholtz, Thomas; Felts, Russell; Fenton, Darlene; Ferdas, Marc; Ferrell, Kimberly; Ficks, Ben; Fields, Leslie; Finney, Patrick; Fitch, Karen; Flanders, Scott; Flynn, Sean; Foster, Jack; Franke, Mark; Franovich, Rani; Fredericks, Carl; Freeman, Scott; Fretz, Robert; Frumkin, Daniel; Frye, Timothy; Fuller, Michael; Gaddy, Vincent; Gallo, Jenny; Galloway, Melanie; Gartman, Michael; Gavrilas, Mirela; Giantelli, Adelaide; Gibson, Kathy; Giessner, John; Giitter, Joseph; Givvines, Mary; Gody, Tony; Golder, Jennifer; Golshan, KG; Gorham, Tajuana; Gott, William; Graham, Thorne; Grancorvitz, Teresa; Grant, Jeffery; Graser, Dan; Gray, Mel; Greene, Kathryn; Grice, Thomas; Griffin, Steven; Grobe, Jack; Hawkins, Kimberly; Gusack, Barbara; Guthrie, Eugene; Guttmann, Jack; Haag, Robert; Habighorst, Peter; Hackett, Edwin; Haeg, Lucas; Haire, Mark; Hall, Donald; Hall, Patricia; Hamzehee, Hossein; Haney, Catherine; Hansell, Samuel; Harris, Tim; Harrison, Donnie; Hatchett, Gregory; Hawkens, Roy; Hay, Michael; Hayden, Elizabeth; Hays, Myra; Heck, James; Heck, Jared; Helton, Shana; Henderson, Pamela; Hickey, James; Hiland, Patrick; Hills, David; Hilton, Nick; Hiltz, Thomas; Hirsch, Patricia; Hoeg, Tim; Hogan, Rosemary; Holahan, Gary; Holahan, Patricia; Holian, Brian; Holland, Crystal; Holody, Daniel; Holonich, Joseph; Holt, BJ; Hopper, George; Howard, Patrick; Howe, Allen; Howell, Art; Howell, Linda; Hoxie, Chris; Hsia, Anthony; Hsu, Caroline; Hsueh, Kevin; Huber, Deborah; Hudson, Jody; Humerick, David; Hunegs, Gordon; Hunter, James; Huth, Virginia; Hutto, Andy; Huyck, Doug; Imboden, Andy; Itzkowitz, Marvin; Jackson, Deborah; Jackson, Donald; Jackson, Terry; James, Lois; Jankovich, John; Janney, Margie; Jarvis, Rodney; Jenkins, Ronaldo; Jernell, Eleni; Johns, Nancy; Johnson, Michael; Johnson, Clay; Johnson, Robert; Jolicoeur, John; Jones, Bradley; Jones, Evan; Jones, William; Josey, Jeffrey; Joustra, Judith; Julian, Emile; Jung, Ian; Junge, Michael; Kahler, Robert; Kaplan, Michele; Karas, Rebecca; Kellar, Ray; Kelley, Corenthis; Kemerer, Myron; Kemker, Brian; Kennedy, Kriss; Kennedy, Silas; Kerben, Valerie; Kern, David; Khanna, Meena; Kim, Yong; Kimble, Daniel; King, Donald; King, Michael; Kinneman, John; Kirkland, John; Kirkwood, Sara; Klein, Alex; Knutson, Ed; Kobetz, Timothy; Kokajko, Lawrence; Kolaczyk, Kenneth; Konzman, Carl; Koshy, Thomas; Kowal, Mark; Kramer, John; Krohn, Paul; Krsek, Robert; Krupnick, David; Kulesa, Gloria; Kulp, Jeffrey; Kunowski, Michael; Lam, Donna; Lambert, Kenneth; Landau, Mandy; Langan, Scott; Lankford, Jeffrey; Lantz, Ryan; Lara, Julio; Larkin, Grant; Laura, Richard; Layton, Michael; Le, Hong; Lee, Bert; Lee, David; Lee, Richard; Lee, Samson; Lee, Samuel; Leeds, Eric; Lennartz, Jay; Lesser, Mark; Lew, David; Lewis, Robert; Lipa, Christine; Lombard, Mark; Long, Chris; Lopez, Joseph; Lorson, Raymond; Louden, Patrick; Lubinski, John; Luehman, James; Lui, Christiana; Lukes, Robert; Lund, Louise; Lupold, Timothy; Lyons-Burke, Kathy; Ma, May; Madden, Patrick; Madison, Wil; Magruder, Stewart; Mamish, Nader; Markley, Michael; Marshall, Jane; Marshfield, Mark; Martin, Gillian; Masnik, Michael; Masse, Todd; Matheson, Mary; Mathew, Roy; Matthews, David; Mattingley, Joel; Maxin, Mark; Mayfield, Michael; McCann, Carrie; McConnell, Keith; McCoppin, Michael; McCoy, Gerald; McCrary, Cheryl; McCree, Victor; McDermott, Brian; McGhee, James; McGill, Clinton; McGinty, Tim; McGowan, Anna; McHale, John; McKelvey, Harold; McKenna, Eileen; McKenney, Christopher; McKirgan, John; McMillan, Joseph; McMurtray, Anthony; Mendiola, Anthony; Meyer, David; Michalak, Paul; Miller, Charles; Miller, Chris; Miller, Geoffrey; Miller, Marie; Miller, Mark; Miller, Michael; Miotla, Sherri; Mitchell, Matthew; Mitchell, Reggie; Mohseni, Aby; Monk, Robert; Monninger, John; Montgomery, Jack; Moore, Scott; Moore, Thomas; Moorman, James; Morris, Eddie; Morris, James; Morris, R. Michael; Morris, Scott; Morrissey, Thomas; Moulding, Patrick; Moy, Romena; Mrowca, Lynn; Muessle, Mary; Munday, Joel; Murphy, Jerome; Murphy, Martin; Musser, Randy; Narick, Marianne; Nazario, Tomy; Nease, Rebecca; Neff, Deborah; Nelson, Robert; Nichols, Russell; Nieh, Ho; Norato, Michael; Norris, Michael; Nute-Blackshear, Lora; OBrien, Kenneth; OBryan, Phil; O'Donohue, Kathleen;

Offutt, David; Ogle, Chuck; OKeefe, Neil; Oklesson, Edward; Ordaz, Vonna; Orth, Steven; O'Sullivan, Kevin; Ott, William; Ousley, Elizabeth; Owens, Janice; Paradiso, Karen; Partlow, Benjamin; Pascarelli, Robert; Peck, Michael; Pederson, Cynthia; Pelke, Patricia; Pellet, John; Pelton, David; Peralta, Juan; Perry, Jamila; Perry, Neil; Persinko, Andrew; Peters, Sean; Peterson, Gordon; Peterson, Hironori; Pham, Bo; Phillips, Charles; Piccone, Josephine; Pool, Stephen; Poole, Brooke; Powell, Amy; Powell, Dawn; Powell, Raymond; Prescott, Peter; Pretzello, Andrew; Price, Georgette; Pruett, Troy; Pstrak, David; Pulliam, Timothy; Quay, Theodore; Quichocho, Jessie; Rabideau, Peter; Rahimi, Meraj; Raione, Richard; Rajnic, Cecilia; Ramirez, Frances; Rasmussen, Richard; Rasouli, Houman; Raspa, Rossana; Rayland, Andrew; Raymond, William; Reckley, William; Reddick, Darani; Reece, James; Regan, Christopher; Reis, Terrence; Remsburg, Kristy; Reynolds, Steven; Reynoso, John; Rheume, Cynthia; Ricci, John; Rich, Daniel; Rich, Thomas; Richards, Stuart; Ricketts, Paul; Riemer, Kenneth; Ring, Mark; Roach, Edward; Roach, Gregory; Roberts, Darrell; Rodgers, Felecia; Rogge, John; Rosenberg, Stacey; Ross, Thierry; Ross-Lee, MaryJane; Rothschild, Trip; Rough, Richard; Rowhani, Bahman; Royal, Judith; Rubenstone, James; Rubic, Mark; Ruiz, Robert; Ruland, William; Rule, David; Rutkowski, John; Rutledge, Steven; Rzepka, Robert; Sabisch, Andrew; Safford, Carrie; Salgado, Nancy; Salley, MarkHenry; Salter, Susan; Sanchez, Alba; Sanchez, Alfred; Sangimino, Donna-Marie; Santiago, Patricia; Santos, Cayetano; Sargent, Kimberly; Satorius, Mark; Schaaf, Robert; Schaeffer, James; Schmidt, Rebecca; Schneider, Max; Schnetzler, Bonnie; Schoenmann, Sandra; Schroeder, Daniel; Schum, Constance; Scott, Catherine; Scott, Michael; Sealing, Donna; Segala, John; Serepca, Beth; Seymour, Deborah; Shaeffer, Scott; Shaffer, Steve; Shannon, Mel; Shannon, Michael; Sharkey, Jeffrey; Shay, Jason; Shear, Gary; Shehee, James; Sheron, Brian; Shields, James; Shoop, Undine; Shuaibi, Mohammed; Silva, Patricia; Simms, Sophonia; Skeen, David; Skokowski, Richard; Smith, Arthur; Smith, Brian; Smith, Galen; Smith, Rich; Smith, Tuwanda; Solorio, Dave; Sosa, Belkys; Sotiropoulos, Dina; Spencer, Mary; Spindler, David; Spitzberg, Blair; StAmour, Norman; Stablein, King; Stapleton, Bernard; Stetson, Kathleen; Stewart, Scott; Stewart, Sharon; Stoedter, Karla; Stone, AnnMarie; Suber, Gregory; Subosits, Stephen; Sullivan, Allen; Swain, Karol; Sydnor, Russell; Sykes, Marvin; Szyperski, Bill; Tailleart, Don; Talley, Sandra; Tappert, John; Tate, Travis; Taylor, Robert; Tenaglia, Mickey; Terao, David; Terry, Leslie; Thaggard, Mark; Thomas, Brian; Thomas, Christopher; Thorp, John; Tonacci, Mark; Tracy, Glenn; Tran, Tu; Trapp, James; Travick, Vanette; Trent, Glenn; Tschiltz, Michael; Turner, Joseph; Turtill, Richard; Uhle, Jennifer; Ulses, Anthony; Usilton, William; Valentin, Andrea; Vogel, Anton; Vias, Steven; Vietti-Cook, Annette; Virgilio, Martin; VonTill, Bill; Voytko, Victoria; Walker, Tracy; Walker, Wayne; Wall, Scott; Warnick, Greg; Wastler, Sandra; Waters, Michael; Watson, Bruce; Weaver, Doug; Webber, Robert; Weber, Michael; Weerakkody, Sunil; Welling, Blake; Werkheiser, David; Werner, Greg; Wert, Leonard; West, Garmon; West, Steven; Westreich, Barry; Whetstine, Jack; White, Duncan; White, Darrell; Whited, Ryan; Whitten, Jack; Widdup, Joseph; Widmann, Malcolm; Wiggins, Jim; Williams, Barbara; Williams, Evelyn; Williams, Kevin; Williams, Michael; Williams, Mona; Williams-Johnson, Patrice; Williamson, Edward; Wilson, Ernest; Wilson, George; Wilson, Peter; Wood, Gene; Wood, Kent; Wright, Lisa (Gibney); Wrona, David; Wunder, George; Yerokun, Jimi; Young, Cale; Young, Mitzi; Zane, Steven; Zeiler, John; Zimmerman, Jacob; Zimmerman, Roy; Zobler, Marian

Cc: Scott, Tracy; Tallarico, Alison; Thoman, Raymond; Jones, Jackie; Blair, Tina; Chin, Allison; Dean, Vivian; Evans(HR), Marilyn; Himmelberg, Jude; Jackson, Briana; Jaigobind, Savi; Silberfeld, Dafna; Watson, Madonna; Williams, Michelle; Atkinson, Jeanne; Broadwater, Lynne; Brown, Keisa; Hicks, Beverly; Hicks, Valencia; Jonsson, Dawn; Lindsay, Sandy; Marziale, Riqueza; ORourke, Christine; Reeves, Gloria; Scott, Mary; Thomas-Richards, Karen; Todd, Colleen

Subject:

Managers, supervisors, team leaders, and T&L Coordinators,

Attached for your information is a document that addresses, in detail, work schedules and premium pay for individuals who serve in and support the NRC Operations Center or work in Japan, in response to the current, serious nuclear power plant issues in that country. NSIR and the NRC Japanese support team leader will provide the document to all participants.

T&L Coordinators, please note that participants in your organization may contact you to request a change in their HRMS workgroups for pay periods in which they perform emergency response work.

Participants should contact me if they have any questions on work schedules or premium pay.

Larry Davidson
Office of Human Resources
Nuclear Regulatory Commission
301-492-2286; lawrence.davidson@nrc.gov

WORK SCHEDULE AND PREMIUM PAY GUIDANCE FOR RESPONSE TO EVENTS IN JAPAN

Please first review this document and contact Larry Davidson of the Office of Human Resources (301-492-2286 or lawrence.davidson@nrc.gov) for any needed assistance.

Work Schedules

One or more types of work schedules may be appropriate during a pay period in which you serve in and support the NRC Operations Center or work in Japan, in response to the current, serious nuclear power plant issues in that country. You are authorized to select the type of work schedule you will work during the pay period depending on:

- Your specific workdays and work clock hours in the Operations Center or in Japan, as well as any flexibility you have to choose those workdays and clock hours;
- Your entitlement to premium pay for work in the Operations Center or Japan;
- Your performance, if any, of regular duties outside of the Operations Center/Japan during the pay period; and,
- Your loss of earned credit hours if you switch from NEWFlex to another type of work schedule.

Possible work schedules include:

- Compressed work schedule – Appropriate if, during the entire pay period, your workdays and work clock hours are fixed (i.e., you do not have any flexibility to choose either) and there are fewer than ten nonovertime workdays in the pay period (at least one nonovertime workday contains more than eight nonovertime hours). Note that restrictions on nonovertime work clock hours and weekend workdays have been lifted for the pay period. An Expanded-Compressed Work Schedule may be appropriate (see the Yellow Announcement at <http://www.internal.nrc.gov/announcements/yellow/2003/2003-032.html> and Article 6.10.3 of the Collective Bargaining Agreement).
- NEWFlex - Appropriate if, during at least a portion of the pay period, you have some discretion to select your workdays and/or work clock hours (for example, if/when performing regular duties outside of the Operations Center or Japan). Note that restrictions on nonovertime work clock hours and weekend workdays have been lifted for the pay period.
- First-40 – Appropriate if it is impracticable to prescribe a regular schedule of definite hours of duty for each workday of the workweek (likely not appropriate).

Note that you must advise your T&L coordinator to change your HRMS workgroup if you change the type of schedule you work, e.g., if you normally work CWS and change to NEWFlex for the pay period in which you serve in and support the NRC Operations Center or work in Japan. Also note that if you switch from NEWFlex to another type of work schedule, you will lose and will be paid for any accumulated credit hours.

Also note that if you work fewer than 80 hours serving in and supporting the NRC Operations Center or working in Japan, your "home" supervisor will allow you discretion, to the extent possible, to decide how/when to cover any missing time.

Premium Pay

Cap on Combined Salary Plus Premium Pay –The biweekly cap on premium pay has been lifted and will be applied on an annual basis during any pay period in which you serve in and support the NRC Operations Center or work in Japan (the annual cap will benefit you if you are paid a salary below the GG-15 step 10 salary rate). Your organization has been advised to contact CFO with employee names and dates of work.

Overtime pay or regular comp time – Overtime (limited to the higher of: your regular rate; or, 150% of GG-10 step 10) is paid for your work in excess of your full-time work schedule during the pay period. You may choose to be compensated via regular compensatory time off instead (limited to a 40-hour pay period carryover) if your overtime work was not scheduled in advance of the workweek, or regardless of when it was scheduled if you are on NEWFlex.

TRCs – Use "OT" for overtime pay and "COMPE" for regular comp time.

Night premium (10%) –This premium is paid for your *nonovertime* work between 6:00 p.m. and 6:00 a.m. the following morning, and for your *overtime* work during these clock hours if the work was scheduled in advance of the week in which you performed it. Also, this premium is paid for your periods of paid leave, if any, during night clock hours if, during the pay period, you have fewer than 8 hours of total paid leave inclusive of both night and day work.

TRC – NDIFF (hours must also be recorded under another TRC such as REG or OT).

Sunday premium (25%) – This premium is paid for your *nonovertime* work performed on a shift(s), any part(s) of which falls on a Sunday (e.g., a shift from Saturday at 6:00 p.m. to Sunday at 6:00 a.m.). Sunday premium is not payable for periods of nonwork, including leave, holidays not worked, and excused absence.

TRC – SUNP (hours must also be recorded under another TRC such as REG).

Standby status - You are eligible for special overtime pay if you are restricted by official order to a designated post of duty and assigned to be in a state of readiness to perform work, versus actually performing work, with limitations on your activities so substantial that you cannot use

your time effectively for your own purposes. We do not anticipate that any employee will be in a standby status.

Miscellaneous

Employee Assistance Program (EAP)

Free, confidential counseling is available to you and your family members to address emotional issues, work problems, substance abuse, stress, crisis, marital/family concerns, financial matters, legal issues, eldercare resources, and childcare referrals. Call 1-800-869-0276 or check www.eapconsultants.com.

Travel

If you travel to/from Japan:

- Keep a log of specific travel times and work clock hours to help NRC compute your entitlement to compensation.
- Consider enrolling in the Smart Traveler Enrollment Program or STEP) to make it easier for the Embassy/Consulates to contact you in case of an emergency. You may enroll at <https://travelregistration.state.gov>, or if you have no internet access, directly at the U.S. Embassy or U.S. Consulates.
- If you are paid a salary below the GG-15 step 10 salary rate, you are entitled to overtime pay (limited to higher of: your regular rate; or, 150% of GG-10 step 10) for travel to/from Japan, and if the travel is during night hours (6:00 p.m. to 6:00 a.m.) and scheduled in advance of the workweek, you are also entitled to night premium pay. You may substitute regular compensatory time off (limited to a 40-hour pay period carryover) for overtime pay if your travel was not scheduled in advance of the workweek, or regardless of when it was scheduled if you are on NEWFlex.

TRCs – Use “OT” for overtime pay, “COMPE” for regular comp time, and “NDIFF” for night premium pay.

From:

OSTQ2 HOC

To:

Abrams, Charlotte; Adams, John; Afshar-Tous, Mugeh; Alemu, Bezakulu; Alter, Peter; Anderson, James; Ashkeboussi, Nima; Athey, George; Baker, Stephen; Bergman, Thomas; Berry, Rollie; Bhachu, Ujagar; Bloom, Steven; Blount, Tom; Boger, Bruce; Borchart, Bill; Bower, Anthony; Bowman, Gregory; Brandon, Lou; Brandt, Phillip; Brock, Kathryn; Brown, Cris; Brown, David; Brown, Eva; Brown, Frederick; Brown, Michael; Bukharin, Oleg; Camper, Larry; Carpenter, Cynthia; Carter, Mary; Case, Michael; Casto, Greg; Cecere, Bethany; Cervera, Margaret; Chazell, Russell; Chen, Yen-Ju; Cheok, Michael; Chokshi, Niles; Chowdhury, Prosanta; Circle, Jeff; Clement, Richard; Clinton, Rebecca; Coggins, Anita; Collins, Frank; Cool, Donald; Costa, Arlon; Crutchley, Mary Glenn; Cruz, Zahira; Cutaiar, Robert; Dacus, Eugene; DeCicco, Joseph; Decker, David; Dembek, Stephen; Devlin, Stephanie; Doane, Margaret; Dorman, Dan; Dorsey, Cynthia; Dozier, Jerry; Droggitis, Spiros; Dube, Donald; Dudes, Laura; Eads, Johnny; Emche, Danielle; English, Lance; Erlanger, Craig; Esmaili, Hossein; Figueroa, Roberto; Fiske, Jonathan; Floyd, Daphene; Foggie, Kirk; Foster, Jack; Fragovannis, Nancy; Franovich, Rani; Frazier, Alan; Freshwater, David; Fuller, Edward; Galletta, Thomas; Gambone, Kimberly; Gibson, Kathy; Giltter, Joseph; Gilmer, James; Gordon, Dennis; Gott, William; Grant, Jeffery; Grimes, Kelly; Grobe, Jack; Gulla, Gerald; Hale, Jerry; Hardesty, Duane; Harris, Tim; Hart, Ken; Hart, Michelle; Harvey, Brad; Hasselberg, Rick; Henderson, Karen; Hiland, Patrick; Holahan, Patricia; Holahan, Vincent; Holian, Brian; Howard, Tabitha; Huffert, Anthony; Hurd, Sapna; Huvck, Doug; Isom, James; Jackson, Karen; Jacobson, Jeff; Jessie, Janelle; Johnson, Michael; Jolicoeur, John; Jones, Andrea; Jones, Cynthia; Kahler, Carolyn; Kammerer, Annie; Karas, Rebecca; Khan, Omar; Kolb, Timothy; Kotzalas, Margie; Kowalczyk, Jeffrey; Kratchman, Jessica; Kugler, Andrew; Lamb, Christopher; Lane, John; Larson, Emily; Laur, Steven; LaVie, Steve; Lewis, Robert; Li, Yong; Lising, Jason; Lombard, Mark; Lubinski, John; Lui, Christiana; Lynch, Jeffery; Mamish, Nader; Manahan, Michelle; Marksberry, Don; Marshall, Jane; Masao, Nagai; Maupin, Cardilia; Mavros, Lauren; Mazaika, Michael; McConnell, Keith; McCoppin, Michael; McDermott, Brian; McGinty, Tim; McGovern, Denise; McMurtray, Anthony; Merritt, Christina; Meyer, Karen; Miller, Charles; Miller, Chris; Milligan, Patricia; Mohseni, Abv; Moore, Scott; Morlang, Gary; Morris, Scott; Mroz (Sahm), Sara; Munson, Clifford; Murray, Charles; Nerret, Amanda; Nguven, Carolyn; Norris, Michael; Norton, Charles; Ordaz, Vonna; Owens, Janice; Padovan, Mark; Parillo, John; Patel, Jay; Perin, Vanice; Pope, Tia; Powell, Amy; Purdy, Gary; Quinlan, Kevin; Ragland, Robert; Ragland, Randolph; Ralph, Melissa; Ramsey, Jack; Reed, Elizabeth; Reed, Sara; Reed, Wendy; Reis, Terrence; Resner, Mark; Riley (OCA), Timothy; Riner, Kelly; Rini, Brett; Robinson, Edward; Rodriguez-Luccioni, Hector; Rosenberg, Stacey; Ross-Lee, MaryJane; Roundtree, Amy; Ruland, William; Salay, Michael; Salter, Susan; Salus, Amy; Sanfilippo, Nathan; Scarbrough, Thomas; Schaperow, Jason; Schmidt, Duane; Schmidt, Rebecca; Schoenebeck, Greg; Schrader, Eric; Schwartzman, Jennifer; Seber, Dogan; See, Kenneth; Shane, Raeann; Shea, James; Shepherd, Jill; Sheron, Brian; Skeen, David; Sloan, Scott; Smirolodo, Elizabeth; Smith, Brooke; Smith, Theodore; Stahl, Eric; Stang, Annette; Steger (Tucci), Christine; Stieve, Alice; Stone, Rebecca; Stransky, Robert; Sturz, Fritz; Sullivan, Randy; Sun, Casper; Tappert, John; Temple, Jeffrey; Thaggard, Mark; Thomas, Eric; Thorp, John; Tobin, Jennifer; Trefethan, Jean; Tschiltz, Michael; Turtill, Richard; Uhle, Jennifer; Valencia, Sandra; Vaughn, James; Vick, Lawrence; Virgilio, Martin; Virgilio, Rosetta; Ward, Leonard; Wastler, Sandra; Watson, Bruce; Webber, Robert; Weber, Michael; White, Bernard; Wiggins, Jim; Wiggins, Jim; Williams, Donna; Williams, Joseph; Williamson, Linda; Willis, Dori; Wimbush, Andrea; Wittick, Brian; Wray, John; Wright, Lisa (Gibney); Wright, Ned; Wunder, George; Young, Francis; Zimmerman, Roy

Subject:

Staffing Plan

Date:

Friday, March 18, 2011 3:06:48 PM

Attachments:

Staffing plan 3-19 - 3-25.pdf

This list is for next week Sat 3/19 at 7a.m. to Friday 3/25. We do recognize that some positions do not have full staffing. We are looking to fill those. If you know anyone who would want to fill them, have them contact OPS Center at 816-5100.

NSIR

Y/1/19

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Position	Date	Time	Staff
Executive Team			
ET Director			
Fri-Sat	3/18-3/19	11pm-7am	Roy Zimmerman
Sat	19-Mar	7am - 3pm	Jim Wiggins
Sat	19-Mar	3pm-11pm	Brian Sheron
Sat-Sun	3/19-3/20	11pm - 7am	Mike Johnson
Sun	20-Mar	7am - 3pm	Jim Wiggins
Sun	20-Mar	3pm-11pm	Brian Sheron
Sun-Mon	3/20-3/21	11pm - 7am	Mike Johnson
Mon	21-Mar	7am - 3pm	Mike Weber
Mon	21-Mar	3pm-11pm	Jim Wiggins
Mon-Tues	3/21-3/22	11pm - 7am	Mike Johnson
Tues	22-Mar	7am - 3pm	Mike Weber
Tues	22-Mar	3pm-11pm	Jim Wiggins
Tues-Wed	3/22-3/23	11pm - 7am	
Wed	23-Mar	7am - 3pm	Mike Weber
Wed	23-Mar	3pm-11pm	
Wed-Thur	3/23-3/24	11pm - 7am	
Thur	24-Mar	7am - 3pm	
Thur	24-Mar	3pm-11pm	
Thur-Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	
Fri	25-Mar	3pm-11pm	
Fri-Sat	3/25-3/26	11pm-7am	
	3/25-3/26	11pm-7am	
ET Response Advisor			
Fri-Sat	3/18-3/19	11pm-7am	Scott Morris
Sat	19-Mar	7am - 3pm	Brian McDermott
Sat	19-Mar	3pm-11pm	Mary Jane (MJ) Ross-Lee
Sat-Sun	3/19-3/20	11pm - 7am	Scott Morris
Sun	20-Mar	7am - 3pm	Chris Miller
Sun	20-Mar	3pm-11pm	Mary Jane (MJ) Ross-Lee
Sun-Mon	3/20-3/21	11pm - 7am	Scott Morris
Mon	21-Mar	7am - 3pm	Brian McDermott
Mon	21-Mar	3pm-11pm	Chris Miller
Mon-Tues	3/21-3/22	11pm - 7am	Scott Morris
Tues	22-Mar	7am - 3pm	Mary Jane (MJ) Ross-Lee
Tues	22-Mar	3pm-11pm	Chris Miller
Tues-Wed	3/22-3/23	11pm - 7am	Scott Morris
Wed	23-Mar	7am - 3pm	Brian McDermott
Wed	23-Mar	3pm-11pm	Chris Miller
Wed-Thur	3/23-3/24	11pm - 7am	Scott Morris
Thur	24-Mar	7am - 3pm	Mary Jane (MJ) Ross-Lee
Thur	24-Mar	3pm-11pm	Brian McDermott
Thur-Fri	3/24-3/25	11pm - 7am	Chris Miller
Fri	25-Mar	7am - 3pm	Mary Jane (MJ) Ross-Lee
Fri	25-Mar	3pm-11pm	Brian McDermott
Fri-Sat	3/25-3/26	11pm-7am	
ET Rx Prot Measures & State Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Scott Moore

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Sat	19-Mar	7am - 3pm	Larry Camper
Sat	19-Mar	3pm-11pm	P. Holahan
Sat-Sun	3/19-3/20	11pm - 7am	K. McConnell
Sun	20-Mar	7am - 3pm	Vonna Ordaz
Sun	20-Mar	3pm-11pm	Larry Camper
Sun-Mon	3/20-3/21	11pm - 7am	Rob Lewis
Mon	21-Mar	7am - 3pm	Charlie Miller
Mon	21-Mar	3pm-11pm	Larry Camper
Mon-Tues	3/21-3/22	11pm - 7am	Rob Lewis
Tues	22-Mar	7am - 3pm	Charlie Miller
Tues	22-Mar	3pm-11pm	P. Holahan
Tues-Wed	3/22-3/23	11pm - 7am	C. Carpenter
Wed	23-Mar	7am - 3pm	Charlie Miller
Wed	23-Mar	3pm-11pm	P. Holahan
Wed-Thur	3/23-3/24	11pm - 7am	C. Carpenter
Thur	24-Mar	7am - 3pm	Charlie Miller
Thur	24-Mar	3pm-11pm	Larry Camper
Thur-Fri	3/24-3/25	11pm - 7am	C. Carpenter
Fri	25-Mar	7am - 3pm	Charlie Miller
Fri	25-Mar	3pm-11pm	P. Holahan
Fri-Sat	3/25-3/26	11pm-7am	C. Carpenter

Executive Briefing Team

EBT Admin. Assistant			
Fri-Sat	3/18-3/19	11pm-7am	Sapna Hurd
Sat	19-Mar	7am - 3pm	Carolyn Kahler
Sat	19-Mar	3pm-11pm	Annette Stang
Sat-Sun	3/19-3/20	11pm - 9am	Sapna Hurd
Sun	20-Mar	9am - 7pm	Annette Stang
Sun	3/20-3/21	7pm-7am	Carolyn Kahler
Sun-Mon	21-Mar	7am - 3pm	A. Stang (7-11) / Sapna Hurd (11-3)
Mon	21-Mar	3pm-11pm	Tia Pope
Mon	3/21-3/22	11pm - 7am	Christina Merritt
Mon-Tues	22-Mar	7am - 3pm	Carolyn Kahler/Sapna Hurd
Tues	22-Mar	3pm-11pm	Jon Fiske
Tues	3/22-3/23	11pm - 7am	Tia Pope
Tues-Wed	23-Mar	7am - 3pm	Jon Fiske
Wed	23-Mar	3pm-11pm	
Wed	3/23-3/24	11pm - 7am	Christina Merritt
Wed-Thur	24-Mar	7am - 3pm	Carolyn Kahler/Sapna Hurd
Thur	24-Mar	3pm-11pm	Andrea Wimbush
Thur	3/24-3/25	11pm - 7am	Tia Pope
Thur-Fri	25-Mar	7am - 3pm	Annette Stang
Fri	25-Mar	3pm-11pm	Carolyn Kahler
Fri	3/25-3/26	11pm-7am	Sapna Hurd
Fri-Sat			
EBT Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Jim Anderson
Sat	19-Mar	7am - 3pm	Christine Steger
Sat	19-Mar	3pm-11pm	Sara Mroz
Sat-Sun	3/19-3/20	11pm - 7am	Jim Anderson
Sun	20-Mar	7am - 3pm	Yen Chen

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Sun	20-Mar	3pm-11pm	Sara Mroz
Sun-Mon	3/20-3/21	11pm - 7am	Jim Anderson
Mon	21-Mar	7am - 3pm	Yen Chen
Mon	21-Mar	3pm-11pm	Sara Mroz
Mon-Tues	3/21-3/22	11pm - 7am	Jim Anderson
Tues	22-Mar	7am - 3pm	Yen Chen
Tues	22-Mar	3pm-11pm	Sara Mroz
Tues-Wed	3/22-3/23	11pm - 7am	Jim Anderson
Wed	23-Mar	7am - 3pm	Yen Chen
Wed	23-Mar	3pm-11pm	Sara Mroz
Wed-Thur	3/23-3/24	11pm - 7am	Jim Anderson
Thur	24-Mar	7am - 3pm	Yen Chen
Thur	24-Mar	3pm-11pm	Sara Mroz
Thur-Fri	3/24-3/25	11pm - 7am	Jim Anderson
Fri	25-Mar	7am - 3pm	Yen Chen
Fri	25-Mar	3pm-11pm	Sara Mroz
Fri-Sat	3/25-3/26	11pm-7am	Jim Anderson
Executive Support Team			
EST Status Officer			
Fri-Sat	3/18-3/19	11pm-7am	Doug Huyck
Sat	19-Mar	7am - 3pm	Craig Erlanger
Sat	19-Mar	3pm-11pm	John Jolicoeur
Sat-Sun	3/19-3/20	11pm - 7am	Doug Huyck
Sun	20-Mar	7am - 3pm	Craig Erlanger
Sun	20-Mar	3pm-11pm	John Jolicoeur
Sun-Mon	3/20-3/21	11pm - 7am	Doug Huyck
Mon	21-Mar	7am - 3pm	Jane Marshall
Mon	21-Mar	3pm-11pm	Bill Gott
Mon-Tues	3/21-3/22	11pm - 7am	Jeff Grant
Tues	22-Mar	7am - 3pm	Jane Marshall
Tues	22-Mar	3pm-11pm	Bill Gott
Tues-Wed	3/22-3/23	11pm - 7am	Jeff Grant
Wed	23-Mar	7am - 3pm	Jane Marshall
Wed	23-Mar	3pm-11pm	Bill Gott
Wed-Thur	3/23-3/24	11pm - 7am	Jeff Grant
Thur	24-Mar	7am - 3pm	Jane Marshall
Thur	24-Mar	3pm-11pm	Bill Gott
Thur-Fri	3/24-3/25	11pm - 7am	Jeff Grant
Fri	25-Mar	7am - 3pm	Jane Marshall
Fri	25-Mar	3pm-11pm	Bill Gott
Fri-Sat	3/25-3/26	11pm-7am	Jeff Grant
EST Actions Officer			
Fri-Sat	3/18-3/19	11pm-7am	Amy Roundtree
Sat	19-Mar	7am - 3pm	Bezakulu Alemu
Sat	19-Mar	3pm-11pm	Melissa Ralph
Sat-Sun	3/19-3/20	11pm - 7am	Jonathan Fiske
Sun	20-Mar	7am - 3pm	Melissa Ralph
Sun	20-Mar	3pm-11pm	Jonathan Fiske
Sun-Mon	3/20-3/21	11pm - 7am	Dori Votolato-Willis
Mon	21-Mar	7am - 3pm	Melissa Ralph

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Mon	21-Mar	3pm-11pm	Amanda Nerret
Mon-Tues	3/21-3/22	11pm - 7am	Kelly Grimes
Tues	22-Mar	7am - 3pm	Melissa Ralph
Tues	22-Mar	3pm-11pm	Dori Votolato-Willis
Tues-Wed	3/22-3/23	11pm - 7am	Kelly Grimes
Wed	23-Mar	7am - 3pm	Melissa Ralph
Wed	23-Mar	3pm-11pm	Dori Votolato-Willis
Wed-Thur	3/23-3/24	11pm - 7am	Kelly Grimes
Thur	24-Mar	7am - 3pm	Wendy Reed
Thur	24-Mar	3pm-11pm	Dori Votolato-Willis
Thur-Fri	3/24-3/25	11pm - 7am	Jonathan Fiske
Fri	25-Mar	7am - 3pm	Amanda Nerret
Fri	25-Mar	3pm-11pm	Melissa Ralph
Fri-Sat	3/25-3/26	11pm-7am	Jonathan Fiske
EST Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Rebecca Stone
Sat	19-Mar	7am - 3pm	Clyde Ragland
Sat	19-Mar	3pm-11pm	Tony Bowers
Sat-Sun	3/19-3/20	11pm - 7am	Rebecca Stone
Sun	20-Mar	7am - 3pm	Clyde Ragland
Sun	20-Mar	3pm-11pm	Tony Bowers
Sun-Mon	3/20-3/21	11pm - 7am	Rebecca Stone
Mon	21-Mar	7am - 3pm	Tony McMurtray
Mon	21-Mar	3pm-11pm	Tony Bowers
Mon-Tues	3/21-3/22	11pm - 7am	Rebecca Stone
Tues	22-Mar	7am - 3pm	Tony McMurtray
Tues	22-Mar	3pm-11pm	Tony Bowers
Tues-Wed	3/22-3/23	11pm - 7am	Rebecca Stone
Wed	23-Mar	7am - 3pm	Tony McMurtray
Wed	23-Mar	3pm-11pm	Clyde Ragland
Wed-Thur	3/23-3/24	11pm - 7am	Rebecca Stone
Thur	24-Mar	7am - 3pm	Tony McMurtray
Thur	24-Mar	3pm-11pm	Clyde Ragland
Thur-Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	Tony McMurtray
Fri	25-Mar	3pm-11pm	Clyde Ragland
Fri-Sat	3/25-3/26	11pm-7am	
EST Chronology Officer			
Fri-Sat	3/18-3/19	11pm-7am	Dennis Gordon
Sat	19-Mar	7am - 3pm	Carolyn Nguyen
Sat	19-Mar	3pm-11pm	Rebecca Karas
Sat-Sun	3/19-3/20	11pm - 7am	Cynthia Dorsey
Sun	20-Mar	7am - 3pm	James Vaughn
Sun	20-Mar	3pm-11pm	Rebecca Karas
Sun-Mon	3/20-3/21	11pm - 7am	Mark Resner
Mon	21-Mar	7am - 3pm	Hector Rodriguez-Luccioni
Mon	21-Mar	3pm-11pm	Rebecca Karas
Mon-Tues	3/21-3/22	11pm - 7am	Thomas Scarbrough
Tues	22-Mar	7am - 3pm	Hector Rodriguez-Luccioni
Tues	22-Mar	3pm-11pm	Rebecca Karas

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Tues-Wed	3/22-3/23	11pm - 7am	Thomas Scarbrough
Wed	23-Mar	7am - 3pm	James Vaughn
Wed	23-Mar	3pm-11pm	Rebecca Karas
Wed-Thur	3/23-3/24	11pm - 7am	
Thur	24-Mar	7am - 3pm	Hector Rodriguez-Luccioni
Thur	24-Mar	3pm-11pm	Rebecca Karas
Thur-Fri	3/24-3/25	11pm - 7am	Thomas Scarbrough
Fri	25-Mar	7am - 3pm	Hector Rodriguez-Luccioni
Fri	25-Mar	3pm-11pm	Rebecca Karas
Fri-Sat	3/25-3/26	11pm-7am	Thomas Scarbrough
EST Response Ops Mgr			
Fri-Sat	3/18-3/19	11pm-7am	Omar Khan
Sat	19-Mar	7am - 3pm	Cris Brown
Sat	19-Mar	3pm-11pm	Bob Stransky
Sat-Sun	3/19-3/20	11pm - 7am	Jean Trefethan
Sun	20-Mar	7am - 3pm	Karen Jackson
Sun	20-Mar	3pm-11pm	Roberto Figueroa
Sun-Mon	3/20-3/21	11pm - 7am	Jean Trefethan
Mon	21-Mar	7am - 3pm	Bob Stransky
Mon	21-Mar	3pm-11pm	Omar Khan
Mon-Tues	3/21-3/22	11pm - 7am	Cris Brown
Tues	22-Mar	7am - 3pm	Bob Stransky
Tues	22-Mar	3pm-11pm	Karen Jackson
Tues-Wed	3/22-3/23	11pm - 7am	Roberto Figueroa
Wed	23-Mar	7am - 3pm	Bob Stransky
Wed	23-Mar	3pm-11pm	Jean Trefethan
Wed-Thur	3/23-3/24	11pm - 7am	Cris Brown
Thur	24-Mar	7am - 3pm	Karen Jackson
Thur	24-Mar	3pm-11pm	Omar Khan
Thur-Fri	3/24-3/25	11pm - 7am	Roberto Figueroa
Fri	25-Mar	7am - 3pm	Jean Trefethan
Fri	25-Mar	3pm-11pm	Cris Brown
Fri-Sat	3/25-3/26	11pm-7am	Roberto Figueroa
EST Admin. Assistant			
Fri-Sat	3/18-3/19	11pm-7am	Tabitha Howard
Sat	19-Mar	7am - 3pm	Karen Meyer
Sat	19-Mar	3pm-11pm	Amy Salus
Sat-Sun	3/19-3/20	11pm - 7am	Chris Lamb
Sun	20-Mar	7am - 3pm	Karen Meyer
Sun	20-Mar	3pm-11pm	Linda Williamson
Sun-Mon	3/20-3/21	11pm - 7am	Chris Lamb
Mon	21-Mar	7am - 3pm	Karen Meyer
Mon	21-Mar	3pm-11pm	Mary Glenn Crutchley
Mon-Tues	3/21-3/22	11pm - 7am	Andrea Wimbush
Tues	22-Mar	7am - 3pm	Amy Salus
Tues	22-Mar	3pm-11pm	Mary Glenn Crutchley
Tues-Wed	3/22-3/23	11pm - 7am	Michelle Manahan
Wed	23-Mar	7am - 3pm	Karen Meyer
Wed	23-Mar	3pm-11pm	Mary Glenn Crutchley
Wed-Thur	3/23-3/24	11pm - 7am	Andrea Wimbush

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Thur	24-Mar	7am - 3pm	Amy Salus
Thur	24-Mar	3pm-11pm	Mary Glenn Crutchley
Thur-Fri	3/24-3/25	11pm - 7am	Tabitha Howard
Fri	25-Mar	7am - 3pm	Karen Meyer
Fri	25-Mar	3pm-11pm	Mary Glenn Crutchley
Fri-Sat	3/25-3/26	11pm-7am	Michelle Manahan
Liason Team			
LT Director			
Fri-Sat	3/18-3/19	11pm-7am	Tom Blount
Sat	19-Mar	7am - 3pm	Tom Bergman
Sat	19-Mar	3pm-11pm	Bob Webber
Sat-Sun	3/19-3/20	11pm - 7am	John Adams
Sun	20-Mar	7am - 3pm	Tom Bergman
Sun	20-Mar	3pm-11pm	Bob Webber
Sun-Mon	3/20-3/21	11pm - 7am	John Adams
Mon	21-Mar	7am - 3pm	Tom Bergman
Mon	21-Mar	3pm-11pm	Bob Webber
Mon-Tues	3/21-3/22	11pm - 7am	John Adams
Tues	22-Mar	7am - 3pm	Tom Bergman
Tues	22-Mar	3pm-11pm	Bob Webber
Tues-Wed	3/22-3/23	11pm - 7am	John Adams
Wed	23-Mar	7am - 3pm	Michael Tschiltz
Wed	23-Mar	3pm-11pm	Joe Giitter
Wed-Thur	3/23-3/24	11pm - 7am	Tim McGinty
Thur	24-Mar	7am - 3pm	Michael Tschiltz
Thur	24-Mar	3pm-11pm	Joe Giitter
Thur-Fri	3/24-3/25	11pm - 7am	Tim McGinty
Fri	25-Mar	7am - 3pm	Michael Tschiltz
Fri	25-Mar	3pm-11pm	Joe Giitter
Fri-Sat	3/25-3/26	11pm-7am	Tim McGinty
LT Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Janelle Jessie
Sat	19-Mar	7am - 3pm	Jeff Temple
Sat	19-Mar	3pm-11pm	Rani Franovich
Sat-Sun	3/19-3/20	11pm - 7am	Janelle Jessie
Sun	20-Mar	7am - 3pm	Jeff Temple
Sun	20-Mar	3pm-11pm	Nathan Sanfilippo
Sun-Mon	3/20-3/21	11pm - 7am	Milt Murray
Mon	21-Mar	7am - 3pm	Jeff Temple
Mon	21-Mar	3pm-11pm	Nathan Sanfilippo
Mon-Tues	3/21-3/22	11pm - 7am	Milt Murray
Tues	22-Mar	7am - 3pm	Rani Franovich
Tues	22-Mar	3pm-11pm	Nathan Sanfilippo
Tues-Wed	3/22-3/23	11pm - 7am	Milt Murray
Wed	23-Mar	7am - 3pm	Rani Franovich
Wed	23-Mar	3pm-11pm	Jeff Temple
Wed-Thur	3/23-3/24	11pm - 7am	Milt Murray
Thur	24-Mar	7am - 3pm	Rani Franovich
Thur	24-Mar	3pm-11pm	Jeff Temple
Thur-Fri	3/24-3/25	11pm - 7am	Milt Murray

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Fri	25-Mar	7am - 3pm	Janelle Jessie
Fri	25-Mar	3pm-11pm	Rani Franovich
Fri-Sat	3/25-3/26	11pm-7am	Milt Murray
LT Federal Liason (2)			
Fri-Sat	3/18-3/19	11pm-7am	Scott Sloan
Sat	19-Mar	7am - 3pm	Russ Chazell
Sat	19-Mar	3pm-11pm	Jeff Lynch
Sat-Sun	3/19-3/20	11pm - 7am	Scott Sloan
Sun	20-Mar	7am - 3pm	Ned Wright
Sun	20-Mar	3pm-11pm	Jerry Hale
Sun-Mon	3/20-3/21	11pm - 7am	Lisa Wright
Mon	21-Mar	7am - 3pm	Beth Reed/Ted Smith
Mon	21-Mar	3pm-11pm	Ned Wright
Mon-Tues	3/21-3/22	11pm - 7am	Lisa Wright
Tues	22-Mar	7am - 3pm	Beth Reed/Ted Smith
Tues	22-Mar	3pm-11pm	Ned Wright
Tues-Wed	3/22-3/23	11pm - 7am	Lisa Wright
Wed	23-Mar	7am - 3pm	Jerry Hale/
Wed	23-Mar	3pm-11pm	Ted Smith
Wed-Thur	3/23-3/24	11pm - 7am	Lisa Wright
Thur	24-Mar	7am - 3pm	/Ted Smith
Thur	24-Mar	3pm-11pm	Jerry Hale
Thur-Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	/Ted Smith
Fri	25-Mar	3pm-11pm	Jerry Hale
Fri-Sat	3/25-3/26	11pm-7am	
LT Congressional Liason (2)			
Sat	19-Mar	7am - 2pm	Spiros Droggitis
	19-Mar	2pm-9pm	Tim Riley
Sun	20-Mar	7am - 2pm	Rebecca Schmidt
	20-Mar	2pm-9pm	Reanne Shane
Mon	21-Mar	7am - 2pm	
	21-Mar	2pm-9pm	
Tues	22-Mar	7am - 2pm	
	22-Mar	2pm-9pm	
Wed	23-Mar	7am - 2pm	
	23-Mar	2pm-9pm	
Thur	24-Mar	7am - 2pm	
	24-Mar	2pm-9pm	
Fri	25-Mar	7am - 2pm	
	25-Mar	2pm-9pm	
LT International Liason (2)			
Fri-Sat	3/18-3/19	11pm-7am	Elizabeth Smiroldo/Danielle Emche
Sat	19-Mar	7am - 3pm	Lance English/Steve Bloom
Sat	19-Mar	3pm-11pm	Jenny Tobin/Jill Shephard
Sat-Sun	3/19-3/20	11pm - 7am	Elizabeth Smiroldo/Danielle Emche
Sun	20-Mar	7am - 3pm	Karen/Steve Baker
Sun	20-Mar	3pm-11pm	Eric Stahl/Nancy
Sun-Mon	3/20-3/21	11pm - 7am	Elizabeth Smiroldo/Jenny Tobin

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Mon	21-Mar	7am - 3pm	Jen Schwartzman/Charlotte Abrams/Nancy (12-3
Mon	21-Mar	3pm-11pm	Danielle Emche/Lauren Mayros
Mon-Tues	3/21-3/22	11pm - 7am	Eric Stahl/Mugeh
Tues	22-Mar	7am - 3pm	Jen Schwartzman/Charlotte Abrams/Nancy (12-3
Tues	22-Mar	3pm-11pm	Danielle Emche/Lauren Mayros
Tues-Wed	3/22-3/23	11pm - 7am	Eric Stahl/Mugeh
Wed	23-Mar	7am - 3pm	Jen Schwartzman/Charlotte Abrams/Nancy (12-3
Wed	23-Mar	3pm-11pm	Danielle Emche/Lauren Mayros
Wed-Thur	3/23-3/24	11pm - 7am	Eric Stahl/Mugeh
Thur	24-Mar	7am - 3pm	Steve Bloom/Lance English
Thur	24-Mar	3pm-11pm	Janice/Jenny Tobin
Thur-Fri	3/24-3/25	11pm - 7am	Andrea/Elizabeth Smiroldo
Fri	25-Mar	7am - 3pm	Steve Bloom/Lance English
Fri	25-Mar	3pm-11pm	Janice/Jenny Tobin
Fri-Sat	3/25-3/26	11pm-7am	Andrea/Elizabeth Smiroldo

Protective Measures Team

PMTR Director			
Fri-Sat	3/18-3/19	11pm-7am	Kathy Gibson
Sat	19-Mar	7am - 3pm	John Lubinski
Sat	19-Mar	3pm-11pm	Don Cool
Sat-Sun	3/19-3/20	11pm - 7am	Kathy Gibson
Sun	20-Mar	7am - 3pm	John Lubinski
Sun	20-Mar	3pm-11pm	Don Cool
Sun-Mon	3/20-3/21	11pm - 7am	Kathy Gibson
Mon	21-Mar	7am - 3pm	John Lubinski
Mon	21-Mar	3pm-11pm	Don Cool
Mon-Tues	3/21-3/22	11pm - 7am	John Tappert
Tues	22-Mar	7am - 3pm	John Lubinski
Tues	22-Mar	3pm-11pm	Don Cool
Tues-Wed	3/22-3/23	11pm - 7am	John Tappert
Wed	23-Mar	7am - 3pm	Terry Reis
Wed	23-Mar	3pm-11pm	Cindy Jones
Wed-Thur	3/23-3/24	11pm - 7am	Randy Sullivan
Thur	24-Mar	7am - 3pm	Terry Reis
Thur	24-Mar	5pm-11pm	Cindy Jones
Thur-Fri	3/24-3/25	11pm - 7am	Randy Sullivan
Fri	25-Mar	7am - 3pm	Terry Reis
Fri	25-Mar	5pm-11pm	Cindy Jones
Fri-Sat	3/25-3/26	11pm-7am	Randy Sullivan

PMTR Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Mike Norris
Sat	19-Mar	7am - 3pm	Duane Hardesty
Sat	19-Mar	3pm-11pm	Jay Patel
Sat-Sun	3/19-3/20	11pm - 7am	Lou Brandon
Sun	20-Mar	7am - 3pm	Nima Ashkeboussi
Sun	20-Mar	3pm-11pm	Jay Patel
Sun-Mon	3/20-3/21	11pm - 7am	Lou Brandon
Mon	21-Mar	7am - 3pm	John Wray (volunteer from OE)
Mon	21-Mar	3pm-11pm	Jay Patel
Mon-Tues	3/21-3/22	11pm - 7am	Lou Brandon

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Tues	22-Mar	7am - 3pm	John Wray (volunteer from OE)
Tues	22-Mar	3pm-11pm	Nima Ashkeboussi
Tues-Wed	3/22-3/23	11pm - 7am	Mike Norris
Wed	23-Mar	7am - 3pm	Prosanta Chowdhury (8 am)
Wed	23-Mar	3pm-11pm	Nima Ashkeboussi
Wed-Thur	3/23-3/24	11pm - 7am	Mike Norris
Thur	24-Mar	7am - 3pm	Prosanta Chowdhury (8 am)
Thur	24-Mar	3pm-11pm	Nima Ashkeboussi
Thur-Fri	3/24-3/25	11pm - 7am	Mike Norris
Fri	25-Mar	7am - 3pm	Duane Hardesty
Fri	25-Mar	3pm-11pm	Jay Patel
Fri-Sat	3/25-3/26	11pm-7am	

PMTR Prot Actions Asst Dir

Fri-Sat	3/18-3/19	11pm-7am	Greg Casto
Sat	19-Mar	7am - 3pm	Kathryn Brock
Sat	19-Mar	3pm-11pm	Kevin Williams
Sat-Sun	3/19-3/20	11pm - 7am	Greg Casto
Sun	20-Mar	7am - 3pm	Kathryn Brock
Sun	20-Mar	3pm-11pm	Tim Harris
Sun-Mon	3/20-3/21	11pm - 7am	Greg Casto
Mon	21-Mar	7am - 3pm	Kathryn Brock
Mon	21-Mar	3pm-11pm	
Mon-Tues	3/21-3/22	11pm - 7am	Jessica Kratchman
Tues	22-Mar	7am - 3pm	Kathryn Brock
Tues	22-Mar	3pm-11pm	Tim Harris
Tues-Wed	3/22-3/23	11pm - 7am	Jessica Kratchman
Wed	23-Mar	7am - 3pm	Sandra Wastler
Wed	23-Mar	3pm-11pm	
Wed-Thur	3/23-3/24	11pm - 7am	Jessica Kratchman
Thur	24-Mar	7am - 3pm	Sandra Wastler
Thur	24-Mar	3pm-11pm	
Thur-Fri	3/24-3/25	11pm - 7am	Jessica Kratchman
Fri	25-Mar	7am - 3pm	Kathryn Brock
Fri	25-Mar	3pm-11pm	
Fri-Sat	3/25-3/26	11pm-7am	Greg Casto

PMTR RAAD

Fri-Sat	3/18-3/19	11pm-7am	Randy Sullivan
Sat	19-Mar	7am - 3pm	Bruce Watson
Sat	19-Mar	3pm-11pm	Michelle Hart
Sat-Sun	3/19-3/20	11pm - 7am	Patricia Milligan
Sun	20-Mar	7am - 3pm	Eric Schrader
Sun	20-Mar	3pm-11pm	Steve LaVie
Sun-Mon	3/20-3/21	11pm - 7am	Randy Sullivan
Mon	21-Mar	7am - 3pm	Bruce Watson
Mon	21-Mar	3pm-11pm	Michelle Hart/Steve Lavie
Mon-Tues	3/21-3/22	11pm - 7am	
Tues	22-Mar	7am - 3pm	Bruce Watson
Tues	22-Mar	3pm-11pm	Steve LaVie
Tues-Wed	3/22-3/23	11pm - 7am	
Wed	23-Mar	7am - 3pm	Bruce Watson

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Wed	23-Mar	3pm-11pm	Michelle Hart/Steve Lavie
Wed-Thur	3/23-3/24	11pm - 7am	Patricia Milligan
Thur	24-Mar	7am - 3pm	Bruce Watson
Thur	24-Mar	3pm-11pm	Steve LaVie
Thur-Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	
Fri	25-Mar	3pm-11pm	Michelle Hart/Steve Lavie
Fri-Sat	3/25-3/26	11pm-7am	

PMTR Dose Assessment (RASCAL)

Fri-Sat	3/18-3/19	11pm-7am	Duane Schmidt/Tony Huffert
Sat	19-Mar	7am - 3pm	Casper Sun
Sat	19-Mar	3pm-11pm	Margaret Cervera
Sat-Sun	3/19-3/20	11pm - 7am	Kimberly Gambone/John Parillo
Sun	20-Mar	7am - 3pm	Casper Sun
Sun	20-Mar	3pm-11pm	Margaret Cervera
Sun-Mon	3/20-3/21	11pm - 7am	Kimberly Gambone/John Parillo
Mon	21-Mar	7am - 3pm	Eric Schrader/Rich Clement
Mon	21-Mar	3pm-11pm	Margaret Cervera/Tony Huffert
Mon-Tues	3/21-3/22	11pm - 7am	John Parillo
Tues	22-Mar	7am - 3pm	Eric Schrader/Rich Clement
Tues	22-Mar	3pm-11pm	Gary Purdy/Casper Sun
Tues-Wed	3/22-3/23	11pm - 7am	Margaret Cervera/Tony Huffert
Wed	23-Mar	7am - 3pm	Eric Schrader/Rich Clement
Wed	23-Mar	3pm-11pm	Kimberly Gambone/Casper Sun
Wed-Thur	3/23-3/24	11pm - 7am	Tony Huffert/John Parillo
Thur	24-Mar	7am - 3pm	Eric Schrader/Rich Clement
Thur	24-Mar	3pm-11pm	Kimberly Gambone/Casper Sun
Thur-Fri	3/24-3/25	11pm - 7am	Tony Huffert/John Parillo
Fri	25-Mar	7am - 3pm	Eric Schrader/Rich Clement
Fri	25-Mar	3pm-11pm	Gary Purdy/Casper Sun
Fri-Sat	3/25-3/26	11pm-7am	John Parillo

PMTR GIS Analyst

Fri-Sat	3/18-3/19	11pm-7am	Stephanie Devlin
Sat	19-Mar	7am - 3pm	Nebiyu Tirah
Sat	19-Mar	3pm-11pm	Yong Li
Sat-Sun	3/19-3/20	11pm - 7am	
Sun	20-Mar	7am - 3pm	Phil Brandt
Sun	20-Mar	3pm-11pm	Ken See
Sun-Mon	3/20-3/21	11pm - 7am	
Mon	21-Mar	7am - 3pm	Nebiyu Tirah
Mon	21-Mar	3pm-11pm	
Mon-Tues	3/21-3/22	11pm - 7am	
Tues	22-Mar	7am - 3pm	Yong Li
Tues	22-Mar	3pm-11pm	
Tues-Wed	3/22-3/23	11pm - 7am	
Wed	23-Mar	7am - 3pm	
Wed	23-Mar	3pm-11pm	
Wed-Thur	3/23-3/24	11pm - 7am	
Thur	24-Mar	7am - 3pm	Yong Li
Thur	24-Mar	3pm-11pm	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Thur-Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	
Fri	25-Mar	3pm-11pm	
Fri-Sat	3/25-3/26	11pm-7am	
PMTR Meteorologist			
Fri-Sat	18-Mar	3pm-11pm	Mike Mazaika
Sat	3/18-3/19	11pm-7am	Dave Brown
Sat	19-Mar	7am - 3pm	Kevin Quinlan
Sat-Sun	19-Mar	3pm-11pm	Mike Mazaika
Sun	3/19-3/20	11pm - 7am	David Brown
Sun	20-Mar	7am - 3pm	Kevin Quinlan
Sun-Mon	20-Mar	3pm-11pm	Mike Mazaika
Mon	3/20-3/21	11pm - 7am	David Brown
Mon	21-Mar	7am - 3pm	Mike Mazaika
Mon-Tues	21-Mar	3pm-11pm	
Tues	3/21-3/22	11pm - 7am	
Tues	22-Mar	7am - 3pm	
Tues-Wed	22-Mar	3pm-11pm	
Wed	3/22-3/23	11pm - 7am	
Wed	23-Mar	7am - 3pm	
Wed-Thur	23-Mar	3pm-11pm	
Thur	3/23-3/24	11pm - 7am	
Thur	24-Mar	7am - 3pm	
Thur-Fri	24-Mar	3pm-11pm	
Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	
Fri-Sat	25-Mar	3pm-11pm	
	3/25-3/26	11pm-7am	
Reactor Safety Team			
RST Director			
Fri-Sat	3/18-3/19	11pm-7am	Jennifer Uhle
Sat	19-Mar	7am - 3pm	Laura Dudes
Sat	19-Mar	3pm-11pm	Dave Skeen
Sat-Sun	3/19-3/20	11pm - 7am	Jennifer Uhle
Sun	20-Mar	7am - 3pm	Laura Dudes
Sun	20-Mar	3pm-11pm	Dave Skeen
Sun-Mon	3/20-3/21	11pm - 7am	Jennifer Uhle
Mon	21-Mar	7am - 3pm	Fred Brown
Mon	21-Mar	3pm-11pm	Dave Skeen
Mon-Tues	3/21-3/22	11pm - 7am	Jennifer Uhle
Tues	22-Mar	7am - 3pm	Fred Brown
Tues	22-Mar	3pm-11pm	Dave Skeen
Tues-Wed	3/22-3/23	11pm - 7am	Brian Holian
Wed	23-Mar	7am - 3pm	Fred Brown
Wed	23-Mar	3pm-11pm	Bill Ruland
Wed-Thur	3/23-3/24	11pm - 7am	Brian Holian
Thur	24-Mar	7am - 3pm	Fred Brown
Thur	24-Mar	3pm-11pm	Bill Ruland
Thur-Fri	3/24-3/25	11pm - 7am	Brian Holian
Fri	25-Mar	7am - 3pm	Pat Hiland

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Fri	25-Mar	3pm-11pm	Bill Ruland
Fri-Sat	3/25-3/26	11pm-7am	Brian Holian
Sat	26-Mar	0700 -1500	Jerry Dozier?
Sat	26-Mar	1500 - 2300	Hussein Esmail
Sat	3/26-27/2011	2300 - 0700	
RST Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Rollie Berry
Sat	19-Mar	7am - 3pm	Scott Sloan
Sat	19-Mar	3pm-11pm	Oleg Bukharin
Sat-Sun	3/19-3/20	11pm - 7am	Frank Collins
Sun	20-Mar	7am - 3pm	Peter Alter
Sun	20-Mar	3pm-11pm	Eric Thomas
Sun-Mon	3/20-3/21	11pm - 7am	Mike Morlang
Mon	21-Mar	7am - 3pm	Peter Alter
Mon	21-Mar	3pm-11pm	Greg Schoenebeck
Mon-Tues	3/21-3/22	11pm - 7am	Frank Collins
Tues	22-Mar	7am - 3pm	Rick Hasselberg
Tues	22-Mar	3pm-11pm	Mike Morlang
Tues-Wed	3/22-3/23	11pm - 7am	Oleg Bukharin
Wed	23-Mar	7am - 3pm	Eric Thomas*
Wed	23-Mar	3pm-11pm	Greg Schoenebeck
Wed-Thur	3/23-3/24	11pm - 7am	Frank Collins
Thur	24-Mar	7am - 3pm	Rick Hasselberg
Thur	24-Mar	3pm-11pm	Brett Rini
Thur-Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	Eric Thomas*
Fri	25-Mar	3pm-11pm	Brett Rini
Fri-Sat	3/25-3/26	11pm-7am	Frank Collins
Severe Accident/PRA			
Fri-Sat	3/18-3/19	11pm - 7am	Don Marksberry
Sat	19-Mar	7am - 3pm	Len Ward
Sat	19-Mar	3pm-11pm	Ed Fuller
Sat-Sun	3/19-3/20	11pm - 7am	Mike Salay
Sun	20-Mar	7am - 3pm	John Lane
Sun	20-Mar	3pm-11pm	
Sun-Mon	3/20-3/21	11pm - 7am	Don Dube
Mon	21-Mar	7am - 3pm	Jeff Circle
Mon	21-Mar	3pm-11pm	Hossein Esmaili
Mon-Tues	3/21-3/22	11pm - 7am	Jim Gilmer
Tues	22-Mar	7am - 3pm	Ed Fuller
Tues	22-Mar	3pm-11pm	Len Ward
Tues-Wed	3/22-3/23	11pm - 7am	
Wed	23-Mar	7am - 3pm	Jeff Circle
Wed	23-Mar	3pm-11pm	Jerry Dozier
Wed-Thur	3/23-3/24	11pm - 7am	Mike Salay
Thur	24-Mar	7am - 3pm	Jeff Circle
Thur	24-Mar	3pm-11pm	Steve Laur
Thur-Fri	3/24-3/25	11pm - 7am	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Fri	25-Mar	7am - 3pm	Jerry Dozier ?
Fri	25-Mar	3pm-11pm	Steve Laur
Fri-Sat	3/25-3/26	11pm-7am	
BWR Expertise			
Fri-Sat	3/18-3/19	11pm-7am	Mike Brown
Sat	19-Mar	7am - 3pm	Peter Alter
Sat	19-Mar	3pm-11pm	Chuck Norton
Sat-Sun	3/19-3/20	11pm - 7am	John Kauffman
Sun	20-Mar	7am - 3pm	Larry Vick
Sun	20-Mar	3pm-11pm	Chuck Norton
Sun-Mon	3/20-3/21	11pm - 7am	Mike Brown
Mon	21-Mar	7am - 3pm	Gerry Gulla (OE volunteer)
Mon	21-Mar	3pm-11pm	Chuck Norton
Mon-Tues	3/21-3/22	11pm - 7am	Mike Brown
Tues	22-Mar	7am - 3pm	
Tues	22-Mar	3pm-11pm	Chuck Norton
Tues-Wed	3/22-3/23	11pm - 7am	Mike Brown
Wed	23-Mar	7am - 3pm	Larry Vick
Wed	23-Mar	3pm-11pm	Chuck Norton
Wed-Thur	3/23-3/24	11pm - 7am	Eva Brown
Thur	24-Mar	7am - 3pm	
Thur	24-Mar	3pm-11pm	Chuck Norton
Thur-Fri	3/24-3/25	11pm - 7am	Eva Brown
Fri	25-Mar	7am - 3pm	
Fri	25-Mar	3pm-11pm	
Fri-Sat	3/25-3/26	11pm-7am	Eva Brown
RST Comm/ERDS Operator			
Fri-Sat	3/18-3/19	11pm-7am	Andy Kugler
Sat	19-Mar	7am - 3pm	Joseph Williams
Sat	19-Mar	3pm-11pm	John Thorp
Sat-Sun	3/19-3/20	11pm - 7am	Ujagav Bhachu
Sun	20-Mar	7am - 3pm	Denise McGovern
Sun	20-Mar	3pm-11pm	Donna Williams
Sun-Mon	3/20-3/21	11pm - 7am	Ujagav Bhachu
Mon	21-Mar	7am - 3pm	Joseph Williams
Mon	21-Mar	3pm-11pm	
Mon-Tues	3/21-3/22	11pm - 7am	
Tues	22-Mar	7am - 3pm	Steve Bloom
Tues	22-Mar	3pm-11pm	Jim Isom
Tues-Wed	3/22-3/23	11pm - 7am	
Wed	23-Mar	7am - 3pm	Joseph Williams
Wed	23-Mar	3pm-11pm	Ken Hart
Wed-Thur	3/23-3/24	11pm - 7am	
Thur	24-Mar	7am - 3pm	John Thorp
Thur	24-Mar	3pm-11pm	Ken Hart
Thur-Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	Donna Williams
Fri	25-Mar	3pm-11pm	Jim Isom
Fri-Sat	3/25-3/26	11pm-7am	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

RST Support (Seismology Q&A)			
Fri-Sat	3/18-3/19	11pm-7am	Off (On Call)
Sat	19-Mar	7am - 3pm	Off (On Call)
Sat	19-Mar	3pm-11pm	Off (On Call)
Sat-Sun	3/19-3/20	11pm - 7am	Off (On Call)
Sun	20-Mar	7am - 3pm	Off (On Call)
Sun	20-Mar	3pm-11pm	Off (On Call)
Sun-Mon	3/20-3/21	11pm - 7am	Off (On Call)
Mon	21-Mar	7am - 3pm	Off (On Call)
Mon	21-Mar	3pm-11pm	Off (On Call)
Mon-Tues	3/21-3/22	11pm - 7am	Off (On Call)
Tues	22-Mar	7am - 3pm	Off (On Call)
Tues	22-Mar	3pm-11pm	Off (On Call)
Tues-Wed	3/22-3/23	11pm - 7am	Off (On Call)
Wed	23-Mar	7am - 3pm	Off (On Call)
Wed	23-Mar	3pm-11pm	Off (On Call)
Wed-Thur	3/23-3/24	11pm - 7am	Off (On Call)
Thur	24-Mar	7am - 3pm	Off (On Call)
Thur	24-Mar	3pm-11pm	Off (On Call)
Thur-Fri	3/24-3/25	11pm - 7am	Off (On Call)
Fri	25-Mar	7am - 3pm	off (On Call)
Fri	25-Mar	3pm-11pm	Off (On Call)
Fri-Sat	3/25-3/26	11pm-7am	Off (On Call)

Ellmers, Glenn

From: Ellmers, Glenn
Sent: Friday, March 18, 2011 9:44 AM
To: Rihm, Roger
Subject: Japan March 18 All Hands Talkers.docx
Attachments: Japan March 18 All Hands Talkers.docx

First cut. Thoughts?

Y/190

March 18, All-Employees Meeting -- Japan/Fukushima Events

Thanks:

- I want to thank, first of all, the ADM/OIS staff and others who helped put this meeting together at the last minute. It was a lot of work in a very short time period. We all appreciate your efforts.
- A special thanks also to the Ops Center, OCA, OPS. The agency is monitoring the situation 24/7, while also being flooded with calls. NSIR, OCA, and OPA would have been completely overwhelmed without the extraordinary willingness of other staff to pitch in and help out. And of course, many of you are having to backfill for those people who are temporarily leaving their regular duties. It's tremendously impressive to see the entire staff work together and do whatever it takes.

Focus on Mission:

- It's easy to be overwhelmed by what's happening in Japan, but we must stay focused on our domestic mission.
- There is **intense** interest in the safety of the operating plants right now. This would be the worst possible time to become distracted, and allow anything to go wrong at an NRC licensed facility.

Going Forward:

- We remain confident that our regulations and oversight provide appropriate assurances of safety for NRC-licensed activities. We will continue to inspect the operating plants and other facilities, process licensing actions, and conduct other regulatory functions.
- Insofar as possible, we should continue to carry out our day-to-day activities as normally as we can.

Presidential Directive:

- President Obama has directed the NRC to "to do a comprehensive review of the safety of our domestic nuclear plants in light of the natural disaster that unfolded in Japan."
- Of course, we would be doing this in any case. But the fact that this order comes directly from the President of the United States underscores what a serious matter this is.
- Additional guidance on how this will occur will be made available.

Commission Meeting on Monday:

- There will be a Commission Meeting on Monday to address many of the issues that we are talking about right now. The Commission will begin to review the agency's next steps.
- We will provide the briefing materials as soon as they become available.
- Please, if at all possible, watch the Commission meeting at a designated overflow room (i.e., the auditorium, etc), via VTC, and not on your computer. This will help us sustain operations of our network and avoid degradation or more serious issues.

Additional Information

- PUBLIC
 - The situation remains very fluid. The IAEA is a good source of public information for additional developments. USAID is leading the American government response to the disaster. Refer your friends and family to those sources.
- FOR INTERNAL USE
 - The NRR Sharepoint site has a helpful list of Frequently Asked Questions. [*Go to NRR homepage, look toward the bottom of the Green menu bar on the left for the Sharepoint link.*]
 - We are also making the Ops Center situation reports available to the entire staff. These are internal use only documents. [CONFIRM – ARE WE DOING THIS? WHERE LOCATED?]

Ellmers, Glenn

From: Ellmers, Glenn
Sent: Friday, March 18, 2011 10:28 AM
To: Boska, John; Howe, Allen
Cc: Gratton, Christopher; Fopma, Melody; Loyd, Susan
Subject: 2:00 All Hands Talking Points - first draft

March 18, All-Employees Meeting -- Japan/Fukushima Events

Thanks:

- I want to thank, first of all, the ADM/OIS staff and others who helped put this meeting together at the last minute. It was a lot of work in a very short time period. We all appreciate your efforts.
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Employee Support

- HR Team, EAP, and Health Center have been reaching out through a variety of communications to ensure that employees and managers know how to get the support they need.
- HR has developed a Stress Pack for Supervisors that will be distributed soon. We will also schedule Q&A session for supervisors. This session will be very short (about 15 minutes). Information on this session will be sent out soon. I encourage all supervisors to attend if they are able.
- We have provided targeted support to those employees deployed to Japan as well as to their families. Employees in Japan have access to communications through international Blackberries, and are able to stay in touch with their families
- Please be aware that seeking counseling from the EAP for work-related stress will not impact your security clearance. All interactions with the EAP are confidential.

Additional Information

- PUBLIC
 - The situation remains very fluid. The IAEA is a good source of public information for additional developments. USAID is leading the American government response to the disaster. Refer your friends and family to those sources.
- FOR INTERNAL USE
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From: Boska, John
Sent: Friday, March 18, 2011 9:13 AM
To: Howe, Allen; Ellmers, Glenn
Cc: Gratton, Christopher
Subject: RE: ACTION: all hands
Importance: High

Glenn, Chris Gratton has the slides and is updating them. We will email you a copy before noon.

John Boska
Indian Point Project Manager, NRR/DORL
U.S. Nuclear Regulatory Commission
301-415-2901
email: john.boska@nrc.gov

From: Howe, Allen
Sent: Friday, March 18, 2011 9:10 AM
To: Leeds, Eric
Cc: Ellmers, Glenn; Boska, John; Gratton, Christopher
Subject: RE: ACTION: all hands

Will do

John/Chris – please update Glenn

From: Leeds, Eric
Sent: Friday, March 18, 2011 8:16 AM
To: Howe, Allen
Cc: Ellmers, Glenn; Boska, John; Gratton, Christopher
Subject: ACTION: all hands

Allen – could you or one of your team, help Glenn on this. Thanks!

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
301-415-1270

From: Borchardt, Bill
Sent: Friday, March 18, 2011 6:53 AM
To: Ellmers, Glenn; Leeds, Eric
Subject: all hands

Glenn – please get the outline (and talking points in whatever shape they're in) for Monday's comm mtg so that I can use them for the all hands meeting. Also prepare a 1 pager of additional items that you think I should cover such as Darren's note (that I just sent to you), thanking the nrc staff, etc....

I hope to back from the hill around noon

Taylor, Renee

From: Borchardt, Bill
Sent: Friday, March 18, 2011 10:46 AM
To: Schmidt, Rebecca; Sheron, Brian
Subject: Briefing

They took me out the back door to avoid press. Did I say anything we need to correct?

Good luck at the next mtg.
Bill Borchardt
Via blackberry

Y/1/192

Weber, Michael

From: Weber, Michael
Sent: Friday, March 18, 2011 4:36 PM
To: Burns, Stephen
Subject: FYI - *Once Again!* Media Advisory: Nuclear Regulatory Commission to Hold Public Meeting on NRC Response to Recent Japan Event
Attachments: MA_03-18-2011_JapanBriefing.docx

You might want to share this with the Lawyers Group.

From: OPA Resource
Sent: Friday, March 18, 2011 4:26 PM
To: Ash, Darren; Barkley, Richard; Batkin, Joshua; Bell, Hubert; Belmore, Nancy; Bergman, Thomas; Bollwerk, Paul; Bonaccorso, Amy; Borchartt, 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: *Once Again!* Media Advisory: Nuclear Regulatory Commission to Hold Public Meeting on NRC Response to Recent Japan Event

I apologize, this time with the attachment!

Greetings,

This was issued at approximately 3pm today via Listserve. It was not posted to the live web.

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



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>

March 18, 2011

*****MEDIA ADVISORY*****

NUCLEAR REGULATORY COMMISSION TO HOLD PUBLIC MEETING ON NRC RESPONSE TO RECENT JAPAN EVENT

The U.S. Nuclear Regulatory Commission will be briefed by its staff on the NRC's response to the ongoing nuclear event in Japan in a public meeting on March 21 at 9 a.m. at NRC Headquarters, 11555 Rockville Pike, Rockville, Md. The commission meeting will be open to public observation and will be webcast at: <http://www.nrc.gov/public-involve/public-meetings/webcast-live.html>.

Due to limited space availability, the meeting will be set up for a CBS broadcast network pool camera crew. Broadcast media outlets interested in receiving the feed should contact the network pool at 202-457-4444. For still photographers, this meeting will be pooled with AP, Reuters, AFP and Getty only.

In order for us to try to ensure sufficient seating for reporters, please notify the Office of Public Affairs at the contact information above if you plan to attend. There will be additional space available in our auditorium on a first-come, first-serve basis.

Pool photographers will have limited space at the meeting in which to take photos. Movement must be kept to a minimum so as not to be distracting and entry into the inner well closest to the Commission briefing table is prohibited. Plan to arrive in advance of the meeting at the Marinelli Road entrance of the NRC with proper media credentials. The NRC offices are located across the street from the White Flint Metro station. Parking is available at the White Flint metro parking garage on Marinelli Road.

###

News releases are available through a free *listserv* subscription at the following Web address: <http://www.nrc.gov/public-involve/listserver.html>. The NRC homepage at www.nrc.gov also offers a SUBSCRIBE link. E-mail notifications are sent to subscribers when news releases are posted to NRC's website.

Weber, Michael

From: Weber, Michael
Sent: Friday, March 18, 2011 4:39 PM
To: LIA05 Hoc; RST01 Hoc; OST02 HOC; PMT01 Hoc
Subject: FYI - GLOBAL SECURITY NEWSWIRE ARTICLE ABOUT ENTOMBING FUKUSHIMA DAIICHI

Japan Could Encase Nuclear Plant in Concrete

Friday, March 18, 2011

Japan could encase the Fukushima Daiichi nuclear power plant in concrete and sand in a final attempt to stop massive quantities of radioactive material from escaping the site, the facility's operator indicated on Friday (see [GSN](#), March 17).



(Mar. 18) - *A girl is scanned for radiation on Wednesday in Japan's Fukushima prefecture. Concrete and sand might be placed over a severely damaged facility in the region in a final effort to prevent major radioactive material releases, the site's operator said on Friday (Ken Shimizu/Getty Images).*

Tokyo Electric Power's first reference to the option -- employed in the aftermath of the 1986 Chernobyl disaster -- suggested efforts to prevent materials at the facility's six reactors from overheating might prove unsuccessful, according to Reuters (Saoshiro/Negishi, Reuters I, March 18).

Untreated material could melt down or even re-enter the fission process, potentially resulting in much larger radioactive material releases than have been seen so far from the plant crippled by Friday's 9.0-magnitude earthquake and devastating tsunami, the *New York Times* reported. Officials have said the events probably caused no fewer than 10,000 deaths (Tabuchi/Bradsher, *New York Times* I, March 18).

"It is not impossible to encase the reactors in concrete. But our priority right now is to try and cool them down first," Reuters quoted a representative of the operator as saying (Saoshiro/Negishi, Reuters I).

Authorities were spraying seawater into the No. 1, No. 2 and No. 3 reactors using fire hoses, and the Japanese Self-Defense Forces dropped four water loads into the No. 3 reactor by helicopter, the International Atomic Energy Agency said on Thursday, referencing reports by the Japanese government. The U.N. nuclear watchdog noted that damage had occurred to the cores of the three three reactors, but that the situation "appears to be relatively stable" (International Atomic Energy Agency [release](#), March 18).

"The water is likely to have reached the target," Japanese Air Self Defense Force Chief of Staff Shigeru Iwasaki said (Tabuchi/Bradsher, *New York Times* I).

Water levels were falling in the pressure vessels for reactors No. 5 and No. 6, according to an IAEA statement.

Workers were installing an electrical cable to the No. 2 reactor (International Atomic Energy Agency release). The goal is to begin supplying electricity by Saturday to water pumps at reactors No. 1 and No. 2, said Hidehiko Nishiyama, a spokesman for Japan's atomic agency. Power at the No. 4 reactor might also be restored then as well, he said, adding Japan hopes by Sunday to begin powering pumps at the No. 3 reactor.

Even with power, the pumping systems might fail to function properly due to damage, according to Reuters.

The option of burying parts of the facility "is in the back of our minds, but we are focused on cooling the reactors down," Nishiyama said (Saoshiro/Negishi, Reuters I).

The No. 4 reactor is still "a major safety concern," the U.N. nuclear watchdog said, adding that Japan has provided no updates since Monday on the temperature of water in the reactor's cooling pond (International Atomic Energy Agency release).

The pool could be leaking water through a possible fissure, the U.S. Nuclear Regulatory Commission determined. The NRC assessment drew from data provided by U.S. contractors at the site when the earthquake hit, as well as an analysis of developments in the last week, the *Los Angeles Times* reported (*Los Angeles Times*, March 18).

It was unclear whether a fire previously reported at the No. 4 reactor had been extinguished, the *New York Times* quoted U.S. officials as saying (Tabuchi/Bradsher, *New York Times* I).

Japan has requested U.S. support in the nuclear crisis and the sides were discussing possible avenues for assistance, the Associated Press quoted Japanese Chief Cabinet Secretary Yukio Edano as saying on Friday (Associated Press/Yahoo!News, March 18). Nine U.S. personnel set to deploy to Japan specialize in defending against nuclear, biological and chemical weapons, Kyodo News quoted a Defense Department official as saying (Kyodo News, March 17).

Conditions at the Fukushima Daiichi facility were "reasonably stable," Reuters quoted IAEA official Graham Andrew as saying on Thursday.

"It hasn't got worse, which is positive," Andrew said. "The situation remains very serious but there has been no significant worsening since yesterday."

"As of today I'm not aware that anyone has died from this accident. That is not to seem complacent, we're far from that," he said.

The U.N. nuclear watchdog has been periodically updated since Wednesday on radiation dose rates in 47 Japanese cities, Andrew said. Radiation intensity in Tokyo has remained largely consistent and is still "well below levels that are dangerous to human health," he said (Dahl/Westall, Reuters II, March 17).

Japan has upgraded the Fukushima facility's nuclear incident level from 4 to 5 on a scale that tops out at 7, the agency announced on Friday (Dahl/Westall, Reuters III, March 18).

IAEA Director General Yukiya Amano on Friday pressed Tokyo to provide his monitoring organization with additional details on the "extremely serious" emergency, the Xinhua News Agency reported.

"There is the opinion in the international community that more detailed information is needed," Amano reportedly told Prime Minister Naoto Kan in Tokyo. Kan said he would do his best to cooperate (Xinhua News Agency, March 18).

Mike

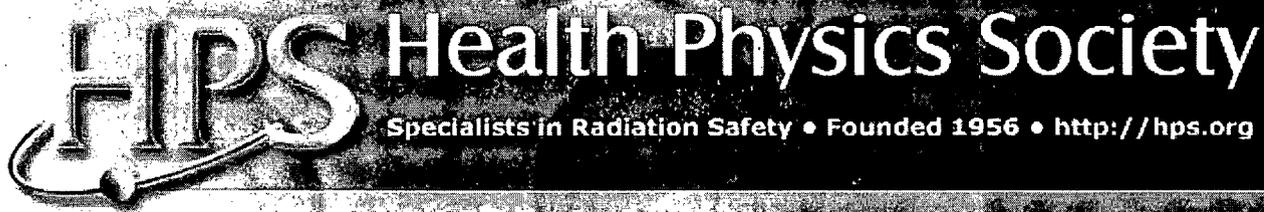
Michael Weber
Deputy Executive Director for Materials, Waste, Research,
State, Tribal, and Compliance Programs
U.S. Nuclear Regulatory Commission

301-415-1705
Mail Stop O16E15

Weber, Michael

From: Weber, Michael
Sent: Friday, March 18, 2011 5:03 PM
To: LIA05 Hoc; McIntyre, David
Subject: FYI- HPS Update on Japan

From: HPS Headquarters [<mailto:HPS@BurkInc.com>]
Sent: Friday, March 18, 2011 11:12 AM
To: Weber, Michael
Subject: HPS Update on Japan



HPS Update on Japan

HPS Members:

Are you aware of the terrible situation in Japan. The HPS is working on multiple fronts to collect credible information on the nuclear incident, and distribute that information through mainstream and social media outlets and the HPS Web site.

Share your frustration with the misinformation and sensationalism presented by much of the mainstream media. We don't often publicize our efforts, but the HPS maintains an active media liaison and outreach effort all year around; not just during a crisis. Classic and Howard Dickson are leading this charge. I would like to report to you a sampling of their efforts:

We have communicated with our professional counterparts at the Japan Health Physics Society to offer our assistance and express our support for their courageous efforts.

We have set up a special page on Facebook (<http://www.facebook.com/topic.php?topic=826&post=2780&uid=157387224301493#post2780>) to consolidate media reports and provide additional information, which we believe would be of interest to our audience (uncut and unedited for rapidity of availability).

We are also working to organize television appearances and other media communications for our members to present an alternative perspective on the situation, but with emphasis on radiation safety. We will never be able to respond with the speed of the mainstream media, nor have comparable resources to compete with them, but we will have the information right.

Encourage you to refer the public to our website for the most credible information and links. <http://hps.org/fukushima/>

Importantly, I encourage you to donate to the Japan relief efforts through the American Red Cross at:
http://american.redcross.org/site/PageServer?pagename=ntld_main&s_src=RSG000000000&s_subsrc=RCO_ResponseStateSe

Do not know what other actions our Society should be taking during this nuclear incident.

Do know that many of you have also been doing interviews with reporters and we very much appreciate your efforts to get good scientific facts in front of the public. Please take the time to tell Kelly (media@hps.org) who you interviewed with and the topics you collect all members efforts for historical purposes.

For all, please keep the people of Japan in your thoughts and prayers.

Respectfully,

Michael

Weber, Michael

From: Weber, Michael
Sent: Saturday, March 19, 2011 1:21 PM
To: Leeds, Eric; Boger, Bruce; Grobe, Jack; Sheron, Brian; Uhle, Jennifer; Johnson, Michael; Holahan, Gary
Cc: Muessle, Mary; Andersen, James; Sanfilippo, Nathan; Wittick, Brian; Bowman, Gregory; Mamish, Nader; Doane, Margaret; Burns, Stephen; Itzkowitz, Marvin
Subject: FYI - Japan Follow-up

From: Borchardt, Bill
To: Jaczko, Gregory
Cc: Weber, Michael; Virgilio, Martin; Ash, Darren; Batkin, Joshua
Sent: Sat Mar 19 10:13:27 2011
Subject: Japan Follow-up

Chairman,

The following is my initial thinking of NRC lessons learned follow-up from the Japan event. Both of the activities would use a combination of current NRC staff (and SES managers) as well as rehired annuitants. I would also like to explore the possibility of using some existing senior managers for the task force and then backfilling behind them as a succession planning tool.

Near Term Review:

- 90 day effort
- Evaluate currently available technical and operational information from the event to identify near term (or immediate) operational or regulatory issues affecting US operating reactors of all designs
- Develop recommendations for generic communications, orders, etc
- This would possibly include a 30 day quick look report
- Limited stakeholder involvement
- Public report

Longer Term Review:

- Would start after we have sufficient technical information from Japan
- Evaluate all technical and policy issues to identify additional research, generic issues, changes to ROP, rulemakings, adjustments to the regulatory framework, etc that should be conducted by NRC
- Evaluate interagency issues (EP)
- Applicability to non-operating reactor facilities
- Substantive stakeholder involvement
- Public report

These are only initial thoughts and will benefit from the input of others.

Bill

Y/196

Franovich, Mike

From: Franovich, Mike
Sent: Saturday, March 19, 2011 10:25 PM
To: Ostendorff, William
Cc: Nieh, Ho; Warnick, Greg; Kock, Andrea; Zorn, Jason
Subject: UPDATE: 2000 Telecon on Fukushima Daiichi Event

Brian Sheron led the call (Virgilio on the line). A much improved briefing that lasted 40 minutes this evening.

- Earlier this afternoon, Borchardt met with representatives from the U.S industry, Naval Reactors, and DOE. The purpose was to discuss having industry mobilize with their Japanese counterparts to take a leadership role in the accident management and follow-up. The NRC does not want to be viewed as managing this accident. Industry reps are engaged with Japanese nuclear industry. GE and Westinghouse worked through the Hitachi and Toshiba companies in Japan as the conduits to Japan nuclear industry.
- Industry will have a meeting at INPO on Monday, actions measure in days not weeks. Will propose to NRC plan.
- Brian was on a 4 pm call with NSC and other agencies involved. Status summary provided by each agency. Pete Lyons came to NRC and sat in with Brian on the call.
- 6:00 pm call with USAID on some complications with the 4 train seawater system to be shipped to Fukushima on a C17 transport from Australia. Original cost of systems would be \$750k but then Bechtel said it would be \$9.6 million. USAID does not have that money and so the shipment was stopped. During conference call USAID asked if the equipment will still be needed. NRC said now not needed as first line of defense but would be a backup if the current equipment on site failed. Some political implications if we don't send anything. So USAID worked with DOD (DOD has money) but one train will be shipped for now based on NRC recommendation. Waiting on DOD paycom approval.
- PMT update: No new info. Our last aerial data is now 36 hours old. No new data available on dose rates at the Daiichi site.
- PMT RASCAL runs being redone assuming a "realistic" worst case even though plant conditions are improving but staff still including 100 meltdown of Unit 4 SFP. The source term that was used for the NRC 50 mile evacuation Press Release also assumed no water in Unit 4 spent fuel pool.
- No new info on I-131 levels at San Onofre and Diablo Canyon.
- Daiichi units status in the LIA report. Covered again on phone call. Also Unit 3 completed a 13 hour sprays of the top of Rx Building using a 70 foot boom for the sprayers off an unmanned fire truck. Appears to be effective. Unit 4 spraying now in progress. Restarted spent fuel pool cooling at Unit 5.

Tracking:

Y/197

Andersen, James

From: Virgilio, Martin
Sent: Saturday, March 19, 2011 5:41 AM
To: Andersen, James; Borchardt, Bill; Weber, Michael; Ash, Darren
Cc: Landau, Mindy; Muessle, Mary; Coggins, Angela
Subject: REPLY: Japan Commission Meetings

Jim

I believe that based on what the Commission hears from Bill at the open Commission meeting they will consider what papers and commission meetings they will want over the next several months in the closed meeting. For example, they could request Papers on any or all of the following issues: Protection Against Natural Disasters; Station Blackout; Severe Accident and Spent Fuel Pool Accident Progression; Radiological Consequence Analysis; Hydrogen Fires and Explosions; Severe Accident Management Equipment; Seismic Issues; Tsunami Issues, Mark I containment issues; Emergency Preparedness; and Emergency Operating procedures/SAMGs.

I have recommended (to Angela) the Commission not spend energy on what we will shed in order to deliver the Papers and staff the Commission meetings. I would prefer to have us identify what could be shed, like we did in the most recent paper on NFPA 805 and let them rule our proposal.

Marty

Y/198

Taylor, Renee

From: Borchardt, Bill
Sent: Saturday, March 19, 2011 9:23 AM
To: Taylor, Renee
Subject: FW: Japan Commission Meetings
Attachments: list of all items by due date.pdf; Potential Commission Meetings - 2011.docx

Please print Mon AM

From: Andersen, James
Sent: Friday, March 18, 2011 5:08 PM
To: Borchardt, Bill; Weber, Michael; Ash, Darren; Virgilio, Martin
Cc: Landau, Mindy; Muessle, Mary
Subject: FW: Japan Commission Meetings

These two documents from SECY may be useful in preparations for the discussions Monday on agenda planning (second meeting). The first is the list of voting papers coming up over the next several months. The second list on potential meetings is held pretty close, SECY uses it for pre-agenda with the Chairman. At the Chairman's direction, the Commission has not seen the entire SECY paper tracking list or the potential meeting list.

Jim A.

Weber, Michael

From: Weber, Michael
Sent: Sunday, March 20, 2011 9:14 AM
To: Wiggins, Jim
Cc: FOIA Response.hoc Resource; OST02 HOC
Subject: Response - March 20 one pager.doc

Thanks, Jim. How does the "worst case" analysis referred to in this summary compare to the "reasonable worst case" that Kathy sent to Marty?

As a separate issue, with attacks now underway with Libya, are we on top of any threats from Libya against U.S. Nuclear facilities and materials? Any need to communicate with the licensees (e.g., NTAS)?

From: Wiggins, Jim
To: Jaczko, Gregory; Batkin, Joshua
Cc: Virgilio, Martin; Weber, Michael; ET02 Hoc
Sent: Sun Mar 20 07:27:52 2011
Subject: March 20 one pager.doc

Here's the bases for our 8:00am brief.

Y/200

Weber, Michael

From: Weber, Michael
Sent: Sunday, March 20, 2011 12:02 PM
To: Orders, William
Cc: OST02 HOC; RST01 Hoc; Andersen, James
Subject: Response - Pump

The four-train system that we have developed with Bechtel and others includes diesel powered pumps and other components to pump seawater into the spent fuel pools.

----- Original Message -----
From: Orders, William
To: Weber, Michael
Sent: Sun Mar 20 11:13:11 2011
Subject: Pump

The Bechtel pump.
Is it diesel powered and what is it to e used for?

Thanks

Y/201

Andersen, James

From: Andersen, James
Sent: Monday, March 21, 2011 6:45 AM
To: Miller, Mark; Cochrum, Steven
Subject: Commission Meeting on the Status of the Japanese Event
Attachments: Staff Slides for March 21 Meeting Rev 1.pptx

Attached are the Commission Slides for this morning's meeting. Please also forward to your staff so that copies can be made for those individuals watching at the remote locations. Thanks.

Rec'd

Jim A.

4/20/2

1/Re1



**Briefing on NRC Response to
Recent Nuclear Events in
Japan**

**Bill Borchardt
Executive Director for Operations
March 21, 2011**

Agenda

- **Event Overview**
- **Immediate NRC Response**
- **Continuing NRC Response**
- **Health Effects of Radiation**
- **Domestic Reactor Safety**
- **Path Forward**

2

Event Overview

- **Discussion of initiating event**
- **Current status of reactors**
- **Current status of spent fuel pools**

3

Immediate NRC Response

- **Activated Operations Center**
- **Dispatched NRC experts to Japan**
- **Areas of focus**
- **Extensive outreach to stakeholders**

4

Continuing NRC Response

- **Operations Center**
- **Support U.S. response**
- **Provide assistance**
- **Mobilize resources**

5

Health Effects of Radiation

- **Offsite Doses**
- **Radiological Consequences**

6

Domestic Reactor Safety

- **NRC oversight of U.S. plant safety**
- **Continuous improvement based on operating experience**

7

NRC Activities – Near Term

- **Inspection Activities**
- **Generic Communications**
- **Immediate regulatory actions**

8

NRC Activities – Longer Term

- ***Lessons learned and recommendations***
- ***Regulatory actions, for example, to identify potential:***
 - ***Research projects***
 - ***Generic Issues***
 - ***Regulatory enhancements***

9

Conclusion

10

Landau, Mindy

From: Landau, Mindy
Sent: Monday, March 21, 2011 11:03 AM
To: Ellmers, Glenn; Borchardt, Bill; Muessle, Mary
Cc: Wyatt, Melissa
Subject: RE: Last Friday's All Hands

Great feedback, Glenn! Many thanks to you and Melissa for carrying the bulk of the communication efforts on this meeting!

Mindy

From: Ellmers, Glenn
Sent: Monday, March 21, 2011 10:55 AM
To: Borchardt, Bill; Muessle, Mary; Landau, Mindy
Subject: FW: Last Friday's All Hands

Thought you would appreciate this.

From: Finch, R Lynne
Sent: Monday, March 21, 2011 9:02 AM
To: Ellmers, Glenn
Subject: Last Friday's All Hands

I assume you were a part of that effort. I watched it on one of the TVs and thought the entire thing was excellent. I'm sure you've received plenty of feedback, but I wanted to add mine. It was informative, educational and not above my head. I learned a lot.

Thanks,

R. Lynne

R. Lynne Finch, PMP
Sr Program / Business Analyst
Center for Planning and Analysis Branch
Office of Nuclear Reactor Regulation
US Nuclear Regulatory Commission
301/415-3621
O-13F02e



Y/203

Landau, Mindy

From: Landau, Mindy
Sent: Monday, March 21, 2011 2:57 PM
To: Ellmers, Glenn
Subject: FW: Query: EDO's Opening Remarks from 3/20 Commission Mtg

Importance: High

Do we have Bill's written remarks?

From: Nelson, Robert
Sent: Monday, March 21, 2011 2:28 PM
To: Landau, Mindy
Cc: Markley, Michael; Oesterle, Eric
Subject: Query: EDO's Opening Remarks from 3/20 Commission Mtg
Importance: High

Can you provide a copy to me for use by my Comm Team? We don't want to wait 48 hours for the transcript.

NELSON

Y/204

Landau, Mindy

From: Landau, Mindy
Sent: Monday, March 21, 2011 2:59 PM
To: Ellmers, Glenn
Subject: FW: Query: EDO's Opening Remarks from 3/20 Commission Mtg
Importance: High

Glenn – I'm informed he doesn't have written remarks. Can you forward the slides to them?

From: Nelson, Robert
Sent: Monday, March 21, 2011 2:28 PM
To: Landau, Mindy
Cc: Markley, Michael; Oesterle, Eric
Subject: Query: EDO's Opening Remarks from 3/20 Commission Mtg
Importance: High

Can you provide a copy to me for use by my Comm Team? We don't want to wait 48 hours for the transcript.

NELSON

Ellmers, Glenn

From: Ellmers, Glenn
Sent: Monday, March 21, 2011 4:41 PM
To: Laufer, Richard
Subject: getContent.docx
Attachments: getContent.docx

Rich,
Do we know when this will be made public?

Y/2016

ML110800456
public

COMGBJ-11-0002

March 21, 2011

MEMORANDUM TO: Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff

FROM: Chairman Jaczko */RA/*

SUBJECT: NRC ACTIONS FOLLOWING THE EVENTS IN JAPAN

The tragic events in Japan have reinforced the importance of this agency's mission and efforts. The NRC's existing licensing and oversight process have provided us with a robust framework for assuring safety at our existing facilities. I also believe that one of our greatest assets as an agency is our ability to analyze and learn from new information. This tragedy requires us to do just that. Therefore, I ask my colleagues to join me in directing the Executive Director for Operations to establish a senior level agency task force to conduct a methodical and systematic review of our processes and regulations to determine whether the agency should make additional improvements to our regulatory system and make recommendations to the Commission for its policy direction. I believe the review must necessarily unfold with near term and then longer term objectives.

Near Term Review

- This task force should evaluate currently available technical and operational information from the events in Japan to identify near term/immediate operational or regulatory issues affecting domestic operating reactors of all designs in areas such as protection against earthquake, tsunami, flooding, hurricanes; station blackout and a degraded ability to restore power; severe accident mitigation; emergency preparedness; and combustible gas control.
- The task force should develop recommendations, as appropriate, for changes to inspection procedures and licensing review guidance, and recommend whether generic communications, orders, or other regulatory requirements are needed.
- The task force efforts should be informed by some stakeholder input but should be independent of industry efforts.
- The report would be released to the public per normal Commission processes.

To ensure the Commission is both kept informed of these efforts and called upon to resolve any policy recommendations that surface, I believe the task force should, at a minimum, be prepared to brief the Commission on a 30 day quick look report; on the status of the ongoing near term review at approximately a 60 day interval; and then on the 90 day culmination of the near term efforts. Additional specific subject matter briefings and additional voting items that request Commission policy direction may also be added during the Commission's agenda planning meetings and thus, the staff should be prepared in advance to adapt to the Commission's requests following those agenda planning sessions in this dynamic environment.

Longer Term Review

- The task force's longer term review should begin as soon as NRC has sufficient technical information from the events in Japan with the goal of no later than the completion of the 90 day near term report, and the task force should provide updates on the beginning of the longer term review at the 30 and 60 day status updates.
- This effort would include specific information on the sequence of events and the status of equipment during the duration of the event.
- The task force should evaluate all technical and policy issues related to the event to identify additional research, generic issues, changes to the reactor oversight process, rulemakings, and adjustments to the regulatory framework that should be conducted by NRC.
- The task force should evaluate interagency issues such as emergency preparedness.
- Applicability of the lessons learned to non-operating reactor and non-reactor facilities should also be explored.
- During the review, the task force should receive input from and interact with all key stakeholders.
- The task force should provide a report with recommendations, as appropriate, to the Commission within six months from the start of the evaluation for Commission policy direction.
- The report would be released to the public per normal Commission processes.

The proposal described above is intended to provide high-level guidance to a new agency task force. I look forward to reaching Commission consensus on an appropriate approach on this important issue as soon as possible.

SECY, please track.

cc: CFO
EDO
OGC
SECY

Rogge, John

From: Rogge, John
Sent: Monday, March 21, 2011 7:53 AM
To: Baker, Pamela; Clifford, James; Collins, Daniel; Dean, Bill; Hinson, Felicia; Lew, David; Lorson, Raymond; McKinley, Raymond; McNamara, Nancy; Miller, Chris; Roberts, Darrell; Screnci, Diane; Sheehan, Neil; Tift, Doug; Walker, Tracy; Weerakkody, Sunil; Wilson, Peter; Bellamy, Ronald; Burritt, Arthur; Dentel, Glenn; Gray, Mel; Jackson, Donald; Krohn, Paul; Powell, Raymond; Cahill, Christopher; Conte, Richard; Cook, William; Doerflein, Lawrence; Hansell, Samuel; Rogge, John; Schmidt, Wayne; Trapp, James
Cc: Rogge, John
Subject: March 21, 2011- 0730- CA Briefing On Japan Reactor Accidents

The following is a synopsis of the briefing with changes or noteworthy items underlined:
More at 2000 Monday from the RDO....Mr. John Rogge....

Status of Fukushima Daiichi Units:

Unit 1-
No Significant Change

Unit 2-
TEPCO has offsite power to an aux transformer- Working to restore control room envelope and ventilation, and switchgear/pumps/etc
Primary Containment intact as RCS is at a positive pressure

Unit 3-
Reports of white smoke reported but source or significance not known
SFP now has water in it.
No venting is planned

Unit 4-
SFP now has water in it.

Other Issues-
Unit 5 and Unit 6- Both have AC Power
Unit 5 and Unit 6 SFPs Being Positively Cooled

Bechtel spray system left Perth, Australia at appr 6:30 EDT March 21. Single train with 2 techs, unsure if TEPCO will use it.

The band of elevated dose rates up to 18 mi from plant to the northwest seems to coincide with the only time wind was blowing in that direction being when the "lube oil fire" occurred on Unit 4 when we thought a H2 detonation and SFP fire occurred.

When I receive the normal status attachment I will send it.

Y/2007

Joustra, Judith

From: Lorson, Raymond
Sent: Monday, March 21, 2011 5:16 PM
To: Nicholson, John; Hammann, Stephen; Roberts, Mark
Cc: Joustra, Judith
Subject: RE: dry cask storage at Fukushima

Thanks. You would expect the dry storage systems to be unaffected by the event. I wonder how closely they are keeping up with their routine surveillance checks of the dry storage containers?

Ray

From: Nicholson, John
Sent: Monday, March 21, 2011 3:42 PM
To: Hammann, Stephen; Roberts, Mark
Cc: Joustra, Judith; Lorson, Raymond
Subject: dry cask storage at Fukushima

First article that I have seen with any reference to dry cask storage on site

[http://www.world-nuclear-news.org/RS Spraying continues at Fukushima Daiichi 1803111.html](http://www.world-nuclear-news.org/RS_Spraying_continues_at_Fukushima_Daiichi_1803111.html)

last paragraph of article:

Central and dry fuel storage

Tokyo Electric Power Company has released the conclusions of a visual inspection of the power plant's central used fuel storage pond, where 60% of the total amount of used fuel is kept. Water levels there are 'secured'. A separate storage area where older fuel has been stored in dry casks since 1995 showed no signs of abnormal situation. Detailed checks of both facilities are being prepared.

John Nicholson
Health Physicist
U.S. NRC, Region I
Division of Nuclear Materials Safety
john.nicholson@nrc.gov
610-337-5236 (office)
610-337-5269 (fax)



Y/208

Dean, Bill

From: Dean, Bill
Sent: Monday, March 21, 2011 12:46 PM
To: All R1 Users
Subject: Thanks to all who have volunteered their services to support the efforts in Japan



As many of you are aware, Jim Trapp and Bill Cook are part of an 11-person team that was deployed to Tokyo shortly after the Japanese Government requested US assistance in response to events at its nuclear power plants in Fukushima (Fukushima is about 150 miles from Tokyo). We have been in contact with both Jim and Bill, and are pleased to let you know that they are doing well. The NRC will be deploying another team to relieve the staff in Tokyo. We expect Jim Trapp to return to the United States around March 26th and Bill Cook around March 28th.

The new Japan team being formed will also be comprised of two Region I staff, Todd Jackson and Marie Miller. Todd will be departing the US on March 23rd and Marie, who has chosen to delay her retirement in order to support this activity, will be departing on March 24th. We expect that they will be in Japan for about two weeks, after which the Agency will determine whether the formation of another team will be necessary or not. We thank Jim, Bill, Todd and Marie for their service in protecting public health and safety.

In addition to the staff deployed to Japan, Region I is directly supporting the Operations Center in Headquarters. Neil Sheehan, Diane Screnci, Jack McFadden and Mike Reichard have traveled or will be traveling to Rockville. Furthermore, the response by the Region I staff has been overwhelming with many highly-qualified staff volunteering to be part of the team headed to Japan or to provide support in the Operations Center. We thank all of our volunteers for coming forward! Additionally, the Regional Duty Officers since the event occurred (Sam Hansell, Glenn Dentel, Don Jackson and John Rogge) have been the primary contact with the Operations Center for twice-a-day updates and have done a great job in keeping the management team apprised of the situation. And Nancy McNamara and Doug Tiffit have been resolute in their efforts to keep the states informed and appropriately engaged. This overwhelming response reflects our core organizational values of service and commitment. I have absolutely no doubt that, should the region need to respond to an event, all of you would not hesitate fulfilling the call to duty.

As I indicated in last week's summary of the recent management retreat, and as Bill Borchardt indicated during today's Commission meeting, we cannot lose sight of our primary mission to assure safe and secure operation of our domestic nuclear power and materials facilities. This focus is all the more important as we face the increased challenges in external stakeholder outreach and communications, and as we look toward identifying lessons learned from the Fukushima events and the potential implications for domestic nuclear reactors and spent fuel storage. I thank all the Region I staff for your part in responding to this latest challenge and maintaining your focus on the important work we do every day.

Bill

Kauffman, Laurie

From: R1DNMSMAIL RESOURCE
Sent: Monday, March 21, 2011 12:27 PM
To: R1-DL-DNMS
Subject: FW: IN 2011-05 (ML110760432)
Attachments: ML110760432.pdf

Importance: High

From: RidsRgn1MailCenter Resource
Sent: Monday, March 21, 2011 11:11 AM
To: R1DNMSMAIL RESOURCE; R1DRPMAIL RESOURCE; R1DRSMAIL RESOURCE; R1ORAMAIL RESOURCE
Subject: FW: IN 2011-05 (ML110760432)
Importance: High

From: Hawes, Cathy
Sent: Friday, March 18, 2011 4:56 PM
To: Albert, Ronald; Beaulieu, David; Blount, Tom; Foster, Jack; Furst, David; Gray, Kathy; Hawes, Cathy; Laura, Richard; Markley, Anthony; McGinty, Tim; Murphy, Martin; OGCMailCenter Resource; Peduzzi, Francis; Quay, Theodore; RidsEdoMailCenter Resource; RidsFsmeOd Resource; RidsNmssOd Resource; RidsNrrAdes Resource; RidsNrrAdro Resource; RidsNrrDpr Resource; RidsNrrMailCenter Resource; RidsNrrOd Resource; RidsOcaaMailCenter Resource; RidsOpaMail Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; Rini, Brett; Stuchell, Sheldon; Tabatabai, Omid
Subject: IN 2011-05 (ML110760432)
Importance: High

Attached is NRC Information Notice 2011-05: Tohoku-Taiheiyu-Oki Earthquake Effects on Japanese Nuclear Power Plants, dated March 18, 2011.
This IN can also be found in ADAMs under Accession No. ML110760432

Y/210

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, DC 20555-0001

March 18, 2011

NRC INFORMATION NOTICE 2011-05: TOHOKU-TAIHEIYOU-OKI EARTHQUAKE
EFFECTS ON JAPANESE NUCLEAR POWER
PLANTS

ADDRESSEES

All holders of or applicants for operating licenses for nuclear power reactors under the provision of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

All holders of or applicants for a standard design certification, standard design approval, manufacturing license, limited work authorization, early site permits or combined license issued under 10 CFR Part 52, "Licenses, Certifications and Approvals for Nuclear Power Plants."

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice (IN) to inform addressees of effects of the Tohoku-Taiheiyou-Oki Earthquake on nuclear power plants in Japan. The NRC expects that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. Suggestions contained in this IN are not NRC requirements; therefore, no specific action or written response is required.

DESCRIPTION OF CIRCUMSTANCES

The following summary of events is provided based on the best information available at this time. The situation in Japan regarding recovery efforts for the Fukushima Daiichi Nuclear Power Station continues to evolve on an hourly basis.

On March 11, 2011, the Tohoku-Taiheiyou-Oki Earthquake occurred near the east coast of Honshu, Japan. This magnitude 9.0 earthquake and the subsequent tsunami caused significant damage to at least four of the six units of the Fukushima Daiichi nuclear power station as the result of a sustained loss of both the offsite and on-site power systems. Efforts to restore power to emergency equipment have been hampered or impeded by damage to the surrounding areas due to the tsunami and earthquake.

ML110760432

Units 1 through 3, which had been operating at the time of the earthquake, scrambled automatically, inserting their neutron absorbing control rods to ensure immediate shutdown of the fission process. Following the loss of electric power to normal and emergency core cooling systems and the subsequent failure of back-up decay heat removal systems, water injection into the cores of all three reactors was compromised, and reactor water levels could not be maintained. Tokyo Electric Power Company (TEPCO), the operator of the plant, resorted to injecting sea water and boric acid into the reactor vessels of these three units, in an effort to cool the fuel and ensure the reactors remained shutdown. However, the fuel in the reactor cores became partially uncovered. Hydrogen gas built up in Units 1 and 3 as a result of exposed, overheated fuel reacting with water. Following gas venting from the primary containment to relieve pressure, hydrogen explosions occurred in both units and damaged the secondary containments. It appears that primary containments for Units 1 and 3 remain functional, but the primary containment for Unit 2 may be damaged. TEPCO cut a hole in the side of the Unit 2 secondary containment to prevent hydrogen buildup following a sustained period when there was no water injection into the core.

In addition, Units 3 and 4 have low spent fuel pool (SFP) water levels. Efforts continue to supply seawater to the SFPs for Units 1 through 4 using various methods. At this time, the integrity of the SFPs for Units 3 and 4 is unknown.

Fukushima Daiichi Units 4 through 6 were shutdown for refueling outages at the time of the earthquake. The fuel assemblies for Unit 4 had been offloaded from the reactor core to the SFP. The SFPs for Units 5 and 6 appear to be intact, but the temperature of the pool water appears to be increasing. Emergency power is available to provide cooling water flow through the SFPs for Units 5 and 6.

The Japanese Government ordered an evacuation out to 20 km for the area surrounding Fukushima Daiichi. Residents out to 30 km were ordered to shelter in place.

The damage to Fukushima Daiichi nuclear power station appears to have been caused by initiating events outside of the design basis for the facilities.

BACKGROUND

10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," General Design Criterion (GDC) 2, "Design Bases for Protection against Natural Phenomena," or similar appropriate requirements in the licensing basis for a reactor facility, requires that structures, systems, and components (SSCs) important to safety be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions. The design bases for these SSCs reflect: (1) appropriate consideration of the most severe of the natural phenomena that have been historically reported for the site and surrounding area, with sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated, (2) appropriate combinations of the effects of normal and accident conditions with the effects of the natural phenomena, and (3) the importance of the safety functions to be performed.

As a result of the terrorist events of September 11, 2001, the NRC issued EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (the ICM Order) dated February 25, 2002. The ICM Order, which is designated as Safeguards Information (SGI), modified then-operating licenses for commercial power reactor facilities to require compliance with specified interim safeguards and security compensatory measures. Section B.5.b of the ICM Order requires licensees to adopt mitigation strategies using readily available resources to maintain or restore core cooling, containment, and SFP cooling capabilities to cope with the loss of large areas of the facility due to large fires and explosions from any cause, including beyond-design-basis aircraft impacts.

By letter, dated February 25, 2005, the NRC staff provided guidance for implementing Section B.5.b of the ICM Order. This guidance, designated as SGI, included best practices for mitigating losses of large areas of the plant and measures to mitigate fuel damage and minimize releases. Following issuance of the B.5.b Phase 1 Guidance, the NRC staff conducted inspections at operating reactor sites using Temporary Instruction (TI) 2515/164 (SGI) and subsequently TI 2515/168 (SGI) to ensure compliance with Section B.5.b of the ICM Order.

In December 2006, the Nuclear Energy Institute (NEI) issued NEI 06-12, Revision 2, "B.5.b Phase 2 & 3 Submittal Guideline." NEI 06-12 is designated for Official Use Only – Security Related Information (OUO-SRI). The NRC endorsed NEI 06-12, Revision 2, by letter dated December 22, 2006, also designated OUO-SRI, as an acceptable means for developing and implementing the mitigation strategies requirement in Section B.5.b of the ICM Order. NEI 06-12, Revision 2, provides guidance for implementing a set of strategies intended to maintain or restore core cooling, containment, and SFP cooling capabilities under the circumstances associated with the loss of a large area of the plant due to explosions or fire. NEI 06-12 provides guidance in the following areas:

- Adding make-up water to the SFP,
- Spraying water on the spent fuel,
- Enhanced initial command and control activities for challenges to core cooling and containment, and
- Enhanced response strategies for challenges to core cooling and containment.

The specific strategies covered in NEI 06-12, Revision 2, were developed based on the results of assessments conducted at currently licensed power reactor facilities for the purpose of enhancing plant specific mitigation capability for damage conditions caused by a large explosion or fire. These assessments identified a wide spectrum of potential plant specific strategies. NEI 06-12, Revision 2, specifies one set of strategies applicable to all pressurized-water reactors and another set applicable to all boiling-water reactors. Both sets are derived from the results of the plant specific assessments.

The B.5.b Phase 1 Guidance and NEI 06-12, Revision 2, were used by each licensee in preparing information submitted to the NRC that describes a plant specific approach to implementing mitigating strategies and supports each plant specific license condition. The NRC staff has completed its review of the information submitted by each licensee, as well as information obtained during prior NRC inspections, and has issued an OUO-SRI safety

evaluation (SE) that documents the bases for its approval of the license condition for each facility. The SE issued for each licensee includes regulatory guidance in Section 3.0 of Appendix A, "Phase 1 Assessment," that recites the generic B.5.b Phase 1 Guidance of Reference 3, as clarified in TI 2515/168, in a form that is designated OUO-SRI rather than SGI.

By publishing new requirements in the *Federal Register* dated March 27, 2009 (74 FR 13926), the NRC amended 10 CFR Part 50, 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," and 10 CFR Part 73, "Physical Protection of Plants and Materials." This rulemaking added paragraph (i) to 10 CFR 50.34, "Contents of Applications; Technical Information," and paragraph (d) to 10 CFR 52.80 "Contents of Applications; Additional Technical Information," to require submittal of a "description and plans for implementation of the guidance and strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities under the circumstances associated with the loss of large areas of the plant due to explosions or fire as required by § 50.54(hh)(2) of this chapter." This rulemaking also added 10 CFR 50.54(hh)(2) to impose the same mitigating strategies requirements on all reactor applicants and licensees as those imposed by the ICM Order and associated license conditions. The Statement of Considerations for this rulemaking specifically noted that the requirements in 10 CFR 50.54(hh) are intended to address certain events that are the cause of large fires and explosions that affect a substantial portion of the nuclear power plant and are not limited or directly linked to an aircraft impact. In addition, the rule contemplates that the initiating event for such large fires and explosions could be any number of beyond-design basis events. Such events include natural phenomena such as those described in GDC 2 (i.e., earthquakes, tornadoes, floods, tsunamis, and seiches), without regard to the GDC 2 provisions governing the severity of natural phenomena.

NRC regulations at 10 CFR 50.63, "Loss of All Alternating Current Power," require that light-water-cooled nuclear power plants be capable of withstanding for a specified duration and recovering from a station blackout.

DISCUSSION

The nuclear power industry has taken the actions listed below at each licensed reactor site. Additional information is available in the NEI Fact Sheet, "Industry Taking Action to Ensure Continued Safety at U.S. Nuclear Energy Plants," dated March 16, 2011, available at www.nei.org.

1. verification of the capability to mitigate conditions that result from severe adverse events, including the loss of significant operational and safety systems due to natural events, fires, aircraft impact and explosions
2. verification of the capability to mitigate a total loss of electric power to a nuclear power plant
3. verification of the capability to mitigate flooding and the impact of floods on systems inside and outside the plant
4. identification of the potential for loss of equipment functions during seismic events appropriate for the site and the development of mitigating strategies to address potential vulnerabilities

NRC assessment of the implications of beyond design-basis natural phenomena is continuing as more information becomes available. The NRC staff is currently developing a TI to guide staff in performing independent assessments of nuclear power plant readiness to address beyond design-basis natural phenomena under the Reactor Oversight Process. The NRC is considering additional generic communications and additional action including requesting operating plants to provide specific information relating to their facilities to enable the NRC staff to complete a regulatory assessment of beyond design basis phenomena.

PAPERWORK REDUCTION ACT STATEMENT

This Information Notice does not contain any information collections and, therefore, is not subject to the requirements of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

CONTACTS

This information notice requires no specific action or written response. Please direct any questions about this matter to the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

/RA/

Laura A. Dudes, Director
Division of Construction Inspection,
and Operational Programs
Office of New Reactors

/RA/

Timothy J. McGinty, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Technical Contact: Eric E. Bowman, NRR
301-415-2963
e-mail: Eric.Bowman@nrc.gov

Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.

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ADAMS Accession Number: ML110760432 * by e-mail

OFFICE	NRR/DPR/PGCB	TECH EDITOR*	NRR/DIRS/D*	NRR/DE/D*	NSIR/DSP*
NAME	EBowman	KAzariah-Kribbs	BWestreich	PHiland (GWilson for)	RCorreia
DATE	03/17/2011	03/17/2011	03/17/2011	03/17/2011	03/17/2011
OFFICE	NRO/DCIP/CAEB*	DPR/PGCB/LA	DPR/PGCB/BC	NRO/DCIP/D	NRR/DPR/D
NAME	TFrye	CHawes	SRosenberg	LDudes (MShuaibi for)	TMcGinty
DATE	03/18/2011	03/17/2011	03/17/2011	03/18/2011	03/18/2011

OFFICIAL RECORD COPY

Ellmers, Glenn

From: Ellmers, Glenn
Sent: Monday, March 21, 2011 4:58 PM
To: Howe, Allen
Subject: Differences in Licensing between U.S. and Japan

Allen,

I have this question in to OIP as well, but are you aware of anything I can consult on differences between U.S. and Japanese approaches to licensing NPP's?

Thanks,
Glenn

Glenn Ellmers
Senior Communications Specialist, OEDO
301-415-0442
OWFN - 17F03
Mail stop: 016E15

Y/211

Landau, Mindy

From: Landau, Mindy
Sent: Tuesday, March 22, 2011 10:54 AM
To: Muessle, Mary
Cc: Rihm, Roger; Ellmers, Glenn
Subject: RE: Upcoming Congressional Hearings

Mary – looks good, I've added some mark-ups on our actions.

Mindy

From: Muessle, Mary
Sent: Tuesday, March 22, 2011 9:30 AM
To: Landau, Mindy
Cc: Landau, Mindy; Rihm, Roger; Ellmers, Glenn
Subject: Upcoming Congressional Hearings
Importance: High

Mindy

I have some spell checking to do, but if you get any more or anything different in your 9:30 please let me know before I send to Bill and the DEDO's
thanks

Here is what I have. Mindy and her crew are meeting with OCA today for more information.

1. Friday, March 25th -Member Briefing – in Illinois – Cynthia Pedersen approved by Chairman to provide testimony
Senators Durbin and Kirk

Topics

- Safety of Illinois Plants
- Potential Risks
- How to mitigate risks
- Differences between Japan and US licensing process
- Safety Priorities in US License Renewals

Panel includes NRC, Chip Pardie (Exelon) and member of Illinois Emergency Mgmt Office

Action – Glenn is working up draft testimony for Region III

2. Tuesday, March 29th - Member Briefing

Senate Energy Members

Panel includes NRC Chairman (or Bill), Pete Lyons (DOE), UCS, and GE

Action – Becky is offering Bill as 1st choice to testify. Roger is pulling together Bill's remarks at the Commission meeting to transfer them into written and oral testimony. We will update with info from the "GoTo" Book.

3. Wednesday, March 30th - House Transportation and Infrastructure

Subcommittee meeting around Emergency Preparedness around Nuclear Power Plants

Jeff Denham Chair (Freshman from CA), Ranking Democrat Elenor Holmes Norton

2 panels – 1st Director of FEMA, Deputy Chief of the Forest Service, NRC rep (Marty or Mike suggested may need to be Jim Wiggins if they are still on watch)

2nd panel – rep of CA local EP, rep of CA state EP, Red Cross

Y/2/22

Action – This will be tasked to NSIR, I already called to give them a heads up. We need testimony on NRC's EP program, and an explanation of the 50-mile evacuation decision in Japan. Becky mentioned the House side are mostly freshman and they might be a little testy.

4. Wednesday, March 30th Senate Appropriations – Energy and Water Subcommittee
Likely topic Japan and maybe some budget
Chairman, Pete Lyons, UCS (2 panels)

5, Thursday, March 31st -House Appropriations Committee on FY 2012 Budget
NRC Chairman

Action – For these two, I am proposing we ask the Chairman's communication staff to handle because of overload on my staff. They just need to update his previous written budget testimony that was going to be given at the House hearing last week. Also, Jim Dyer would need to include any supplemental budget request for the Japan event.

6. April – TBD Senate EPM
Where do we go from here

Action – this will be focused on the task force report so we can hold off planning until that information is more stable.

Mary Muessle
Assistant for Operations - Acting
Office of the Executive Director for Operations
U.S. Nuclear Regulatory Commission
301-415-1703 office
301-415-2700 fax

Landau, Mindy

From: Landau, Mindy
Sent: Tuesday, March 22, 2011 11:04 AM
To: Muessle, Mary
Cc: Rihm, Roger; Ellmers, Glenn
Subject: Congressional Letters

Also, on the Congressional letters, here's our plan after meeting with Becky:

Markey wants daily reports (SitReps) on the status of the Japanese plants. OCA will extract certain information from those reports, and take care of this (plant status only). We will write an "interim response" letter back that will provide him with high level information, provide the link to the Japan box on the website.

Kucinich, and Boxer/Carper - We can use this interim boiler plate language to respond to them as well

Blumenauer wants specific information on radiation monitoring so OCA will give us a POC at EPA we can work with on this and we will develop some sort of response with their input.

Lowey will also get an interim response but we are getting info from Brian W. on what type of information we are providing the NY delegation today so we can be consistent.

Boxer/Feinstein - we are trying to get this one transferred to a briefing instead since they have been regularly getting information from us and OCA is accompanying them on a trip to the CA plants. Becky will let us know if this works out.

Enough for now! Pray for no more letters!
Mindy

From: Muessle, Mary
Sent: Tuesday, March 22, 2011 9:30 AM
To: Landau, Mindy
Cc: Landau, Mindy; Rihm, Roger; Ellmers, Glenn
Subject: Upcoming Congressional Hearings
Importance: High

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NRC Chairman

6. April – TBD Senate EPM

Where do we go from here

Mary Muessle

Assistant for Operations - Acting

Office of the Executive Director for Operations

U.S. Nuclear Regulatory Commission

301-415-1703 office

301-415-2700 fax

Landau, Mindy

From: Landau, Mindy
Sent: Tuesday, March 22, 2011 11:27 AM
To: Culp, Lisa
Subject: RE: ACTION: EDO's 10/21 speech

Do you mean 3/21? The transcript is on the public web site
<http://www.nrc.gov/reading-rm/doc-collections/commission/tr/2011/20110321.pdf>

From: Culp, Lisa
Sent: Tuesday, March 22, 2011 11:18 AM
To: Landau, Mindy
Cc: Culp, Lisa
Subject: FW: ACTION: EDO's 10/21 speech

Hi Mindy,
Do you have any remarks from the EDO's 10/21 speech? I looked on the EDO web site but the last update was in August.
Thank you.
Lisa-Anne

From: Benney, Brian
Sent: Tuesday, March 22, 2011 10:55 AM
To: Culp, Lisa
Cc: Ruffin, Steve; Jacobs, Frank; Kotra, Janet; Cuadrado, Jose; Easson, Pamela
Subject: ACTION: EDO's 10/21 speech

Lisa,

Can we get a copy of the EDO's remarks or a transcript from the meeting somehow? I think this will be an important item for future meetings involving WC/EST work. Even just an ML# would be helpful.

Thanks,
Brian

Rogge, John

From: Rogge, John
Sent: Tuesday, March 22, 2011 7:58 PM
To: Jackson, Donald; Doerflein, Lawrence
Cc: Schneider, Max
Subject: RE: Tues 0730 - Commissioners Assistants Briefing on Japanese Events

No they are not to be forwarded. They are full of speculation from many sources and are not to be quoted.

From: Jackson, Donald
Sent: Tuesday, March 22, 2011 7:18 PM
To: Doerflein, Lawrence; Rogge, John
Cc: Schneider, Max
Subject: FW: Tues 0730 - Commissioners Assistants Briefing on Japanese Events

I was only forwarding these to BC's and verbally briefing staff...Since this was OUO and meant for CAs.....to keep it away from FOIA....I was keeping some control over these. John...can you check and see if we can distribute these more widely????

VR
DON J

From: Schneider, Max
Sent: Tuesday, March 22, 2011 3:10 PM
To: Jackson, Donald
Subject: FW: Tues 0730 - Commissioners Assistants Briefing on Japanese Events

Can the resident staff get these?

From: Mangan, Kevin
Sent: Tuesday, March 22, 2011 2:44 PM
To: Schneider, Max
Subject: FW: Tues 0730 - Commissioners Assistants Briefing on Japanese Events

From: Doerflein, Lawrence
Sent: Tuesday, March 22, 2011 12:36 PM
To: Mangan, Kevin; Balazik, Michael; Orr, Michael; Schoppy, Joseph; Pindale, Stephen; Burket, Elise; Williams, Christopher; Brand, Javier; Arner, Frank
Subject: FW: Tues 0730 - Commissioners Assistants Briefing on Japanese Events

FYI

From: Rogge, John
Sent: Tuesday, March 22, 2011 7:49 AM
To: Baker, Pamela; Clifford, James; Collins, Daniel; Dean, Bill; Hinson, Felicia; Lew, David; Lorson, Raymond; McKinley, Raymond; McNamara, Nancy; Miller, Chris; Roberts, Darrell; Screnci, Diane; Sheehan, Neil; Tifft, Doug; Walker, Tracy; Weerakkody, Sunil; Wilson, Peter; Bellamy, Ronald; Burritt, Arthur; Dentel, Glenn; Gray, Mel; Jackson, Donald; Krohn, Paul; Powell, Raymond; Cahill, Christopher; Conte, Richard; Cook, William; Doerflein, Lawrence; Hansell, Samuel; Rogge, John; Schmidt, Wayne; Trapp, James
Subject: Tues 0730 - Commissioners Assistants Briefing on Japanese Events

The following is a synopsis of the briefing with changes or noteworthy items:
More at 2000 Tuesday from the RDO....Mr. John Rogge....

Status of Fukushima Daiichi Units:

Unit 1-

No Significant Change

Unit 2-

Smoke continues to be seen

Unit 3-

Smoke continues to be seen

Unit 4-

No Significant Change

Units 5 & 6

No Significant Change

Common Spent Fuel Pool –

No Significant Change

General Items of Interest

The Institute of Nuclear Power Operations (INPO) is sending staff to Japan to prioritize requests and organize the US industry response.

The PMT has no new data that would change the current protective action recommendations of evacuation to 50 miles. Additionally, the PMT has begun reviewing criteria for relaxing protective recommendations for future re-entry.

Department of Energy Aerial Monitoring operations were conducted on March 17-21, 2011; no sorties have been flown in the last two days due to inclement weather.

The Bounding Plausible Analysis, which needs peer review, would indicate elevated child thyroid dose to those in Midway Island and Alaska,

This assumes 1 core and 2 SFPs released. (25% U2 Core, 50% U3 SFP, 100% U4 SFP)

Torres, Edgardo

From: Setzer, Thomas
Sent: Tuesday, March 22, 2011 8:49 AM
To: Dunham, Katrina; Keighley, Elizabeth; Dodson, Douglas; Jackson, Donald; Spindler, David; Rich, Sarah; Smith, Brian; Schneider, Max; Krafty, James; Haagensen, Brian; Shaffer, Steve; Sanders, Carleen; Guzman, Richard; Kim, James; Ziedonis, Adam
Subject: Daily Status 03/22/2011 and some Japan Reactor links

The training center sent me these links for info on the event in Japan. Enjoy.

TOM

<http://www.iaif.or.jp/english/>

<http://www.nisa.meti.go.jp/english/>

<http://www.iaea.go.jp/english/misc/online-info.shtml>

<http://www.tepco.co.jp/en/press/corp-com/release/index-e.html>

<http://ansnuclearcafe.org/>

<http://www.iaea.org/press/>

Y/2/16

Gray, Mel

From: Cathy Hawes [cmh2@nrc.gov]
Sent: Tuesday, March 22, 2011 1:59 PM
To: Gray, Mel
Subject: REVISED IN 2011-05 (ML110760432)
Attachments: ML110760432.pdf

REVISED version of IN 2011-05. The revision are adding Nuclear Reactor of Operations to the Title on the first page and adding MShuaibi to the signature and concurrence pages indicating that he signed for LDudes.

Attached is an PDF version Information Notice 2011-05, Tohoku-Taiheiyou-Oki Earthquake Effects On Japanese Nuclear Power Plants, dated March 18, 2011, (ML110760432), that has been posted to the NRR GCC Web, along with the URL for Web access to generic communications files on the NRC Homepage:

<http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/2011/>.

To subscribe or unsubscribe send an email to lyris@nrc.gov , no subject, and use one of the following commands in the message portion:

subscribe gc-nrr (first and last name)

unsubscribe gc-nrr (first and last name)

thanks

Cathy

Y/2/17

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, DC 20555-0001

March 18, 2011

NRC INFORMATION NOTICE 2011-05: TOHOKU-TAIHEIYOU-OKI EARTHQUAKE
EFFECTS ON JAPANESE NUCLEAR POWER
PLANTS

ADDRESSEES

All holders of or applicants for operating licenses for nuclear power reactors under the provision of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

All holders of or applicants for a standard design certification, standard design approval, manufacturing license, limited work authorization, early site permits or combined license issued under 10 CFR Part 52, "Licenses, Certifications and Approvals for Nuclear Power Plants."

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice (IN) to inform addressees of effects of the Tohoku-Taiheiyou-Oki Earthquake on nuclear power plants in Japan. The NRC expects that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. Suggestions contained in this IN are not NRC requirements; therefore, no specific action or written response is required.

DESCRIPTION OF CIRCUMSTANCES

The following summary of events is provided based on the best information available at this time. The situation in Japan regarding recovery efforts for the Fukushima Daiichi Nuclear Power Station continues to evolve on an hourly basis.

On March 11, 2011, the Tohoku-Taiheiyou-Oki Earthquake occurred near the east coast of Honshu, Japan. This magnitude 9.0 earthquake and the subsequent tsunami caused significant damage to at least four of the six units of the Fukushima Daiichi nuclear power station as the result of a sustained loss of both the offsite and on-site power systems. Efforts to restore power to emergency equipment have been hampered or impeded by damage to the surrounding areas due to the tsunami and earthquake.

ML110760432

Units 1 through 3, which had been operating at the time of the earthquake, scrambled automatically, inserting their neutron absorbing control rods to ensure immediate shutdown of the fission process. Following the loss of electric power to normal and emergency core cooling systems and the subsequent failure of back-up decay heat removal systems, water injection into the cores of all three reactors was compromised, and reactor water levels could not be maintained. Tokyo Electric Power Company (TEPCO), the operator of the plant, resorted to injecting sea water and boric acid into the reactor vessels of these three units, in an effort to cool the fuel and ensure the reactors remained shutdown. However, the fuel in the reactor cores became partially uncovered. Hydrogen gas built up in Units 1 and 3 as a result of exposed, overheated fuel reacting with water. Following gas venting from the primary containment to relieve pressure, hydrogen explosions occurred in both units and damaged the secondary containments. It appears that primary containments for Units 1 and 3 remain functional, but the primary containment for Unit 2 may be damaged. TEPCO cut a hole in the side of the Unit 2 secondary containment to prevent hydrogen buildup following a sustained period when there was no water injection into the core.

In addition, Units 3 and 4 have low spent fuel pool (SFP) water levels. Efforts continue to supply seawater to the SFPs for Units 1 through 4 using various methods. At this time, the integrity of the SFPs for Units 3 and 4 is unknown.

Fukushima Daiichi Units 4 through 6 were shutdown for refueling outages at the time of the earthquake. The fuel assemblies for Unit 4 had been offloaded from the reactor core to the SFP. The SFPs for Units 5 and 6 appear to be intact, but the temperature of the pool water appears to be increasing. Emergency power is available to provide cooling water flow through the SFPs for Units 5 and 6.

The Japanese Government ordered an evacuation out to 20 km for the area surrounding Fukushima Daiichi. Residents out to 30 km were ordered to shelter in place.

The damage to Fukushima Daiichi nuclear power station appears to have been caused by initiating events outside of the design basis for the facilities.

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- Enhanced initial command and control activities for challenges to core cooling and containment, and
- Enhanced response strategies for challenges to core cooling and containment.

The specific strategies covered in NEI 06-12, Revision 2, were developed based on the results of assessments conducted at currently licensed power reactor facilities for the purpose of enhancing plant specific mitigation capability for damage conditions caused by a large explosion or fire. These assessments identified a wide spectrum of potential plant specific strategies. NEI 06-12, Revision 2, specifies one set of strategies applicable to all pressurized-water reactors and another set applicable to all boiling-water reactors. Both sets are derived from the results of the plant specific assessments.

The B.5.b Phase 1 Guidance and NEI 06-12, Revision 2, were used by each licensee in preparing information submitted to the NRC that describes a plant specific approach to implementing mitigating strategies and supports each plant specific license condition. The NRC staff has completed its review of the information submitted by each licensee, as well as information obtained during prior NRC inspections, and has issued an OUO-SRI safety

evaluation (SE) that documents the bases for its approval of the license condition for each facility. The SE issued for each licensee includes regulatory guidance in Section 3.0 of Appendix A, "Phase 1 Assessment," that recites the generic B.5.b Phase 1 Guidance of Reference 3, as clarified in TI 2515/168, in a form that is designated OUO-SRI rather than SGI.

By publishing new requirements in the *Federal Register* dated March 27, 2009 (74 FR 13926), the NRC amended 10 CFR Part 50, 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," and 10 CFR Part 73, "Physical Protection of Plants and Materials." This rulemaking added paragraph (i) to 10 CFR 50.34, "Contents of Applications; Technical Information," and paragraph (d) to 10 CFR 52.80 "Contents of Applications; Additional Technical Information," to require submittal of a "description and plans for implementation of the guidance and strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities under the circumstances associated with the loss of large areas of the plant due to explosions or fire as required by § 50.54(hh)(2) of this chapter." This rulemaking also added 10 CFR 50.54(hh)(2) to impose the same mitigating strategies requirements on all reactor applicants and licensees as those imposed by the ICM Order and associated license conditions. The Statement of Considerations for this rulemaking specifically noted that the requirements in 10 CFR 50.54(hh) are intended to address certain events that are the cause of large fires and explosions that affect a substantial portion of the nuclear power plant and are not limited or directly linked to an aircraft impact. In addition, the rule contemplates that the initiating event for such large fires and explosions could be any number of beyond-design basis events. Such events include natural phenomena such as those described in GDC 2 (i.e., earthquakes, tornadoes, floods, tsunami, and seiches), without regard to the GDC 2 provisions governing the severity of natural phenomena.

NRC regulations at 10 CFR 50.63, "Loss of All Alternating Current Power," require that light-water-cooled nuclear power plants be capable of withstanding for a specified duration and recovering from a station blackout.

DISCUSSION

The nuclear power industry has taken the actions listed below at each licensed reactor site. Additional information is available in the NEI Fact Sheet, "Industry Taking Action to Ensure Continued Safety at U.S. Nuclear Energy Plants," dated March 16, 2011, available at www.nei.org.

1. verification of the capability to mitigate conditions that result from severe adverse events, including the loss of significant operational and safety systems due to natural events, fires, aircraft impact and explosions
2. verification of the capability to mitigate a total loss of electric power to a nuclear power plant
3. verification of the capability to mitigate flooding and the impact of floods on systems inside and outside the plant
4. identification of the potential for loss of equipment functions during seismic events appropriate for the site and the development of mitigating strategies to address potential vulnerabilities

NRC assessment of the implications of beyond design-basis natural phenomena is continuing as more information becomes available. The NRC staff is currently developing a TI to guide staff in performing independent assessments of nuclear power plant readiness to address beyond design-basis natural phenomena under the Reactor Oversight Process. The NRC is considering additional generic communications and additional action including requesting operating plants to provide specific information relating to their facilities to enable the NRC staff to complete a regulatory assessment of beyond design basis phenomena.

PAPERWORK REDUCTION ACT STATEMENT

This Information Notice does not contain any information collections and, therefore, is not subject to the requirements of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

CONTACTS

This information notice requires no specific action or written response. Please direct any questions about this matter to the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

/RA/

Laura A. Dudes, Director
Division of Construction Inspection,
and Operational Programs
Office of New Reactors

/RA/

Timothy J. McGinty, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Technical Contact: Eric E. Bowman, NRR
301-415-2963
e-mail: Eric.Bowman@nrc.gov

Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.

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This information notice requires no specific action or written response. Please direct any questions about this matter to the technical contact(s) listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

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Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.
ADAMS Accession Number: ML110760432 * by e-mail

OFFICE	NRR/DPR/PGCB	TECH EDITOR*	NRR/DIRS/D*	NRR/DE/D*	NSIR/DSP*
NAME	EBowman	KAzariah-Kribbs	BWestreich	PHiland (GWilson for)	RCorreia
DATE	03/17/2011	03/17/2011	03/17/2011	03/17/2011	03/17/2011
OFFICE	NRO/DCIP/CAEB*	DPR/PGCB/LA	DPR/PGCB/BC	NRO/DCIP/D	NRR/DPR/D
NAME	TFrye	CHawes	SRosenberg	LDudes (MShuaibi for)	TMcGinty
DATE	03/18/2011	03/17/2011	03/17/2011	03/18/2011	03/18/2011

Landau, Mindy

From: Landau, Mindy
Sent: Tuesday, March 22, 2011 11:33 AM
To: Virgilio, Rosetta; Steger (Tucci), Christine; Culp, Lisa; Salter, Susan; Goldberg, Francine; Hayden, Elizabeth; Bonaccorso, Amy; Mroz (Sahm), Sara; Barkley, Richard; Heck, Jared; Jasinski, Robert; Sall, Basia; Shane, Raeann; Pedersen, Renee; Croston, Sean; Farnholtz, Thomas; Woodruff, Gena; Wright, Lisa (Gibney); Pulaski, Jordan; Loyd, Susan
Cc: Rihm, Roger; Ellmers, Glenn; Rakovan, Lance; Thomas, Ann
Subject: Transcript and video on the web

We've been getting a lot of inquiries here – please tell your staff that the transcript and video of yesterday's commission meeting is on the web. Here's the link to the transcript.

<http://www.nrc.gov/reading-rm/doc-collections/commission/tr/2011/20110321.pdf>

The best source for up to date information is the "Japan Box" on the upper right hand corner of the public site, under "Key Topics."

Appreciate the help, 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

Y/2/18

Landau, Mindy

From: Landau, Mindy
Sent: Tuesday, March 22, 2011 11:33 AM
To: Evans, Michele
Cc: Milligan, Patricia; McDermott, Brian; Wiggins, Jim; Rihm, Roger
Subject: RE: NSIR POC for EP hearing is Patricia Milligan (eom)

Great, thanks Michele!

From: Evans, Michele
Sent: Tuesday, March 22, 2011 11:29 AM
To: Landau, Mindy
Cc: Milligan, Patricia; McDermott, Brian; Wiggins, Jim
Subject: NSIR POC for EP hearing is Patricia Milligan (eom)

Y/2/19

Rihm, Roger

From: Rihm, Roger
Sent: Tuesday, March 22, 2011 3:58 PM
To: Clayton, Kathleen
Subject: RE: Cancel GT Support Actions

I even got a call this afternoon from Region 1 informing me that Bill Dean was worried about his due dates to support us, so I think "cancelling" them will relieve many people. Thanks!

Also, thanks for getting my green ticket out to NSIR.

From: Clayton, Kathleen
Sent: Tuesday, March 22, 2011 3:56 PM
To: Rihm, Roger; RidsEdoMailCenter Resource
Cc: Landau, Mindy; Jaegers, Cathy
Subject: RE: Cancel GT Support Actions

Roger,

Thanks for the clarification. I just didn't want to confuse anyone.

Kathy

From: Rihm, Roger
Sent: Tuesday, March 22, 2011 1:31 PM
To: Clayton, Kathleen; RidsEdoMailCenter Resource
Cc: Landau, Mindy; Jaegers, Cathy
Subject: RE: Cancel GT Support Actions

I think so. Based on the calls I get all the time (including probably at least 4-5 calls so far on a few of these letters), the offices think of this as a "subassignment" to them and they set up due dates and everything. So, I think we need to tell them that we are cancelling our need to "support as required" for the time being and may be back to them later. Otherwise, they will carry these on their books and get dinged by their managers (even though they really aren't assigned anything). Sorry! I did discuss this with Mindy before I sent my original request.

From: Clayton, Kathleen
Sent: Tuesday, March 22, 2011 1:22 PM
To: Rihm, Roger; RidsEdoMailCenter Resource
Cc: Landau, Mindy; Jaegers, Cathy
Subject: RE: Cancel GT Support Actions

Roger,

These tickets are only assigned to OEDO. Is it necessary to email the other offices regarding the interim letter when the tickets have not been assigned to them, and you may be asking for input at a later date?

Kathy

From: Rihm, Roger
Sent: Tuesday, March 22, 2011 12:30 PM
To: RidsEdoMailCenter Resource; Clayton, Kathleen

Y/220

Cc: Landau, Mindy; Jaegers, Cathy
Subject: Cancel GT Support Actions

For the following Green Tickets, OEDO will be preparing an interim response that does not require support from any of the offices assigned to support us as necessary. Please CANCEL these tickets for those offices (telling them we are doing an interim response) and let them know we may re-task them when we are preparing the final responses (which may be at least several months from now).

G20110184 (Kucinich)
G20110181 (Lowey)
G20110190 (Boxer/Carper)
G20110175 (Markey)
G20110177 (Markey)
G20110194 (Markey)

FYI, OCA is going to see if it can handle G20110188 (Boxer/Feinstein) with a briefing, so we may be cancelling that one as well. I'll let you know.

Call me if you have any questions. Thanks!

Bozin, Sunny

From: Franovich, Mike
Sent: Tuesday, March 22, 2011 7:09 AM
To: Ostendorff, William
Cc: Nieh, Ho; Warnick, Greg; Kock, Andrea; Zorn, Jason
Subject: UPDATE from 2000 Telecon on Fukushima Daiichi Events

Wiggins led the call.

- No significant change in units status. Some report of grey smoke on unit 3; mixed reports but believes to be steam.
- Industry has two representatives en route to Japan to represent consortium interests. Jim Ellis anxious to get started with Japanese industry, but consortium is seeking a lead federal agency to be a lead coordination in recovery effort. NRC believes a federal agency with experience with logistics in disaster recovery will be better positioned to help US/Japanese industry.
- NRC beginning to focus on criteria/exit strategy to moved from accident response phase to recovery phase.
- Bechtel pumping system: C-17 carrying the first train of equipment never left the runway in Perth (mechanical trouble with aircraft). Aircraft carrying the second train of equipment did leave and arrive in Japan at 04:00 EDT.
- Navy raised concerns about employing additional protective measures for Navy personnel including possible evacuation. But backed off when looking at doses and projections.
- Plume modeling: there is an interagency group that has developed a super-core model or bounding realistic model. Close to NRC model used for the 50 mile evacuation recommendation.
- PMT developing re-entry criteria for Americans to reenter the 50 mile evacuation area/relax PAG. Using US criteria for re-entry that states would use for doses but requires criteria for plant stability, dose expected in first year of exposure (at 2 REM).

*Mike Franovich
Technical Assistant for Reactors
Office of Commissioner Ostendorff
301-415-1784*

Landau, Mindy

From: Landau, Mindy
Sent: Tuesday, March 22, 2011 7:34 AM
To: Muessle, Mary
Subject: RE: Upcoming hearings

Yes, we need to work out a process and messaging for all the correspondence, and get alignment on roles for the upcoming hearings. Do you want to attend?

-----Original Message-----

From: Muessle, Mary
Sent: Monday, March 21, 2011 6:55 PM
To: Landau, Mindy
Subject: RE: Upcoming hearings

I talked with Becky on the meetings. Not sure if you need to meet still?

Mary Muessle
Assistant for Operations - Acting
Office of the Executive Director for Operations U.S. Nuclear Regulatory Commission
301-415-1703 office
301-415-2700 fax

-----Original Message-----

From: Landau, Mindy
Sent: Monday, March 21, 2011 10:39 AM
To: Schmidt, Rebecca
Cc: Belmore, Nancy; Rihm, Roger; Muessle, Mary
Subject: RE: Upcoming hearings

We already set up a meeting for tomorrow at 9:30, as today is pretty swamped.. is that ok?

-----Original Message-----

From: Schmidt, Rebecca
Sent: Monday, March 21, 2011 9:10 AM
To: Landau, Mindy
Cc: Belmore, Nancy
Subject: Upcoming hearings

I have 5 requests in the next 2 weeks. We should meet. I will have nancy set up a meeting today. Miindy bring everyone you want--glen , roger etc

Landau, Mindy

From: Landau, Mindy
Sent: Tuesday, March 22, 2011 9:23 AM
To: Steger (Tucci), Christine
Subject: FW: File
Attachments: Staff Slides for March 21 Meeting (Japanese Event).pptx

ML110810804
public

Here are Bill's slides – the video of the meeting is up as well

From: Ellmers, Glenn
Sent: Monday, March 21, 2011 4:12 PM
To: Landau, Mindy
Subject: FW: File

From: Andersen, James
Sent: Monday, March 21, 2011 4:06 PM
To: Ellmers, Glenn
Subject: File

1/22/11

Landau, Mindy

From: Landau, Mindy
Sent: Tuesday, March 22, 2011 10:33 AM
To: Ellmers, Glenn
Subject: RE: Illinois Briefing.docx

Glenn this looks good with two caveats. I would scale back on the amount of detail we are providing on Japan's program (names of organizations, etc). I'm not sure that information is the most up to date, and I don't think they need that specific level of detail. Give Cindy the link to Bill's transcript and she can extract that information as well. Otherwise, looks good.

Thank you!
Mindy

From: Ellmers, Glenn
Sent: Tuesday, March 22, 2011 9:39 AM
To: Landau, Mindy
Subject: Illinois Briefing.docx

First cut.

3/22/11

Illinois Plants

Reactor Licensing in Japan

While the NRC has good working relationships with other nuclear regulators around the world, we have not conducted a close comparison of how our agency's approach to reactor licensing differs from our international colleagues'. We anticipate that a thorough examination of Japan's nuclear safety regulatory system will be part of the NRC's comprehensive review of "lessons learned" from the Fukushima events. However, as even basic information about the event is still uncertain at this point, we have not yet undertaken this review. For now, we can only provide a general overview of Japan's regulatory structure and approach to licensing.

Nuclear technology provides a substantial portion of Japan's electricity. Currently, nuclear energy accounts for 35% of the country's total electricity production. There are plans to increase this to 41% by 2017, and 50% by 2030. Currently, ten utilities operate 53 nuclear power reactors.

Japan has a complicated nuclear regulatory structure that involves multiple organizations collaborating according to the Japanese "Double Check" system. In recent years, however, the government has begun a gradual transition to form a regulatory organization similar to the NRC's. Where once regulatory responsibility was split more closely 50/50 between the two organizations of the Nuclear and Industrial Safety Agency (NISA) and the Ministry of Education, Culture, Sports, Science and Technology (MEXT), today NISA is responsible for about 85% of the regulatory program. Japan still uses a two-step construction/operating licensing process. Before either NISA or MEXT issues a license, their findings are independently checked by the Nuclear Safety Commission (NSC).

On January 6, 2001, as part of the government's structural reform, the newly formed Ministry of Economy, Trade and Industry (METI) established NISA, which is responsible for nuclear safety, including the regulation of nuclear power generation, uranium refining, fuel fabrication, spent fuel storage and reprocessing, and radioactive waste management and disposal. The Ministry of Education, Culture, Sports, Science and Technology (MEXT) was also established on January 6, 2001, resulting from the integration of the Science and Technology Agency and the Ministry of Education. In the nuclear area, MEXT regulates research reactors, use of nuclear material for research, and use of radioisotopes.

On October 1, 2003, in a further reform of its regulatory regime (as a result of weaknesses identified by a TEPCO data falsification scandal), the Japanese government combined the talents of the Nuclear Power Engineering Corporation with the Japan Power Engineering and Inspection Corporation to create JNES. JNES supports NISA in its regulatory inspection program.

The Nuclear Safety Commission (NSC), a nuclear safety policy organization, now located within the Prime Minister's Secretariat, provides the "Double Check" function for METI in Japan's regulatory licensing process. The five-member body, with a technical support staff of about 100, provides independent review and comment to METI on nuclear safety matters.

NISA evaluates safety issues with risk-informed approaches to regulations, and is incorporating the use of Probabilistic Risk Assessment into its regulations. NISA also announced that it will develop a safety rating system based on operational performance, shutdowns, events, etc. In 2009, NISA announced it would allow companies to operate nuclear facilities for 18 months without an inspection instead of the previous 13-month cycle. Additionally, after 2014, companies can apply for a 24-month inspection cycle. When it announced the changes last year, NISA said it would base its approval of extensions, the review of which could take up to six months, on submitted inspection reports from the utilities. Currently, no companies have applied for extensions to the 13-month inspection cycle; therefore all Japanese nuclear power plants are still running on 13-month inspection cycles.

Safety Priorities in U.S. Nuclear Power Plant License Renewals

The Atomic Energy Act of 1954 (as amended) allows the U.S. Nuclear Regulatory Commission (NRC) to issue licenses for commercial power reactors to operate for up to 40 years. The NRC regulations allow for the renewal of these licenses for up to an additional 20 years beyond the initial licensing period depending on the outcome of an assessment to determine whether the reactor can continue to operate safely and whether the protection of the environment can be ensured during the 20-year period of extended operation. The license renewal process includes reviewing a license renewal application, conducting the assessment, and then renewing the license. The NRC's review of a license renewal application proceeds along two tracks: one for safety issues and another for environmental issues. The license renewal process is defined by a clear set of regulations that are designed to ensure safe operation and protection of the environment during the period of extended operation.

The intent of the NRC's safety review is to determine if the applicant has adequately demonstrated that the effects of aging will not adversely affect any systems, structures, or components. When the plant was designed, certain assumptions were made about the length of time the plant would be operated. During the renewal process, the applicant must also confirm whether these design assumptions will continue to be valid throughout the period of extended operation or whether aging effects will be adequately managed. The applicant must demonstrate that the effects of aging will be managed in such a way that the intended functions of "passive" or "long-lived" structures and components (such as the reactor vessel, reactor coolant system, piping, steam generators, pressurizer, pump casings, and valves) will be maintained during extended operation. For active components (such as motors, diesel generators, cooling fans, batteries, relays, and switches) surveillance and maintenance programs will continue throughout the period of extended operation.

If additional aging management activities are needed, the applicant may be required to establish new monitoring programs or increase inspections. For instance, applicants should specify activities that need to be performed (such as water chemistry and inspections) to prevent and mitigate age-related degradation. These activities increase the likelihood that the program is effective in minimizing degradation and that a component is replaced if specified thresholds are exceeded.

Detailed guidance on the NRC's safety review for license renewal is provided in the *Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants* (NUREG-1800). The purpose of the *Standard Review Plan* is to ensure quality and uniformity in staff reviews and to present a well-defined basis from which to evaluate the applicant's programs and activities for the period of extended operation. The *Standard Review Plan* was based on

information developed in the *Generic Aging Lessons Learned (GALL) Report* (NUREG-1801), which was developed by the NRC with input from interested stakeholders. The report documents the basis that is used for determining when existing programs are adequate and when they should be augmented for license renewal.

The NRC Office of Nuclear Reactor Regulation reviews an applicant's renewal application and supporting documentation based on the *Standard Review Plan*. Audits are also performed to review onsite documentation supporting the application. The review commonly results in the NRC's requesting additional information from the applicant. The safety review process also includes site inspections to assess whether the applicant has implemented and complied with the regulations for license renewal. The inspection teams are composed of technical, program, and operational experts from the NRC and its consultants. Teams of specialized inspectors travel to the reactor site, normally twice, to verify whether the effects of aging will be managed such that the plant can be operated during the period of extended operation without undue risk to the health and safety of the public. The review results in a publicly available safety evaluation report.

During the safety review process, the staff holds meetings with the applicant to discuss the review of the application. The public is invited to observe and has the opportunity to comment at the conclusion of the technical portion of the meeting. The results of the staff's safety review are also available to the public. A draft Safety Evaluation Report is available electronically from the Publicly Available Records System (PARS) component of the NRC's Agency-wide Documents Access and Management System (ADAMS). The ADAMS Public Electronic Reading Room is accessible from the NRC website at <http://www.nrc.gov/NRC/ADAMS/index.html>. Any member of the public can also provide comments to the Advisory Committee on Reactor Safeguards (ACRS) on the staff's review of the license renewal application in advance of the ACRS meeting. In addition, any person who believes he or she would be adversely affected by a specific reactor license renewal may request a hearing. Members of the public may also petition the Commission, in accordance with the provisions of 10 CFR 2.206, for consideration of safety issues during current operation and the period of extended operation of the plant.

There are several documents generated during the NRC's review of a license renewal application:

- The safety evaluation report (SER) documents the results of the NRC staff's review of aging-management and the applicant's programs to address these matters during the period of extended operation.
- The environmental impact statement (EIS) in the form of a site-specific supplement to the generic environmental impact statement (SEIS) documents the results of the NRC staff's review of the potential environmental impacts of continued operation of the plant during the period of extended operation.
- Inspection reports document the results of the NRC staff's inspections of the applicant's implementation of its quality assurance program and aging-management programs.
- The letter from the Advisory Committee on Reactor Safeguards (ACRS) to the Commission documents the results of the ACRS independent review of the safety aspects of the license renewal application and the staff's SER.
- If there is a hearing, the initial decision by the Atomic Safety and Licensing Board (ASLB) documents the findings of the ASLB on those items that were litigated in the hearing.

- A Commission paper, issued by the Executive Director for Operations (EDO), summarizes the conclusions documented in all of the above documents, and provides the NRC staff's recommendation concerning whether the operating license should be renewed. For uncontested applications, an EDO memorandum summarizes the staff's decision on the renewal of the license.

The NRC website has a special section dedicated to reactor license renewal. There is a "quick link" under the heading "Key Topics" that is shown on the right side of the NRC website's home page. This quick link takes the reader to a section dedicated to the topic of reactor license renewal. There are seven major headings or sources of information located on the Reactor License Renewal section of the website:

- Overview – a brief discussion of the license renewal process.
- License Renewal Process – a more thorough description of the application process, the environmental review, and the inspection program.
- Regulations – a description of the regulations applicable to license renewal, including the license renewal rule in 10 CFR Part 54 and the environmental regulations in 10 CFR Part 51 (links to the actual regulations are also available).
- Reactor License Renewal Guidance Documents – a description of (and links for) most of the documents discussed previously in these FAQs, including the Generic Aging Lessons Learned (GALL) report (NUREG-1801), the Standard Review Plan (SRP), and Regulatory Guides and technical reports related to license renewal.
- Public Involvement in Reactor License Renewal – a brief description of the public involvement process, including links to the schedule of upcoming public meetings, documents that are currently available for comment, and information related to any adjudication in process.

Landau, Mindy

From: Landau, Mindy
Sent: Tuesday, March 22, 2011 10:11 AM
To: Rihm, Roger; Ellmers, Glenn
Subject: transcript

<http://www.nrc.gov/reading-rm/doc-collections/commission/tr/2011/20110321.pdf>

Mindy S. Landau
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Washington, D.C. 20555
301-415-8703
mindy.landau@nrc.gov

3/22/11

Landau, Mindy

From: Landau, Mindy
Sent: Tuesday, March 22, 2011 10:25 AM
To: Ellmers, Glenn
Subject: We should post this link into the EDO Update

<http://www.nrc.gov/japan/japan-info.html>

Mindy S. Landau
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Y/226

Rihm, Roger

From: Rihm, Roger
Sent: Tuesday, March 22, 2011 10:35 AM
To: Wittick, Brian
Subject: Letter to Rep. Lowey

Brian, Rep Lowey (NY) has sent in one of the many Japan-related letters we've received, but she focuses on Indian Point. I am crafting an interim response that will go back to several Capitol Hill letter writers (including her) telling them of our plans to do a near term and longer term review, but I also would like to include in her letter whatever information is being shared with NY Lt governor today. Can you provide me with a paragraph or two that summarizes what we've told him (her?) and I'll work into my letter? Thanks. It's going to take me several days to get this together due to higher priorities, so no rush. Call me if you have ques. .

Y/227

Ellmers, Glenn

From: Ellmers, Glenn
Sent: Tuesday, March 22, 2011 10:50 AM
To: Reynolds, Steven
Cc: Powell, Amy; Decker, David; Schmidt, Rebecca; Landau, Mindy; Muessle, Mary
Subject: Illinois testimony

I confined myself to a general overview of Japanese regulatory issues, and safety review in relicensing of U.S. plants. I figured you guys in the Region can handle the Illinois-specific stuff.

Also, here is the link to Bill's remarks at yesterday's Commission meeting.

<http://www.nrc.gov/reading-rm/doc-collections/commission/tr/2011/20110321.pdf>

Glenn Ellmers
Senior Communications Specialist, OEDO
301-415-0442
OWFN - 17F03
Mail stop: 016E15

4/22/11

Landau, Mindy

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:33 AM
To: Weber, Michael
Cc: Borchardt, Bill
Subject: RE: RESPONSE - Upcoming Congressional Hearings

Great, thanks

From: Weber, Michael
Sent: Wednesday, March 23, 2011 10:32 AM
To: Landau, Mindy
Cc: Borchardt, Bill
Subject: RESPONSE - Upcoming Congressional Hearings

Yes, if that is the desire of Bill and the Commission.

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:31 AM
To: Weber, Michael
Subject: FW: Upcoming Congressional Hearings

Mike – can you do the March 30th hearing on Emergency Planning?

From: Virgilio, Martin
Sent: Wednesday, March 23, 2011 12:48 AM
To: Muessle, Mary; Borchardt, Bill; Weber, Michael; Ash, Darren
Cc: Landau, Mindy; Ellmers, Glenn; Rihm, Roger; Andersen, James; Wiggins, Jim
Subject: RE: Upcoming Congressional Hearings

Thanks, Mary

I let Becky know that I am not going to be available on the 30th

Marty

From: Muessle, Mary
Sent: Tuesday, March 22, 2011 1:02 PM
To: Borchardt, Bill; Weber, Michael; Virgilio, Martin; Ash, Darren
Cc: Landau, Mindy; Ellmers, Glenn; Rihm, Roger; Andersen, James
Subject: Upcoming Congressional Hearings

1. Friday, March 25th -Member Briefing – in Illinois – Cynthia Pedersen approved by Chairman to provide testimony
Senators Durbin and Kirk

Topics

- Safety of Illinois Plants
- Potential Risks
- How to mitigate risks
- Differences between Japan and US licensing process
- Safety Priorities in US License Renewals

Panel includes NRC, Chip Pardee (Exelon) and member of Illinois Emergency Mgmt Office

Action – Glenn is working up draft testimony for Region III

2. Tuesday, March 29th - Member Briefing

Senate Energy Members

Panel includes NRC (Bill?), Pete Lyons (DOE), UCS, and GE

Action – Becky is offering Bill as 1st choice to testify. Roger is pulling together Bill's remarks at the Commission meeting to transfer them into written and oral testimony. We will update with info from the "GoTo" Book.

3. Wednesday, March 30th - House Transportation and Infrastructure

Subcommittee meeting around Emergency Preparedness around Nuclear Power Plants

Jeff Denham Chair (Freshman from CA), Ranking Democrat Eleanor Holmes Norton

2 panels – 1st Director of FEMA, Deputy Chief of the Forest Service, NRC rep (Marty or Mike suggested may need to be Jim Wiggins if they are still on watch)

2nd panel – rep of CA local EP, rep of CA state EP, Red Cross

Action – This will be tasked to NSIR, I already called to give them a heads up. We need testimony on NRC's EP program, and an explanation of the 50-mile evacuation decision in Japan. Becky mentioned the House side are mostly freshman and they might be a little testy.

4. Wednesday, March 30th - Senate Appropriations – Energy and Water Development Subcommittee

Likely topic Japan and maybe some budget

Two panels to include: NRC Chairman, Pete Lyons, UCS

5, Thursday, March 31st - House Appropriations Committee on FY 2012 Budget

NRC Chairman

Action for 4 and 5—we are proposing to ask the Chairman's communication staff to handle because of overload on communications group. They just need to update his previous written budget testimony that was going to be given at the House hearing last week. Also, Jim Dyer would need to include any supplemental budget request for the Japan event.

6. April – TBD Senate Environment and Public Works

Where do we go from here? Feedback to OCA- would be better to do after the 30 day report.

Action – this will be focused on the task force report so we can hold off planning until that information is more stable.

Mary Muessle

Assistant for Operations - Acting

Office of the Executive Director for Operations

U.S. Nuclear Regulatory Commission

301-415-1703 office

301-415-2700 fax

Landau, Mindy

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:47 AM
To: Loyd, Susan
Subject: RE: Bill's presentation on Monday

The transcript is on the web (Japan Box)

<http://www.nrc.gov/reading-rm/doc-collections/commission/tr/2011/20110321.pdf>

From: Loyd, Susan
Sent: Wednesday, March 23, 2011 10:45 AM
To: Landau, Mindy
Subject: Bill's presentation on Monday

Mindy:

I have a copy of the slides that Bill used at the Comm Mtg on Monday, but not the narrative. Could you please send that to me? (I don't know if he sticks closely to prepared text or not?) Thanks.

S.

Susan K. Loyd
Communications Director
Office of the Chairman
U.S. Nuclear Regulatory Commission
Tele: 301-415-1838
Susan.Loyd@nrc.gov

Franovich, Mike

From: Franovich, Mike
Sent: Wednesday, March 23, 2011 7:12 AM
To: Ostendorff, William
Cc: Nieh, Ho; Warnick, Greg; Kock, Andrea; Zorn, Jason
Subject: UPDATE from 2000 Telecon on Fukushima Daiichi Events

Wiggins led the call

- No significant change in the units status.
- Operations to use the 50 meter boom/water pump system on Unit 4 completed.
- Power restored to Unit 1, 2, and 3. Unit 3 main control room is powered.
- Concerns continue regarding use of seawater in the reactor and that through evaporation in the core there could be a concentration of salt. Asked them if boron was also being included in the RST/Japanese evaluation and yes they are including the previous boron batched with seawater, but the RST believes there is sufficient boron to retain shutdown reactivity margin. RST therefore recommends use of clean water when available.
- Dose rates continue to trend downward around the site.
- NRC, NARAC, DOE, other have agreed to a sources term for modeling the plausible bounding scenario.
- Discussions ongoing with DOE, NR, DOS, the White House regarding precautions/protection of US citizens in Japan. Discussion of evacuation of military families.
- Bechtel pumping system is in country ready to be shipped to the site if the Japanese request it. (I have pics to circulate at the morning meeting)
- Navy raised concerns about employing additional protective measures for Navy personnel including possible evacuation is still an issue. I asked Jim if the new plume model using the bounding scenarios was driving the USFJ/Navy concerns on dose or was it actual field measurement reports on drinking water and ground deposition. He said it was the modeling assumptions and that it took a significant effort to get agencies to agree to the bounding scenario which uses the 100 percent of Unit 4 SFP melt down/release. (actual SFP conditions are that there is water over the fuel).
- PMT developing re-entry criteria for Americans to reenter the 50 mile evacuation area/relax PAG. Using US criteria for re-entry that states would use for doses but requires criteria for plant stability, dose expected in first year of exposure (at 2 REM). Some discussion of limited re-entry of residents to collect personal belongings.

*Mike Franovich
Technical Assistant for Reactors
Office of Commissioner Ostendorff*

Landau, Mindy

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:59 AM
To: Weber, Michael
Subject: RE: Response - is Weber doing 3/30 emergency preparedness
Attachments: Mike W bio.docx

OK – take a look at the 2nd paragraph I added and feel free to revise

From: Weber, Michael
Sent: Wednesday, March 23, 2011 10:58 AM
To: Landau, Mindy
Subject: Response - is Weber doing 3/30 emergency preparedness

I could supplement my bio later on today to address the EP component.

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:45 AM
To: Weber, Michael
Subject: FW: is WEber doing 3/30 emergency preparedness

Mike – Becky wants to give the Committee a bio for you that references some amount of oversight of EP. The current one doesn't. Do you want me to noodle with the bio on the web or do you want to provide me with information that we could use to supplement your bio?

Thanks,
Mindy

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 10:43 AM
To: Landau, Mindy
Subject: RE: is WEber doing 3/30 emergency preparedness

Doesn't really say anything about emergency preparedness. The NSIR job is close but no one from the outside would know that

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:37 AM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness

Can you use the one on the web?
<http://www.nrc.gov/about-nrc/organization/weber-bio.html>

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 10:35 AM
To: Landau, Mindy
Subject: RE: is WEber doing 3/30 emergency preparedness

Do you have a current bio for Mike?

Y/232

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:33 AM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness

Yes, Mike will do it.

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 10:32 AM
To: Landau, Mindy
Subject: RE: is WEber doing 3/30 emergency preparedness

thanks

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:30 AM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness

I need to confirm – I know Marty isn't available. Will let you know.

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 10:30 AM
To: Landau, Mindy
Subject: is WEber doing 3/30 emergency preparedness

March 23, 2011

Nuclear and Industrial Safety Agency

Seismic Damage Information (the 45th Release)

(As of 12:30 March 23rd, 2011)

Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Onagawa NPS, Tohoku Electric Power Co. Inc.; Fukushima Dai-ichi and Fukushima Dai-ni NPSs, Tokyo Electric Power Co. Inc. (TEPCO); Tokai Dai-ni NPS, Japan Atomic Power Co. Inc. as follows:

Major updates are as follows.

1. Nuclear Power Stations (NPSs)

- Fukushima Dai-ichi NPS

<Situation of Water Injection and Water Spray>

- Water spray using Concrete Pump Truck (50t/h) to the Unit 4 was started.
(10:00 March 23rd)

(Attached sheet)

1. The state of operation at NPS (Number of automatic shutdown units: 10)

● Fukushima Dai-ichi NPS, TEPCO

(Okuma Town and Futaba Town, Futaba County, Fukushima Prefecture)

(1) The state of operation

Unit 1 (460MWe): automatic shutdown
 Unit 2 (784MWe): automatic shutdown
 Unit 3 (784MWe): automatic shutdown
 Unit 4 (784MWe): in periodic inspection outage
 Unit 5 (784MWe): in periodic inspection outage, cold shutdown
 at 14:30 March 20th
 Unit 6 (1,100MWe): in periodic inspection outage, cold shutdown
 at 19:27 March 20th

(2) Major Plant Parameters (As of 12:00 March 23rd)

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
Reactor Pressure*1 [MPa]	0.457(A) 0.420(B)	0.078(A) 0.078(B)	-0.003(C) 0.135(A)	—	0.108	0.109
CV Pressure (D/W) [kPa]	320	110	100	—	—	—
Reactor Water Level*2 [mm]	-1,750(A) -1,750(B)	-1,300(A) Not available(B)	-1,800(A) -2,300(B)	—	1,744	2,701
Suppression Pool Water Temperature (S/C) [°C]	—	—	—	—	—	—
Suppression Pool Pressure (S/C) [kPa]	300	down scale	down scale	—	—	—
Spent Fuel Pool Water Temperature [°C]	—	51*4	—	Not available*3	39.0	20.0
Time of Measurement	12:00 March 23rd	09:00 March 23rd	09:10 March 23rd		12:00 March 23rd	12:00 March 23rd

- *1: Converted from reading value to absolute pressure
- *2: Distance from the top of fuel
- *3: As of 04:08 March 14th, 84°C
- *4: As of 04:20 March 23rd

(3) Situation of Each Unit

<Unit 1>

- TEPCO reported to NISA the event (Inability of water injection of the Emergency Core Cooling System) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (16:36 March 11th)
- Seawater injection to the Reactor Pressure Vessel (RPV) via the Fire Extinguish Line started. (20:20 March 12th)
→Temporary interruption of the injection (01:10 March 14th)
- The sound of explosion in Unit 1 occurred. (15:36 March 12th)
- Increase the amount of water injection (2m³/h→18m³/h) to the Reactor Core by using water supply system in addition to water extinction system.(02:33 March 23rd)
- Seawater is being injected. (As of 12:30 March 23rd)

<Unit 2>

- TEPCO reported to NISA the event (Inability of water injection of the Emergency Core Cooling System) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (16:36 March 11th)
- The Blow-out Panel of reactor building was opened due to the explosion in the reactor building of Unit 3. (After 11:00 March 14th)
- Reactor water level tended to decrease. (13:18 March 14th) TEPCO reported to NISA the event (Loss of reactor cooling functions) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (13:49 March 14th)
- Seawater injection to RPV via the Fire Extinguish line was ready. (19:20 March 14th)
- Water level in RPV tended to decrease. (22:50 March 14th)
- A sound of explosion was made in Unit 2. As the pressure in

Suppression Chamber decreased (06:10 March 15th), there was a possibility that an incident occurred in the Chamber. (About 06:20 March 15th)

- Electric power receiving at the emergency power source transformer from the external transmission line was completed. The work for laying the electric cable from the facility to the load side was carried out. (As of 13:30 March 19th)
- Injection of 40t of Seawater to the Spent Fuel Pool was started.(from 15:00 till 17:20 March 20th)
- Power Center of Unit 2 received electricity (15:46 March 20th)
- White smoke generated from Unit 2. (18:22 March 21st)
- White smoke was died down and almost invisible. (As of 07:11 March 22nd)
- Injection of 18t of Seawater to the Spent Fuel Pool was carried out. (from 16:07 till 17:01 March 22nd)
- Seawater injection to RPV continues. (As of 12:30 March 23rd)

<Unit 3>

- Fresh water started to be injected to RPV via the Fire Extinguish Line. (11:55 March 13th)
- Seawater started to be injected to RPV via the Fire Extinguish Line. (13:12 March 13th)
- Seawater injection for Units 1 and 3 was interrupted due to the lack of seawater in pit. (01:10 March 14th)
- Seawater injection to RPV for Unit 3 was restarted. (03:20 March 14th)
- The pressure in Primary Containment Vessel (PCV) of Unit 3 rose unusually. (07:44 March 14th) TEPCO reported to NISA on the event falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (7:52 March 14th)
- In Unit 3, the explosion like Unit 1 occurred around the Reactor Building (11:01 March 14th)
- The white smoke like steam generated from Unit 3. (08:30 March 16th)
- Because of the possibility that PCV of Unit 3 was damaged, the workers evacuated from the main control room of Units 3 and 4 (common control room). (10:45 March 16th) Thereafter the operators returned to the room and restarted the operation of water injection. (11:30 March 16th)

- Seawater was discharged 4 times to Unit 3 by the helicopters of the Self-Defence Force. (9:48, 9:52, 9:58 and 10:01 March 17th)
- The riot police arrived at the site for the water spray from the grand. (16:10 March 17th)
- The Self-Defence Force started the water spray using a fire engine. (19:35 March 17th)
- The water spray from the ground was carried out by the riot police. (From 19:05 till 19:13 March 17th)
- The water spray from the ground was carried out by the Self-Defense Force using 5 fire engines. (19:35, 19:45, 19:53, 20:00 and 20:07 March 17th)
- The water spray from the ground using 6 fire engines (6 tons of water spray per engine) was carried out by the Self-Defence Force. (From before 14:00 till 14:38 March 18th)
- The water spray from the ground using a fire engine provided by the US Military was carried out. (Finished at 14:45 March 18th)
- Hyper Rescue Unit of Tokyo Fire Department (14 vehicles) arrived at the Main Gate (23:10 March 18th) and 6 vehicles of them entered the NPS in order to spray water from the ground. (23:30 March 18th)
- Hyper Rescue Unit of Tokyo Fire Department carried out the water spray. (Finished at 03:40 March 20th)
- The pressure in PCV of Unit 3 rose (320 kPa as of 11:00 March 20th). Preparation to lower the pressure was carried. Judging from the situation, immediate pressure relief was not required. Monitoring the pressure continues (120 kPa at 12:15 March 21st).
- On-site survey for leading electric cable (From 11:00 till 16:00 March 20th)
- Water spray over the Spent Fuel Pool of Unit 3 by Hyper Rescue Unit of Tokyo Fire Department was carried out (From 21:39 March 20th till 03:58 March 21st).
- Works for the recovery of external power supply is being carried out.
- Grayish smoke generated from Unit 3. (At around 15:55 March 21st)
- The smoke was confirmed to be died down. (17:55 March 21st)
- Grayish smoke changed to be whitish and seems to be ceasing. (As of 07:11 March 22nd)
- Water spray (Around 180t) by Hyper Rescue Unit of Tokyo Fire

Department was carried out. (from 15:10 till 15:59 March 22nd)

- Lighting was recovered in the Central Operation Room. (22:43 March 22nd)
- Seawater is being injected to RPV. (As of 12:30 March 23rd)

<Unit 4>

- Because of the replacement work of the Shroud of RPV, no fuel was inside the RPV.
- The temperature of water in the Spent Fuel Pool at Unit 4 had increased. (84 °C at 04:08 March 14th)
- It was confirmed that a part of wall in the operation area of Unit 4 was damaged. (06:14 March 15th)
- The fire at Unit 4 occurred. (09:38 March 15th) TEPCO reported that the fire was extinguished spontaneously. (11:00 March 15th)
- The fire occurred at Unit 4. (5:45 March 16th) TEPCO reported that no fire could be confirmed on the ground. (At around 06:15 March 16th)
- The Self-Defence Force started water spray over the Spent Fuel Pool of Unit 4 (09:43 March 20th).
- On-site survey for leading electric cable (From 11:00 till 16:00 March 20th)
- Water spray over the Spent Fuel Pool of Unit 4 by Self-Defence Force was started. (From around 18:30 till 19:46 March 20th).
- Water spray over the Spent Fuel Pool by Self-Defence Force using 13 fire engines was started (From 06:37 till 08:41 March 21st).
- Works for laying electricity cable to the Power Center was completed. (At around 15:00 March 21st)
- Power Center received electricity. (10:35 March 22nd)
- Spray of around 150 tons of water using Concrete Pump Truck (50t/h) was carried out. (from 17:17 till 20:32 March 22nd)
- Water spray using Concrete Pump Truck (50t/h) was started. (10:00 March 23rd)

<Units 5 and 6>

- The first unit of Emergency Diesel Generator (B) for Unit 6 is operating and supplying electricity. Water injection to RPV and the Spent Fuel Pool through the system of Make up Water Condensate (MUWC) is

being carried out.

- The second unit of Emergency Diesel Generator (A) for Unit 6 started up. (04:22 March 19th)
- The pumps for Residual Heat Removal (RHR) (C) for Unit 5 (05:00 March 19th) and RHR (B) for Unit 6 (22:14 March 19th) started up and recovered heat removal function. It cools Spent Fuel Pool with priority. (Power supply : Emergency Diesel Generator for Unit 6) (05:00 March 19th)
- Unit 5 under cold shut down (14:30 March 20th)
- Unit 6 under cold shut down (19:27 March 20th)
- Receiving electricity reached to the transformer of starter. (19:52 March 20th)
- Power supply to Unit 5 was switched from the Emergency Diesel Generator to external power supply. (11:36 March 21st)
- Power supply to Unit 6 was switched from the Emergency Diesel Generator to external power supply. (19:17 March 22nd)

<Common Spent Fuel Pool>

- It was confirmed that the water level of Spent Fuel Pool was maintained full at after 06:00 March 18th.
- As of 09:00 March 19th, the water temperature in the pool is 57°C.
- Water spray over the Common Spent Fuel Pool was started (From 10:37 till 15:30 March 21st)
- As of 16:30 March 21st, water temperature of the pool was around 61°C.

● Fukushima Dai-ni NPS (TEPCO)

(Naraha Town / Tomioka Town, Futaba County, Fukushima Prefecture.)

(1) The state of operation

- Unit1 (1,100MWe): automatic shutdown, cold shut down at 17:00, March 14th
- Unit2 (1,100MWe): automatic shutdown, cold shut down at 18:00, March 14th
- Unit3 (1,100MWe): automatic shutdown, cold shut down at 12:15, March 12th
- Unit4 (1,100MWe): automatic shutdown, cold shut down at 07:15, March 15th

(2) Major plant parameters (As of 12:00 March 23rd)

	Unit	Unit 1	Unit 2	Unit 3	Unit 4
Reactor Pressure*1	MPa	0.15	0.12	0.11	0.15
Reactor water temperature	°C	31.0	28.5	33.8	30.3
Reactor water level*2	mm	9,146	10,296	8,394	8,785
Suppression pool water temperature	°C	25	24	26	25
Suppression pool pressure	kPa (abs)	108	106	104	105
Remarks		cold shutdown	cold shutdown	cold shutdown	cold shutdown

*1: Converted from reading value to absolute pressure

*2: Distance from the top of fuel

(3) Report concerning other incidents

- TEPCO reported to NISA the event in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 1. (18:08 March 11th)
- TEPCO reported to NISA the events in accordance with the Article 10 regarding Units 1, 2 and 4. (18:33 March 11th)
- TEPCO reported to NISA the event (Loss of pressure suppression function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 1. (5:22 March 12th)
- TEPCO reported to NISA the event (Loss of pressure suppression function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 2. (5:32 March 12th)
- TEPCO reported to NISA the event (Loss of pressure suppression function) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 4 of

Fukushima Dai-ni NPS. (6:07 March 12th)

● Onagawa NPS (Tohoku Electric Power Co. Inc.)

(Onagawa Town, Oga County and Ishinomaki City, Miyagi Prefecture)

(1) The state of operation

Unit 1 (524MWe): automatic shutdown, cold shut down at 0:58, March 12th

Unit 2 (825MWe): automatic shutdown, cold shut down at earthquake

Unit 3 (825MWe): automatic shutdown, cold shut down at 1:17, March 12th

(2) Readings of monitoring post, etc.

MP2 (Monitoring at the North End of Site Boundary)

approx. 6,500 nGy/h (19:00 March 14th)

→approx. 5,400 nGy/h (19:00 March 15th)

(3) Report concerning other incidents

- Fire Smoke on the first basement of the Turbine Building was confirmed to be extinguished. (22:55 on March 11th)
- Tohoku Electric Power Co. reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (13:09 March 13th)

2. Action taken by NISA

(March 11th)

14:46 Set up of the NISA Emergency Preparedness Headquarters (Tokyo) immediately after the earthquake

15:42 TEPCO reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

16:36 TEPCO recognized the event (Inability of water injection of the Emergency Core Cooling System) in accordance with the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Units 1 and 2 of Fukushima Dai-ichi NPS. (Reported to NISA at 16:45)

18:08 Regarding Unit 1 of Fukushima Dai-ni NPS, TEPCO reported to

- NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 18:33 Regarding Units 1, 2 and 4 of Fukushima Dai-ni NPS, TEPCO reported to NISA in accordance with the Article 10 of Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 19:03 The Government declared the state of nuclear emergency. (Establishment of Government Nuclear Emergency Response Headquarters and Local Emergency Response Headquarters)
- 20:50 Fukushima Prefecture's Emergency Response Headquarters issued a direction for the residents within 2 km radius from Unit 1 of Fukushima Dai-ichi NPS to evacuate. (The population of this area is 1,864.)
- 21:23 Directives from Prime Minister to the Governor of Fukushima Prefecture, the Mayor of Okuma Town and the Mayor of Futaba Town were issued regarding the event occurred at Fukushima Dai-ichi NPS, TEPCO, in accordance with the Paragraph 3, the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness as follows:
- Direction for the residents within 3km radius from Unit 1 of Fukushima Dai-ichi NPS to evacuate
 - Direction for the residents within 10km radius from Unit 1 of Fukushima Dai-ichi NPS to stay in-house
- 24:00 Vice Minister of Economy, Trade and Industry, Ikeda arrived at the Local Emergency Response Headquarters

(March12th)

- 05:22 Regarding Unit 1 of Fukushima Dai-ni NPS, TEPCO recognized the event (Loss of pressure suppression function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness. (Reported to NISA at 06:27)
- 05:32 Regarding Unit 2 of Fukushima Dai-ni NPS, TEPCO recognized the event (Loss of pressure suppression function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 05:44 Residents within 10km radius from Unit 1 of Fukushima Dai-ichi NPS shall evacuate by the Prime Minister Directive.

- 06:07 Regarding of Unit 4 of Fukushima Dai-ni NPS, TEPCO recognized the event (Loss of pressure suppression function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 06:50 In accordance with the Paragraph 3, the Article 64 of the Nuclear Regulation Act, the order was issued to control the internal pressure of PCV of Units 1 and 2 of Fukushima Dai-ichi NPS.
- 07:45 Directives from Prime Minister to the Governor of Fukushima Prefecture, the Mayors of Hirono Town, Naraha Town , Tomioka Town and Okuma Town were issued regarding the event occurred at Fukushima Dai-ni NPS, TEPCO, pursuant to the Paragraph 3, the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness as follows:
- Direction for the residents within 3km radius from Fukushima Dai-ni NPS to evacuate
 - Direction for the residents within 10km radius from Fukushima Dai-ni NPS to stay in-house
- 17:00 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 17:39 Prime Minister directed evacuation of the residents within the 10 km radius from Fukushima Dai-ni NPS.
- 18:25 Prime Minister directed evacuation of the residents within the 20km radius from Fukushima Dai-ichi NPS.
- 19:55 Directives from Prime Minister was issued regarding seawater injection to Unit 1 of Fukushima Dai-ichi NPS.
- 20:05 Considering the Directives from Prime Minister and pursuant to the Paragraph 3, the Article 64 of the Nuclear Regulation Act, the order was issued to inject seawater to Unit 1 of Fukushima Dai-ichi NPS and so on.
- 20:20 At Unit 1 of Fukushima Dai-ichi NPS, seawater injection started.

(March 13th)

- 05:38 TEPCO reported to NISA the event (Total loss of coolant injection function) falling under the Article 15 of the Act on Special Measures

Concerning Nuclear Emergency Preparedness regarding Unit 3 of Fukushima Dai-ichi NPS. Recovering efforts by TEPCO of the power source and coolant injection function and the work on venting were under way.

- 09:01 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 09:08 Pressure suppression and fresh water injection started for Unit 3 of Fukushima Dai-ichi NPS.
- 09:20 The Pressure Vent Valve of Unit 3 of Fukushima Dai-ichi NPS was opened.
- 09:30 Directive was issued for the Governor of Fukushima Prefecture, the Mayors of Okuma Town, Futaba Town, Tomioka Town and Namie Town in accordance with the Act on Special Measures Concerning Nuclear Emergency Preparedness on the contents of radioactivity decontamination screening.
- 09:38 TEPCO reported to NISA that Unit 1 of Fukushima Dai-ichi NPS reached a situation specified in the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 13:09 Tohoku Electric Power Co. reported to NISA that Onagawa NPS reached a situation specified in the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 13:12 Fresh water injection was switched to seawater injection for Unit 3 of Fukushima Dai-ichi NPS.
- 14:36 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

(March 14th)

- 01:10 Seawater injection for Units 1 and 3 of Fukushima Dai-ichi NPS were temporarily interrupted due to the lack of seawater in pit.
- 03:20 Seawater injection for Unit 3 of Fukushima Dai-ichi NPS was restarted.
- 04:40 TEPCO reported to NISA the event (Unusual increase of radiation

- dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 05:38 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 07:52 TEPCO reported to NISA the event (Unusual rise of the pressure in PCV) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Unit 3 of Fukushima Dai-ichi NPS.
- 13:25 Regarding Unit 2 of Fukushima Dai-ichi NPS, TEPCO recognised the event (Loss of reactor cooling function) to fall under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness.
- 22:13 TEPCO reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 22:35 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

(March 15th)

- 00:00: The acceptance of experts from IAEA was decided. NISA agreed to accept the offer of dispatching of the expert on NPS damage from IAEA considering the intention by Mr. Amano, Director General of IAEA. Therefore, the schedule of expert acceptance will be planned from now on according to the situation.
- 00:00: NISA also decided the acceptance of experts dispatched from NRC.
- 07:21 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 07:24 Incorporated Administration Agency, Japan Atomic Energy Agency (JAEA) reported to NISA in accordance with the Article 10 of the Act

- on Special Measures Concerning Nuclear Emergency Preparedness regarding Nuclear Fuel Cycle Engineering Laboratories, Tokai Research and Development Centre.
- 07:44 JAEA reported to NISA in accordance with the Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Nuclear Science Research Institute.
- 08:54 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 10:30 According to the Nuclear Regulation Act, Minister of Economy, Trade and Industry issued the directions as follows.
- For Unit 4: To extinguish fire and to prevent the occurrence of re-criticality
- For Unit 2: To inject water to reactor vessel promptly and to vent Drywell.
- 10:59 Considering the possibility of lingering situation, it was decided that the function of the Local Emergency Response Headquarters was moved to the Fukushima Prefectural Office.
- 11:00 Prime Minister directed the in-house stay area.
- In-house stay was additionally directed to the residents in the area from 20 km to 30 km radius from Fukushima Dai-ichi NPS considering in-reactor situation.
- 16:30 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.
- 22:00 According to the Nuclear Regulation Act, Minister of Economy, Trade and Industry issued the following direction.
- For Unit 4: To implement the injection of water to the Spent Fuel Pool.
- 23:46 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

(March 18th)

13:00 Ministry of Education, Culture, Sports, Science and Technology decided to reinforce the nation-wide monitoring survey in the emergency of Fukushima Dai-ichi and Dai-ni NPS.

15:55 TEPCO reported to NISA on the accidents and failure at Units 1, 2, 3 and 4 of Fukushima Dai-ichi NPS (Leakage of the radioactive materials inside of the reactor buildings to non-controlled area of radiation) pursuant to the Article 62-3 of the Nuclear Regulation Act.

16:48 Japan Atomic Power Co. reported to NISA accidents and failures in Tokai NPS (Failure of the seawater pump motor of the emergency diesel generator 2C) pursuant to the Article 62-3 of the Nuclear Regulation Act.

(March 19th)

07:44 The second unit of Emergency Diesel Generator (A) for Unit 6 started up.

TEPCO reported to NISA that the pump for RHR (C) for Unit 5 started up and started to cooling Spent Fuel Storage Pool. (Power supply: Emergency Diesel Generator for Unit 6)

08:58 TEPCO reported to NISA the event (Unusual increase of radiation dose at the site boundary) falling under the Article 15 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi NPS.

(March 20th)

23:30 Directive from Local Emergency Response Headquarters to the Prefectural Governor and the heads of cities, towns and villages (Tomioka Town, Hutaba Town, Okuma Town, Namie Town, Kawauchi Village, Naraha Town, Minamisouma City, Tamura City, Kazurao Village, Hirono Town, Iwaki City and Iidate Village) was issued regarding the change of the reference value for the screening level for decontamination of radioactivity.

(March 21st)

07:45 Directive titled as “Administration of the stable Iodine” was issued from Local Emergency Response Headquarters to the Prefectural

Governor and the heads of cities, towns and villages (Tomioka Town, Hutaba Town, Okuma Town, Namie Town, Kawauchi Village, Naraha Town, Minamisouma City, Tamura City, Kazurao Village, Hirono Town, Iwaki City and Iidate Village), which directs the above-mentioned governor and the heads to administer stable Iodine under the direction of the headquarters and in the presence of medical experts, and not to administer it on personal judgements.

16:45 Directive titled as “Ventilation for using heating equipments within the in-house evacuation zone” was issued from the Head of Local Emergency Response Headquarters to the Prefectural Governor and the heads of cities, towns and villages (Tomioka Town, Hutaba Town, Okuma Town, Namie Town, Kawauchi Village, Naraha Town, Minamisouma City, Tamura City, Kazurao Village, Hirono Town, Iwaki City and Iidate Village), which directs the above-mentioned governor and heads to publicly announce the guidance to the residents within the in-house evacuation zone, concerning the indoor use of heating equipments that require ventilation, in order to avoid poisoning from carbon monoxide and to reduce exposure.

17:50 Directive from the Head of Government Nuclear Emergency Response Headquarters to the Prefectural Governors of Fukushima, Ibaraki, Tochigi and Gunma was issued, which direct the above-mentioned governors to issue a request to relevant businesses and people to suspend shipment of spinach, *Kakina* (a green vegetable) and raw milk for the time being.

(March 22nd)

16:00 NISA received the response (Advice) from Nuclear Safety Commission Emergency Technical Advisory Body to the request for advice made by NISA, regarding the report from TEPCO titled as “The Results of Analysis of Seawater” dated March 22nd.

< Possibility on radiation exposure (As of 12:30 March 23rd) >

1. Exposure of residents

(1) Including the about 60 evacuees from Futaba Public Welfare Hospital to Nihonmatsu City Fukushima Gender Equality Centre, as the result of measurement of 133 persons at the Centre, 23 persons counted more

than 13,000 cpm were decontaminated.

- (2) The 35 residents transferred from Futaba Public Welfare Hospital to Kawamata Town Saiseikai Kawamata Hospital by private bus arranged by Fukushima Prefecture were judged to be not contaminated by the Prefectural Response Centre.
- (3) As for the about 100 residents in Futaba Town evacuated by bus, the results of measurement for 9 of the 100 residents were as follows. The evacuees, moving outside the Prefecture (Miyagi Prefecture), were divided into two groups, which joined later to Nihonmatsu City Fukushima Gender Equality Centre.

No. of Counts	No. of Persons
18,000cpm	1
30,000-36,000cpm	1
40,000cpm	1
little less than 40,000cpm*	1
very small counts	5

*(These results were measured without shoes, though the first measurement exceeded 100,000cpm)

- (4) The screening was started at the Off site Centre in Okuma Town from March 12th to 15th. 162 people received examination until now. At the beginning, the reference value was set at 6,000cpm. 110 people were at the level below 6,000 cpm and 41 people were at the level of 6,000 cpm or more. When the reference value was increased to 13,000 cpm afterward, 8 people were at the level below 13,000 cpm and 3 people are at the level of 13,000 cpm or more.
The 5 out of 162 people examined were transported to hospital after being decontaminated.
- (5) The Fukushima Prefecture carried out the evacuation of patients and personnel of the hospitals located within 10km area. The screening of all the members showed that 3 persons have the high counting rate. These members were transported to the secondary medical institute of

exposure. As a result of the screening on 60 fire fighting personnel involved in the transportation activities, the radioactivity higher than twice of the back ground was detected on 3 members. Therefore, all the 60 members were decontaminated.

2. Exposure of workers

- (1) As for the 18 workers conducting operations in Fukushima Dai-ichi NPS, results of measurements are as follows;

One worker: At the level of exposure as 106.3 mSv, no risk of internal exposure and no medical treatment required.

Other workers: At the level of no risk for health but concrete numerical value is unknown.

- (2) As for the 7 people working at the time of explosion at around the Unit 3 of Fukushima Dai-ichi NPS who were injured and conscious, 6 out of 7 people were decontaminated by an industrial doctor of the clinic in Fukushima Dai-ni NPS, and confirmed to have no risk. The other one was decontaminated at the clinic and the medical treatment was completed.

3. Others

- (1) Fukushima Prefecture has started the screening from 13 March. It is carried out by rotating the evacuation sites and at the 12 places (set up permanently) such as health offices. The results of screening are being totalled up.
- (2) 5 members of Self-Defence Force who worked for water supply in Fukushima Dai-ichi NPS were exposed. After the work (March 12th), 30,000 cpm was counted by the measurement at Off site Centre. The counts after decontamination were between 5,000 and 10,000 cpm. One member was transferred to National Institute of Radiological Science. No other exposure of the Self-Defence Force member was confirmed at the Ministry of Defence.
- (3) As for policeman, the decontaminations of two policemen were confirmed by the National Police Agency. Nothing unusual was reported.

<Directive of screening levels for decontamination of radioactivity>

- (1) On March 20th, the Local Emergency Response Headquarters issued the directive to change the reference value for the screening level for

decontamination of radioactivity as the following to the Prefectural Governor and the heads of cities, towns and villages (Tomioka Town, Hutaba Town, Okuma Town, Namie Town, Kawauchi Village, Naraha Town, Minamisouma City, Tamura City, Kazurao Village, Hirono Town, Iwaki City and Iidate Village).

Old : 40 Bq/cm² measured by a gamma-ray survey meter or 6,000 cpm

New : 1 μ Sv/hour (dose rate at 10cm distance) or 100,000cpm equivalent

<Directives of administrating stable Iodine during evacuation>

- (1) On March 16th, the Local Emergency Response Headquarters issued “Directive to administer the stable Iodine during evacuation from the evacuation area (20 km radius)” to the Prefectural Governor and the heads of cities, towns and villages (Tomioka Town, Hutaba Town, Okuma Town, Namie Town, Kawauchi Village, Naraha Town, Minamisouma City, Tamura City, Kazurao Village, Hirono Town, Iwaki City and Iidate Village).
- (2) On March 21st, the Local Emergency Response Headquarters issued Directive titled as “Administration of the stable Iodine” to the Prefectural Governor and the heads of cities, towns and villages (Tomioka Town, Hutaba Town, Okuma Town, Namie Town, Kawauchi Village, Naraha Town, Minamisouma City, Tamura City, Kazurao Village, Hirono Town, Iwaki City and Iidate Village), which directs the above-mentioned governor and heads to administer stable Iodine under the direction of the headquarters and in the presence of medical experts, and not to administer it on personal judgements.

<Situation of the injured (As of 12:30 March 23rd)>

1. Injury due to earthquake
 - Two employees (slightly)
 - Two subcontract employees (one fracture in both legs)
 - Two missing (TEPCO’s employee, missing in the turbine building of Unit 4)
 - One emergency patient (According to the local prefecture, one patient of cerebral infarction was transported by the ambulance).

- Ambulance was requested for one employee complaining the pain at left chest outside of control area (conscious).
 - Two employees complaining discomfort wearing full-face mask in the main control room were transported to Fukushima Dai-ni NPS for a consultation with an industrial doctor.
2. Injury due to the explosion of Unit 1 of Fukushima Dai-ichi NPS
 - Four employees were injured at the explosion and smoke of Unit 1 around turbine building (non-controlled area of radiation) and were examined by Kawauchi Clinic.
 3. Injury due to the explosion of Unit 3 of Fukushima Dai-ichi NPS
 - Four TEPCO's employees
 - Three subcontractor employees
 - Four members of Self-Defence Force (one of them was transported to National Institute of Radiological Sciences considering internal possible exposure. The examination resulted in no internal exposure. The member was discharged from the institute on March 16th.)
 4. Other injuries
 - A person who visited the clinic in Fukushima Dai-ni NPS from a transformer sub-station, claiming of a stomach ache, was transported to a clinic in Iwaki City, because the person was not contaminated.

<Situation of resident evacuation (As of 12:30 March 23rd)>

At 11:00 March 15th, Prime Minister directed in-house stay to the residents in the area from 20 km to 30 km radius from Fukushima Dai-ichi NPS. The directive was conveyed to Fukushima Prefecture and related municipalities.

Regarding the evacuation as far as 20-km from Fukushima Dai-ichi NPS and 10-km from Fukushima Dai-ni NPS, necessary measures have already been taken.

- The in-house stay in the area from 20 km to 30 km from Fukushima Dai-ichi NPS is made fully known to the residents concerned.

- Cooperating with Fukushima Prefecture, livelihood support to the residents in the in-house stay area are implemented.

<Directive regarding foods and drinks>

On March 21st, Directive from the Head of Government Nuclear Emergency Response Headquarters to the Prefectural Governors of Fukushima, Ibaraki, Tochigi and Gunma was issued, which directs above-mentioned governors to issue a request to relevant businesses and people to suspend shipment of the following products (①, ②) for the time being.

- ① Spinach and *Kakina* (a green vegetable) produced in Fukushima, Ibaraki, Tochigi and Gunma Prefectures
- ② Raw milk produced in Fukushima Prefecture

<Directive regarding the ventilation when using heating equipments in the area of indoor evacuation >

On March 21st, Directive titled as “Ventilation for using heating equipments within the in-house evacuation zone” from the Head of Local Emergency Response Headquarters to the Prefectural Governor and the heads of cities, towns and villages (Tomioka Town, Hutaba Town, Okuma Town, Namie Town, Kawauchi Village, Naraha Town, Minamisouma City, Tamura City, Kazurao Village, Hirono Town, Iwaki City and Iidate Village) was issued, which directs those governor and heads to publicly announce the guidance to the residents within the in-house evacuation zone, concerning the indoor use of heating equipments that require ventilation, in order to avoid poisoning from carbon monoxide and to reduce exposure.

(Contact Person)

Mr. Toshihiro Bannai

Director, International Affairs Office,
NISA/METI

Phone:+81-(0)3-3501-1087

Torres, Edgardo

From: Setzer, Thomas
Sent: Wednesday, March 23, 2011 12:01 PM
To: Dunham, Katrina; Keighley, Elizabeth; Dodson, Douglas; Jackson, Donald; Spindler, David; Rich, Sarah; Smith, Brian; Schneider, Max; Krafty, James; Haagensen, Brian; Shaffer, Steve; Sanders, Carleen; Guzman, Richard; Kim, James; Ziedonis, Adam
Subject: Japanese injury report

I am reading the press releases from TEPCO today which detail the injuries so far. Its so sobering to read this knowing how distracted workers are while trying to get the job done. I cant think of any pre job brief I could give that would keep these guys working safe, but somehow they are keeping it together.

One interesting item form today's press release is that they are using police water cannons designed for riot control to loft water into the spent fuel pools.

Casualty

- 2 workers of cooperative firm were injured at the occurrence of the earthquake, and were transported to the hospital on March 11th.
- 4 workers were injured and transported to the hospital after explosive sound and white smoke were confirmed around the Unit 1on March 11th.
- Presence of 2 TEPCO employees at the site is not confirmed on March 11th.
- 1 TEPCO employee who was not able to stand by his own holding left chest with his hand, was transported to the hospital by an ambulance on March 12th.
- 1 subcontract worker at the key earthquake-proof building was unconscious and transported to the hospital by an ambulance on March 12th.
- The radiation exposure of 1 TEPCO employee, who was working inside the reactor building, exceeded 100mSv and he was transported to the hospital on March 12th.
- 2 TEPCO employees felt bad during their operation in the central control rooms of Unit 1 and 2 while wearing full masks, and were transferred to Fukushima Daini Nuclear Power Station for consultation with a medical advisor on March 13th.
- 11 workers were injured and transported to Fukushima Daini Nuclear Power Station etc. after explosive sound and white smoke were confirmed around the Unit 3. One of the workers was transported to the FUKUSHIMA Medical University Hospital on March 14th.
- At approximately 10 pm on March 22nd, 1 worker who had been working on setting up a temporary power panel in the common pool was injured and transported to Fukushima Daini Nuclear Power Station where the industrial doctor is.
- At approximately 1 am on March 23rd, 1 worker who had been working on setting up a temporary power panel in the common pool was injured and transported to Fukushima Daini Nuclear Power Station where the industrial doctor is.

Bickett, Carey

From: Nuclear Plant Journal [anu@goinfo.com]
Sent: Wednesday, March 23, 2011 3:13 PM
To: Bickett, Carey
Subject: NPJ E-News March 23, 2011 Fukushima Update

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Nuclear Plant Journal

An International Publication
Published in the United States

Nuclear Plant Journal E-News

Japan Update
March 23, 2011

Dear CAREY,

In this issue of NPJ E-News you'll find an update of the Fukushima Nuclear Plants in Japan. Information is current as of March 23, 2011, 13:00 CDT. All items are directly quoted, without any editing.

In this issue

[TEPCO Update](#)

[JAIF Status Update](#)

[Status Document](#)

TEPCO Update

From the [TEPCO website](#):

- At 11:00 am on March 23rd, the injection of sea water to spent fuel pool was conducted, and finished approximately at 1:20 pm on the same day.
- At 4:20 pm on March 23rd, light gray smoke was observed belching from Unit 3 building. The situation was reported to the fire department at 4:25 pm on March 23rd. The parameters of the reactor, the reactor containment vessel of Unit 3, and monitored figures around the site's immediate surroundings remained stable without significant change. To be safe, workers in the main control room of Unit 3 and around Unit 3 evacuated to a safe location.
- From approximately 10:00 am on March 23rd, water discharge from the concrete pumping vehicle was conducted and ended at approximately 1:00 pm on the same day.

[Click for more...](#)

Status Updates of TEPCO Facilities (from the [JAIF website](#))

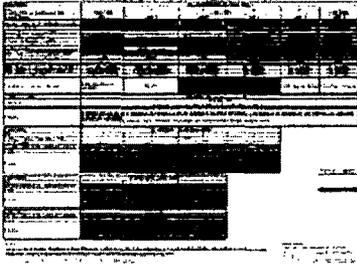
- Tokyo Fire Department will spray water to Unit-3 in this afternoon through cooperation with

1/23/11

Osaka Fire Department.

- The operation to inject water to the spent fuel pool of Unit-4 was started with special vehicle around 10:00. This vehicle has a long arm that enables to pour water to a target. (11:10, March 23).
- TEPCO will conduct test operation for pumps, which are to inject water into the reactor at unit-3. External AC power to the main control room of Unit-3 became available at 13:43 of March 22. (10:55, March 23).

[Click for more...](#)



JAIF Status Update

A [PDF document](#) provides a simple summary of each of the units at Fukushima nuclear power plants. This is a multi-page document that also provides a chronology of events and a map that details the status of each of the Japanese nuclear units.

Quick Links...

- [NPJ Website](#)
- [Cost-free Subscription \(to NPJ\)](#)
- [JAIF](#)
- [TEPCO](#)
- [U.S. NRC Actions on Japan](#)

Contact Information

phone: 630-313-6739

email: NPJ@goinfo.com

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Dentel, Glenn

From: Barkley, Richard
Sent: Wednesday, March 23, 2011 5:57 PM
To: Burritt, Arthur; Krohn, Paul; Powell, Raymond; Dentel, Glenn; Jackson, Donald; Bellamy, Ronald; Gray, Mel
Subject: FW: Press Release: Nuclear Regulatory Commission Directs Staff on Continuing Agency Response to Japan Events; Adjusts Commission Schedule
Attachments: 11-055.docx

Looks like the Commission SRM was finalized this afternoon. I'll circulate it around as soon as I see it.

From: OPA Resource
Sent: Wednesday, March 23, 2011 5:23 PM
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: Nuclear Regulatory Commission Directs Staff on Continuing Agency Response to Japan Events; Adjusts Commission Schedule

To be issued in 15 minutes.

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



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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Blog: <http://public-blog.nrc-gateway.gov>

No. 11-055

March 23, 2011

NUCLEAR REGULATORY COMMISSION DIRECTS STAFF ON CONTINUING AGENCY RESPONSE TO JAPAN EVENTS; ADJUSTS COMMISSION SCHEDULE

The Nuclear Regulatory Commission has voted to launch a two-pronged review of U.S. nuclear power plant safety in the aftermath of the March 11 earthquake and tsunami and the resulting crisis at a Japanese nuclear power plant.

The Commission supported the establishment of an agency task force, made up of current senior managers and former NRC experts with relevant experience. The task force will conduct both short- and long-term analysis of the lessons that can be learned from the situation in Japan, and the results of their work will be made public.

“Our focus is always on ensuring the health and safety of the American people through our licensing and oversight of plants and radioactive materials in this country,” Chairman Jaczko said. “Examining all the available information from Japan is essential to understanding the event’s implications for the United States. We will perform a systematic and methodical review to see if there are changes that should be made to our programs and regulations to ensure protection of public health and safety.”

The Commission set an aggressive schedule for the task force to provide formal updates on the short-term effort in 30, 60 and 90 days. NRC senior technical staff provided the Commission a 90-minute briefing on Monday, as a first step. The staff reiterated their conclusions that the United States and its territories will avoid any harmful radiation levels as a result of the ongoing events at the Fukushima Daiichi plant damaged by the quake and subsequent tsunami.

NRC inspectors who are posted at every U.S. nuclear power plant will also support the task force’s short-term effort, supplemented as necessary by experts from the agency’s regional and headquarters offices.

“This work will help determine if any additional NRC responses, such as Orders requiring immediate action by U.S. plants, are called for, prior to completing an in-depth investigation of the information from events in Japan,” said NRC Executive Director for Operations Bill Borchardt.

The longer-term review will inform any permanent NRC regulation changes determined to be necessary. The Commission said it hopes the task force can begin the long-term evaluation in no later than 90 days, and added that the task force should provide a report with recommended actions within six months of the beginning of that effort.

The Commission also decided to revise its schedule for meetings and briefings to allow ample focus on the agency's response to events in Japan. Open Commission meetings on the status of the NRC response to the Japan earthquake are scheduled for April 14 and 28, a meeting on the staff's 30-day response is planned for May 3 and a meeting on the staff's 60-day response is planned for June 16. A revised Commission meeting schedule will be posted shortly on the NRC website.

###

News releases are available through a free *listserv* subscription at the following Web address: <http://www.nrc.gov/public-involve/listserver.html>. The NRC homepage at www.nrc.gov also offers a SUBSCRIBE link. E-mail notifications are sent to subscribers when news releases are posted to NRC's website.

Landau, Mindy

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 2:22 PM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness
Attachments: Mike Weber bio (3).docx

See attached modified bio

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 10:43 AM
To: Landau, Mindy
Subject: RE: is WEber doing 3/30 emergency preparedness

Doesn't really say anything about emergency preparedness. The NSIR job is close but no one from the outside would know that

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:37 AM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness

Can you use the one on the web?
<http://www.nrc.gov/about-nrc/organization/weber-bio.html>

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 10:35 AM
To: Landau, Mindy
Subject: RE: is WEber doing 3/30 emergency preparedness

Do you have a current bio for Mike?

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:33 AM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness

Yes, Mike will do it.

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 10:32 AM
To: Landau, Mindy
Subject: RE: is WEber doing 3/30 emergency preparedness

thanks

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:30 AM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness

Y/227

I need to confirm – I know Marty isn't available. Will let you know.

From: Schmidt, Rebecca

Sent: Wednesday, March 23, 2011 10:30 AM

To: Landau, Mindy

Subject: is WEber doing 3/30 emergency preparedness

Landau, Mindy

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:47 AM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness

I'll see what I can gin up

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 10:43 AM
To: Landau, Mindy
Subject: RE: is WEber doing 3/30 emergency preparedness.

Doesn't really say anything about emergency preparedness. The NSIR job is close but no one from the outside would know that

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:37 AM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness

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<http://www.nrc.gov/about-nrc/organization/weber-bio.html>

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 10:35 AM
To: Landau, Mindy
Subject: RE: is WEber doing 3/30 emergency preparedness

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From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:33 AM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness

Yes, Mike will do it.

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 10:32 AM
To: Landau, Mindy
Subject: RE: is WEber doing 3/30 emergency preparedness

thanks

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 10:30 AM
To: Schmidt, Rebecca
Subject: RE: is WEber doing 3/30 emergency preparedness

I need to confirm – I know Marty isn't available. Will let you know.

From: Schmidt, Rebecca

Sent: Wednesday, March 23, 2011 10:30 AM

To: Landau, Mindy

Subject: is WEber doing 3/30 emergency preparedness

Landau, Mindy

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 11:06 AM
To: Borchardt, Bill
Cc: Rihm, Roger
Subject: FW: written and oral

Bill, we'll prepare written and oral testimony for the March 29th hearing/briefing (per Becky)

Mindy

From: Schmidt, Rebecca
Sent: Wednesday, March 23, 2011 11:04 AM
To: Landau, Mindy
Subject: written and oral

Statement for Bill for Senate Energy

Y/239

Rihm, Roger

From: Rihm, Roger
Sent: Wednesday, March 23, 2011 11:38 AM
To: Landau, Mindy
Cc: Ellmers, Glenn
Subject: Draft 3/29 Testimony for Review
Attachments: Testimony_March29_2011.docx

Here's my re-work of Bill's remarks from the transcript. It will require an updated status of events in Japan (who can provide?) nearer to the 29th. Also, one place noted I couldn't figure out what the transcript wording should have been. Finally, there are some spacing issues (this was converted from PDF to Word) that I am going to ask Stephanie to address.

NRC Response to Recent Nuclear Events in Japan and the Continuing Safety of the U.S. Commercial Nuclear Reactor Fleet

Thank you, and good morning.

Introduction

We at the NRC are mindful that our primary responsibility is to ensure adequate protection of the public health and safety of the American people. We have been very closely monitoring the activities in Japan and reviewing all available information to allow us to conclude that the U.S. plants continue to operate safely. There has been no reduction in the licensing or oversight function of the NRC as it relates to any of the U.S. licensees.

We have a long history of conservative regulatory decision-making. We've been intelligently using risk insights to help inform our regulatory process, and, over more than 35 years of civilian nuclear power in this country, we have never stopped making improvements to plant designs as we learn from operating experience.

Notwithstanding the very high level of support being provided as a result of events in Japan, we continue to maintain our focus on our domestic responsibilities.

I'd like to begin with a brief overview of the recent events in Japan and our immediate and continuing response. I then want to spend the bulk of my time discussing the reasons for our continuing confidence in the safety of the US commercial nuclear reactor fleet, and the path forward for the NRC in light of the events in Japan.

Overview of Events and the NRC's immediate and Continuing Response

On Friday, March 11th an earthquake hit Japan, resulting in the shutdown of more than 10 reactors. It appears that the reactors' response to the earthquake went according to design. The ensuing tsunami, however, caused the loss of emergency AC power to six units at the Fukushima Daiichi site; and it is those six units that have received the majority of our attention since that time. Units One, Two, and Three, at that six unit site, were in operation at

the time. Units Four, Five, and Six were in previously scheduled outages.

Immediately after the tsunami, it appears that there was no injection capability into the reactor vessels on Units One, Two, and Three. On Saturday, March 12th, a hydrogen explosion occurred in Unit One; and then the following Monday, March 14th, a hydrogen explosion in Unit Three. On Tuesday, the 15th of March, there were explosions in Unit Two and in Unit Four from hydrogen originating, we believe, from overheated fuel in the spent fuel pool. [Briefly summarize period of March 16 – 29]

Moving to the NRC response: Shortly after 4:00 AM on Friday, March 11th, the NRC Emergency Operations Center made the first call, informing NRC management of the earthquake and the potential impact on U.S. plants. We went into the monitoring mode at the Emergency Operations Center and the first concern for the NRC was possible impacts of the tsunami of U.S. plants on the West Coast.

On that same day, Friday, March 11th, we dispatched two experts to Japan to help at the embassy and begin interactions with our Japanese regulatory counterparts. By Monday, we had dispatched a total of 11 staff to Japan. We have subsequently rotated in a different group of staff to continue our on-the-ground assistance in Japan. The areas of focus for this team are: 1) to assist the Japanese government and respond to requests from our regulatory counterpart, NISA; 2) to support the U.S. ambassador and his understanding of the nuclear impacts of this event; and 3) to facilitate the information flow from Japan to the U.S. NRC so that we can assess the implications on the U.S. fleet in as timely a manner as possible.

We have an extensive range of stakeholders with whom we have ongoing interaction, including the White House, Congressional staff, our state regulatory counterparts, a number of other federal agencies, and the international regulatory bodies around the world.

The NRC Emergency Operations Center remains in a 24/7 posture. This has involved the efforts of over 250 NRC staff on a rotating basis. The entire agency is coordinating and

pulling together in response to this event so that we can provide assistance in Japan while continuing the normal activities necessary to fulfill our domestic responsibilities.

Let me also just note here in concluding this section of my remarks that the U.S. government has an extensive network of radiation monitors across the country. EPA's system has not identified any radiation levels of concern in this country. In fact, natural background from things like rocks, the sun, and buildings, is 100,000 times more than any level that has been detected to date. We feel confident in our conclusion that there is no reason for concern in the United States regarding radioactive releases from Japan.

Continuing Confidence in the Safety of the U.S. Fleet

I will now turn to the factors that assure us of ongoing domestic reactor safety. We have, since the beginning of the regulatory program in the United States, used a philosophy of Defense-in-Depth, which recognizes that nuclear reactors require the highest standards of design, construction, oversight, and operation, and does not rely on a single level of protection for public health and safety. We begin with designs for every individual reactor in this country that take into account site-specific factors and include a detailed evaluation for any natural event, such as earthquakes, tornadoes, hurricanes, floods, and tsunamis, as they relate to that site.

There are multiple physical barriers to fission product release at every reactor design, and beyond that, there are both diverse and redundant safety systems that are required to be maintained in operable condition and frequently tested to that ensure that the plant is in a high condition of readiness to respond to any scenario.

We've taken advantage of the lessons learned from previous operating experience, to implement a program of continuous improvement for the U.S. reactor fleet. We have learned from experience across a wide range of situations, including most significantly, the Three Mile

Island accident in the late 1970s. As a result of those lessons learned, we have significantly revised emergency planning requirements and emergency operating procedures. We've addressed many human factors issues regarding how control room employees operate the plant, we added new requirements for hydrogen control to help prevent explosions inside of containment, and we also created requirements for enhanced indication of pumps and valves(?). [this is wording from transcript that I can't figure out]

We have a post-accident sampling system that requires the monitoring of radioactive material release and possible fuel degradation. And, one of the most significant changes after Three Mile Island was creation of the Resident Inspector Program, which has at least two full-time NRC inspectors on site at each facility who have unfettered access to all licensees' activities 24 hours a day, seven days a week.

Also as a result of operating experience and ongoing research programs, we have developed requirements for severe accident management guidelines. These are programs that perform the "what if" scenario. What if all of this careful design work, and all of these important procedures and practices and instrumentation failed? What procedures and policies and equipment should be in place to deal with the extremely unlikely scenario of a severe accident? The requirements for severe accident management have been in effect for many years and are frequently evaluated by the NRC inspection program.

As a result of the events of September 11, 2001, we did a similar evaluation, and identified important pieces of equipment that, regardless of the cause of a significant fire or explosion at a plant, we want to have pre-staged, as well as new procedures and policies that would help deal with a severe situation.

Our program of continuous improvement based on operating experience will now include evaluation of the significant events in Japan and what we can learn from them. We already have begun enhancing inspection activities through temporary instructions to our inspection staff, including the resident inspectors and the region-based inspectors in our four Regional

offices, to look at the readiness to deal with both the design basis accidents and the beyond-design basis accidents.

We've also issued an information notice to the licensees to make them aware of the events in Japan, and what kinds of activities we believe they should be engaged in to verify their readiness. Specifically, we have directed them to verify their capabilities to mitigate conditions that result from severe accidents, including the loss of significant operational and safety systems, are in effect and operational. They're verifying the capability to mitigate a total loss of electric power to the nuclear plant. They're verifying the capability to mitigate problems associated with flooding, and the impact of floods on systems both inside and outside of the plant. And they're identifying the equipment that's needed for the potential loss of equipment due to seismic events appropriate for the site, because each site has its own unique seismic profiles. The information that we gather from this temporary inspection will be used to evaluate the industry's readiness for similar events, and aid in our understanding of whether additional regulatory actions need to be taken in the immediate term.

The industry also is independently performing many verification activities at this time to confirm that all of these processes and procedures and rules that have been implemented are still valid.

Over the last 15 or 20 years, there have been a number of new rulemakings that have enhanced the domestic fleet against some of the problems we are seeing in Japan. There's a station blackout rule that has required every plant in this country to analyze what the plant response would be if it were to lose all alternating current so that it could respond using batteries for a period of time, and then have procedures and arrangements in place to restore alternating current to the site and provide cooling to the core.

There is a hydrogen rule, which requires modifications to reduce the impacts of hydrogen generated for beyond-design basis events and core damage. There are

equipment qualification rules that require equipment, including pumps and valves, to remain operable under the kinds of environmental temperature and radiation conditions that you would see under a design basis accident. And then, going directly to the type of containment design used by the most heavily damaged plants in Japan, we've had a Mark I Containment Improvement Program since the late 1980s, which has required installation of hardened vent systems for the containment cooling and fission product scrubbing for all BWR Mark I's, as well as enhanced reliability of the automatic depressurization system.

The final factor I want to mention with regard to our belief in the ongoing safety of the U.S. fleet is the emergency preparedness and planning requirements in place that provide ongoing training, testing, and evaluations of emergency preparedness programs, in coordination with our federal partner, FEMA, and that include extensive interaction with state and local governments, as those programs are evaluated and tested on a yearly basis.

The Path Ahead

Beyond the initial steps to address the experience from the events in Japan that I've described to you, we have received direction from the Commission to establish a senior level agency task force to conduct a methodical and systematic review of our processes and regulations to determine whether the agency should make additional improvements to our regulatory system and make recommendations to the Commission for its policy direction. This activity will have both near-term and longer-term objectives.

For the near term effort, we are beginning a 90-day review. This review will evaluate all of the currently available information from the Japanese events to identify immediate or near-term operational or regulatory issues potentially affecting the 104 operating reactors in the U.S., including their spent fuel pools. Areas of investigation will include the ability to protect against natural disasters, response to station blackouts, severe accidents and spent fuel accident progression, radiological consequence analysis, and severe accident

management issues regarding equipment. Over this 90-day period, we will develop recommendations, as appropriate, for changes to inspection procedures and licensing review guidance, and recommend whether generic communications, orders, or other regulatory requirements are needed.

This 90-day effort will include a 30-day Quick Look Report to the Commission to provide a snapshot of the regulatory response and the condition of the U.S. fleet based on whatever information we have available. Preparing a Quick Look Report also will ensure that the Commission is both kept informed of ongoing efforts and prepared to resolve any policy recommendations that surface. I believe we will have to have limited stakeholder involvement in the first 30 days to accomplish this, but over the 90-day and longer-term efforts we will seek additional stakeholder input. These near-term activities will be carried out independent of any industry efforts that might be ongoing. At the end of the 90-day period, a report will be provided to the Commission and, once approved, released to the public.

The task force's longer-term review will begin as soon as the NRC has sufficient technical information from the events in Japan, with a goal of commencing no later than the completion of the 90-day near-term report.

The task force will evaluate all technical and policy issues related to the event to identify additional potential research, generic issues, changes to the reactor oversight process, rulemakings, and adjustments to the regulatory framework that should be pursued by the NRC. We also expect to evaluate potential interagency issues, such as emergency preparedness, and examine the applicability of any lessons learned to non-operating reactors and non-reactor facilities (materials licensees?) We expect to seek input from all key stakeholders during this process. A report with appropriate recommendations will be provided to the Commission within 6 months of the start of this evaluation, and made publicly available subsequent to its approval by the Commission.

Conclusion

In conclusion, I want to reiterate that we continue to make our domestic responsibilities for licensing and oversight of the U.S. licensees our top priority and that the U.S. plants continue to operate safely. In light of the events in Japan, there is a near-term evaluation of their relevance to the U.S. fleet underway, and we are continuing to gather together the information necessary for us to take a longer, more thorough look at the events in Japan and their lessons for us. Based on these efforts, we will take all appropriate actions necessary to ensure the continuing safety of the U.S. fleet. This concludes my presentation. I'd be happy to address any questions you have.

Rihm, Roger

From: Rihm, Roger
Sent: Wednesday, March 23, 2011 12:17 PM
To: Turk, Sherwin
Subject: RE: Congressional correspondence - Japanese event
Attachments: FW: Cancel GT Support Actions

Thanks for the heads up. See attached – for most letters we are going to send an interim response that I’m going to try to start putting together this afternoon. I will be sure to run that (and any other responses I prepare) past you. At this point, I’m not paying too much attention to SECY due dates as other Japan-related activities sometimes intervene on my accomplishing this....

From: Turk, Sherwin
Sent: Wednesday, March 23, 2011 12:11 PM
To: Rihm, Roger
Subject: Congressional correspondence - Japanese event

Roger – I’ve been assigned as the OGC contact for Congressional correspondence on the Japanese events, for which I understand you have been assigned lead responsibility.

Let me know if I can help, and please forward your proposed responses to me when done.

Thanks -

*Sherwin E. Turk
Special Counsel for Litigation
Office of the General Counsel
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Mail Stop O15-D21
Rockville, MD 20852
(301) 415-1533*

Y1 241

Landau, Mindy

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 2:17 PM
To: Weber, Michael
Cc: Ellmers, Glenn
Subject: RE: ACTION - DRAFT A DESCRIPTION OF THE SCOPE OF THE AGENCY'S RESPONSE TO JAPAN

Mike – did you intend this to be talking points for Bill or a handout (in writing) for wider distribution?

From: Weber, Michael
Sent: Wednesday, March 23, 2011 12:54 PM
To: Landau, Mindy
Cc: Borchardt, Bill; Virgilio, Martin; Muessle, Mary
Subject: ACTION - DRAFT A DESCRIPTION OF THE SCOPE OF THE AGENCY'S RESPONSE TO JAPAN

Good afternoon, Mindy. Could you ask Glenn to prepare a draft description of the scope of NRC's response to the nuclear emergency in Japan? I would think that between Bill comments at last Friday's all staff meeting and his presentation at Monday's Commission meeting, Glenn should have enough details to draft the description. Bill might use this in Friday's Sr. managers meeting or in an agency announcement of some type to clarify for NRC employees what the agency's response consists of and what it does not. The teams here in the Ops Center are beginning to receive an increased number of requests for information that are not directly related to the ongoing response.

Thanks

Y/242

Rihm, Roger

From: Rihm, Roger
Sent: Wednesday, March 23, 2011 3:40 PM
To: Borchardt, Bill; Virgilio, Martin; Weber, Michael; Muessle, Mary; Ash, Darren
Cc: Landau, Mindy; Taylor, Renee
Subject: FYR: Draft Statement for EDO @ 3/29 Senate Energy "Briefing"
Attachments: Testimony_March29_2011.docx

Importance: High

Per OCA, we have been asked to prepare a written statement for the record (draft attached) and a shorter oral statement (that will be based on the "approved" written statement). The attachment is basically a re-working of Bill's presentation at the recent Commission meeting. The discussion of the SRM will be revised, as necessary, once we have the final SRM.

To allow for OCA and Commission review, I would like to get your comments by COB Thursday.

Y1 243

NRC Response to Recent Nuclear Events in Japan and the Continuing Safety of the U.S. Commercial Nuclear Reactor Fleet

Thank you, and good morning. Before I begin, I would like to join in your expressions of condolences to the people of Japan. I and many of my colleagues on the NRC staff have had many years of very close and personal interaction with our regulatory counterparts and we would like to extend our condolences to them.

Introduction

We at the NRC are mindful that our primary responsibility is to ensure adequate protection of the public health and safety of the American people. We have been very closely monitoring the activities in Japan and reviewing all available information to allow us to conclude that the U.S. plants continue to operate safely. There has been no reduction in the licensing or oversight function of the NRC as it relates to any of the U.S. licensees.

We have a long history of conservative regulatory decision-making. We've been intelligently using risk insights to help inform our regulatory process, and, over more than 35 years of civilian nuclear power in this country, we have never stopped making improvements to plant designs as we learn from operating experience.

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I'd like to begin with a brief overview of the recent events in Japan and our immediate and continuing response. I then want to spend the bulk of my time discussing the reasons for our continuing confidence in the safety of the US commercial nuclear reactor fleet, and the path forward for the NRC in light of the events in Japan.

Overview of Events and the NRC's immediate and Continuing Response

On Friday, March 11th an earthquake hit Japan, resulting in the shutdown of more than 10 reactors. From what we know now, it appears that the reactors' response to the

earthquake went according to design. The ensuing tsunami, however, caused the loss of emergency AC power to six units at the Fukushima Daiichi site; and it is those six units that have received the majority of our attention since that time. Units One, Two, and Three, at that six unit site, were in operation at the time. Units Four, Five, and Six were in previously scheduled outages.

Immediately after the tsunami, it appears that there was no injection capability into the reactor vessels on Units One, Two, and Three. On Saturday, March 12th, a hydrogen explosion occurred in Unit One; and then the following Monday, March 14th, a hydrogen explosion in Unit Three. On Tuesday, the 15th of March, there were explosions in Unit Two and in Unit Four from hydrogen originating, we believe, from overheated fuel in the spent fuel pool. [Briefly summarize period of March 16 – 29]

Moving to the NRC response: Shortly after 4:00 AM on Friday, March 11th, the NRC Emergency Operations Center made the first call, informing NRC management of the earthquake and the potential impact on U.S. plants. We went into the monitoring mode at the Emergency Operations Center and the first concern for the NRC was possible impacts of the tsunami of U.S. plants on the West Coast.

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We have an extensive range of stakeholders with whom we have ongoing interaction, including the White House, Congressional staff, our state regulatory counterparts, a number of

other federal agencies, and the international regulatory bodies around the world.

The NRC Emergency Operations Center remains in a 24/7 posture. This has involved the efforts of over 250 NRC staff on a rotating basis. The entire agency is coordinating and pulling together in response to this event so that we can provide assistance in Japan while continuing the normal activities necessary to fulfill our domestic responsibilities.

Let me also just note here in concluding this section of my remarks that the U.S. government has an extensive network of radiation monitors across the country. EPA's system has not identified any radiation levels of concern in this country. In fact, natural background from things like rocks, the sun, and buildings, is 100,000 times more than any level that has been detected to date. We feel confident in our conclusion that there is no reason for concern in the United States regarding radioactive releases from Japan.

Continuing Confidence in the Safety of the U.S. Fleet

I will now turn to the factors that assure us of ongoing domestic reactor safety. We have, since the beginning of the regulatory program in the United States, used a philosophy of Defense-in-Depth, which recognizes that nuclear reactors require the highest standards of design, construction, oversight, and operation, and does not rely on a single level of protection for public health and safety. We begin with designs for every individual reactor in this country that take into account site-specific factors and include a detailed evaluation for any natural event, such as earthquakes, tornadoes, hurricanes, floods, and tsunamis, as they relate to that site.

There are multiple physical barriers to fission product release at every reactor design, and beyond that, there are both diverse and redundant safety systems that are required to be maintained in operable condition and frequently tested to that ensure that the plant is in a high condition of readiness to respond to any scenario.

We've taken advantage of the lessons learned from previous operating experience, to implement a program of continuous improvement for the U.S. reactor fleet. We have learned

from experience across a wide range of situations, including most significantly, the Three Mile Island accident in the late 1970s. As a result of those lessons learned, we have significantly revised emergency planning requirements and emergency operating procedures. We've addressed many human factors issues regarding how control room employees operate the plant, we added new requirements for hydrogen control to help prevent explosions inside of containment, and we also created requirements for enhanced control room displays of the status of pumps and valves.

We have a post-accident sampling system that requires the monitoring of radioactive material release and possible fuel degradation. And, one of the most significant changes after Three Mile Island was creation of the Resident Inspector Program, which has at least two full-time NRC inspectors on site at each facility who have unfettered access to all licensees' activities 24 hours a day, seven days a week.

Also as a result of operating experience and ongoing research programs, we have developed requirements for severe accident management guidelines. These are programs that perform the "what if" scenario. What if all of this careful design work, and all of these important procedures and practices and instrumentation failed? What procedures and policies and equipment should be in place to deal with the extremely unlikely scenario of a severe accident? The requirements for severe accident management have been in effect for many years and are frequently evaluated by the NRC inspection program.

As a result of the events of September 11, 2001, we did a similar evaluation, and identified important pieces of equipment that, regardless of the cause of a significant fire or explosion at a plant, we want to have staged in advance, as well as new procedures and policies that would help deal with a severe situation.

Our program of continuous improvement based on operating experience will now include evaluation of the significant events in Japan and what we can learn from them. We already have begun enhancing inspection activities through temporary instructions to our inspection

staff, including the resident inspectors and the region-based inspectors in our four Regional offices, to look at licensees' readiness to deal with both the design basis accidents and the beyond-design basis accidents.

We've also issued an information notice to the licensees to make them aware of the events in Japan, and the kinds of activities we believe they should be engaged in to verify their readiness. Specifically, we have directed them to verify that their capabilities to mitigate conditions that result from severe accidents, including the loss of significant operational and safety systems, are in effect and operational. They're verifying the capability to mitigate a total loss of electric power to the nuclear plant. They're verifying the capability to mitigate problems associated with flooding, and the impact of floods on systems both inside and outside of the plant. And they're identifying the equipment that's needed for the potential loss of equipment due to seismic events appropriate for the site, because each site has its own unique seismic profiles. The information that we gather from this temporary inspection will be used to evaluate the industry's readiness for similar events, and will aid in our understanding of whether additional regulatory actions need to be taken in the immediate term.

The industry also is independently performing many verification activities at this time to confirm that all of these processes and procedures and rules that have been implemented are still valid.

Over the last 15 or 20 years, there have been a number of new rulemakings that have enhanced the domestic fleet against some of the problems we are seeing in Japan. The station blackout rule requires every plant in this country to analyze what the plant response would be if it were to lose all alternating current so that it could respond using batteries for a period of time, and then have procedures in place to restore alternating current to the site and provide cooling to the core.

The hydrogen rule requires modifications to reduce the impacts of hydrogen generated for beyond-design basis events and core damage. There are equipment

qualification rules that require equipment, including pumps and valves, to remain operable under the kinds of environmental temperature and radiation conditions that you would see under a design basis accident. And then, regarding the type of containment design used by the most heavily damaged plants in Japan, we've had a Boiling Water Reactor Mark I Containment Improvement Program since the late 1980s, which has required installation of hardened vent systems for containment cooling and fission product scrubbing, as well as enhanced reliability of the automatic depressurization system.

The final factor I want to mention with regard to our belief in the ongoing safety of the U.S. fleet is the emergency preparedness and planning requirements in place that provide ongoing training, testing, and evaluations of licensees' emergency preparedness programs. In coordination with our federal partner, FEMA, these activities include extensive interaction with state and local governments, as those programs are evaluated and tested on a yearly basis.

The Path Ahead

Beyond the initial steps to address the experience from the events in Japan that I've described to you, we have received direction from the Commission to establish a senior level agency task force to conduct a methodical and systematic review of our processes and regulations to determine whether the agency should make additional improvements to our regulatory system and make recommendations to the Commission for its policy direction. This activity will have both near-term and longer-term objectives.

For the near term effort, we are beginning a 90-day review. This review will evaluate all of the currently available information from the Japanese events to identify immediate or near-term operational or regulatory issues potentially affecting the 104 operating reactors in the U.S., including their spent fuel pools. Areas of investigation will include the ability to protect against natural disasters, response to station blackouts, severe accidents and spent fuel accident progression, radiological consequence analysis, and severe accident management issues regarding equipment. Over this 90-day period, we will develop

recommendations, as appropriate, for changes to inspection procedures and licensing review guidance, and recommend whether generic communications, orders, or other regulatory requirements are needed.

This 90-day effort will include a 30-day Quick Look Report to the Commission to provide a snapshot of the regulatory response and the condition of the U.S. fleet based on information we have available at that time. Preparing a Quick Look Report also will ensure that the Commission is both kept informed of ongoing efforts and prepared to resolve any policy recommendations that surface. I believe we will have limited stakeholder involvement in the first 30 days to accomplish this, but over the 90-day and longer-term efforts we will seek additional stakeholder input. These near-term activities will be carried out independent of any industry efforts that might be ongoing. At the end of the 90-day period, a report will be provided to the Commission and, once approved, released to the public.

The task force's longer-term review will begin as soon as the NRC has sufficient technical information from the events in Japan, with a goal of commencing no later than the completion of the 90-day near-term report.

The task force will evaluate all technical and policy issues related to the event to identify additional potential research, generic issues, changes to the reactor oversight process, rulemakings, and adjustments to the regulatory framework that should be pursued by the NRC. We also expect to evaluate potential interagency issues, such as emergency preparedness, and examine the applicability of any lessons learned to non-operating reactors and materials licensees. We expect to seek input from all key stakeholders during this process. A report with appropriate recommendations will be provided to the Commission within 6 months of the start of this evaluation, and made publicly available subsequent to its approval by the Commission.

Conclusion

In conclusion, I want to reiterate that we continue to make our domestic responsibilities

for licensing and oversight of the U.S. licensees our top priority and that the U.S. plants continue to operate safely. In light of the events in Japan, there is a near-term evaluation of their relevance to the U.S. fleet underway, and we are continuing to gather together the information necessary for us to take a longer, more thorough look at the events in Japan and their lessons for us. Based on these efforts, we will take all appropriate actions necessary to ensure the continuing safety of the U.S. fleet. This concludes my presentation. I'd be happy to address any questions you have.

Ellmers, Glenn

From: Ellmers, Glenn
Sent: Wednesday, March 23, 2011 4:07 PM
To: Landau, Mindy
Subject: NRC Response - One page version

NRC Response to Events at Fukushima Reactor Site, Japan – As of March 24, 2011

- The NRC Ops Center was stood up on the day of the earthquake, and has been operating 24/7 since then—which has involved the efforts of over 250 staff on a rotating basis.
- We sent a team of 11 to Tokyo to support the U.S. ambassador interface with Japanese regulators, and help provide more direct information to NRC headquarters. A replacement team is now being rotated in relieve the original staff.
- NRC does not have the lead in responding to the Fukushima events. It is a Japanese event, being handled by the Japanese. Within the U.S. Government, the State Department's USAID has the lead.
- Chairman Jaczko has briefed the White House on multiple occasions, and has testified before both the U.S. House and Senate. Additional testimony, briefings and other interactions with Congress, State and local governments, licensees, international partners, and other stakeholders are ongoing.
- The agency has responded to thousands of telephone calls from the media and the general public.
- NRC has sent out, to date, ten press releases outlining the agency's response, as well as well as published 14 blog posts on a variety of topics related to events in Japan.
- The agency has created a separate page on its public website devoted to the aftermath of the earthquake and tsunami, which includes video clips, press releases, Frequently Asked Questions, diagrams, fact sheets, and numerous links to additional information.
- Notwithstanding the very high level of support being provided as a result of events in Japan, we continue to maintain our focus on our domestic responsibilities. There has been no reduction in the licensing or oversight function of the NRC as it relates to any of the U.S. licensees.
- The agency plans to conduct a thorough evaluation of the significant events in Japan and what we can learn from them. Specific guidance from the Commission is expected soon. [UPDATE IF SRM ARRIVES]
- We already have begun enhancing inspection activities through temporary instructions to our inspection staff, including the resident inspectors and the region-based inspectors in our four Regional offices, to look at the readiness to deal with both the design basis accidents and the beyond-design basis accidents.
- NRC has also issued an information notice to the licensees to make them aware of the events in Japan, and what kinds of activities we believe they should be engaged in to verify their readiness. Specifically, we have directed them to verify that their capabilities to mitigate conditions that result from severe accidents, including the loss of significant operational and safety systems, are in effect and operational.

Glenn Ellmers
Senior Communications Specialist, OEDO
301-415-0442
OWFN - 17F03
Mail stop: 016E15

Rihm, Roger

From: Rihm, Roger
Sent: Wednesday, March 23, 2011 4:28 PM
To: Landau, Mindy
Subject: FYR: Draft interim response to Markey
Attachments: Markey_Interim_Japan.docx

Importance: High

Most of this also would be used for interim responses to other members of congress. I guess after you, I just need to run this by OGC and OCA, but not necessarily any other office?

Y/245

The Honorable Edward J. Markey

Dear Congressman Markey:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am providing an interim response to your letters of March 11, 15, and 18, 2011, which raised a number of important questions and concerns regarding recent events in Japan and their implications for ensuring the continuing safety of nuclear power plants in the United States. Let me begin by assuring you that our ongoing monitoring of events in Japan and review of all available information leads us to conclude that U.S. plants continue to operate safely.

At this time we are not yet in a position to provide detailed information regarding events in Japan as our information is incomplete and not necessarily verified. We simply do not yet know enough and with sufficient certainty to provide the types of information that you, other Members of Congress, and other stakeholders are seeking about these events. Japan is still focused on bringing its nuclear situation under control and the NRC's Emergency Operations Center continues to function on a 24/7 basis. We are focused on meeting the near-term technical and information needs of the Japanese government, various components of the Executive Branch, Members of Congress, and the American public, while ensuring there is no reduction in the domestic licensing and oversight functions of the NRC. The NRC will be happy to share with you a complete and accurate summary of events in Japan when the immediate crisis is over and we have obtained more complete and verified information.

We also are not prepared to address in detail changes that might be made to our domestic regulatory program as a result of the lessons learned from Japan. These decisions will be made over the course of the next 6 – 9 months as the NRC staff implements the Commission's recent direction to create a senior level task force to conduct a methodical and systematic review of our processes and regulations to determine whether the agency should make additional improvements to our regulatory system. This activity will have both near-term and longer-term components.

For the near term effort, the task force is beginning a 90-day review. This review will evaluate all of the currently available information from the Japanese events to identify immediate or near-term operational or regulatory issues potentially affecting the 104 operating reactors in the U.S., including their spent fuel pools. Areas of investigation will include the ability to protect against natural disasters, response to station blackouts, severe accidents and spent fuel accident progression, radiological consequence analysis, and severe accident management issues regarding equipment. Over this 90-day period, staff will develop recommendations, as appropriate, for changes to inspection procedures and licensing review guidance, and recommend whether generic communications, orders, or other regulatory requirements are needed. This 90-day effort will include a 30-day Quick Look Report to the Commission to provide a snapshot of the regulatory response and the condition of the U.S. fleet based on information we have available at that time.

The task force's longer-term review will begin as soon as the NRC has sufficient technical information from the events in Japan, with a goal of commencing no later than the completion of the 90-day near-term report. The task force will evaluate all technical and policy issues related to the event to identify additional potential research, generic issues, changes to the reactor oversight process, rulemakings, and adjustments to the regulatory framework that should be pursued by the NRC. A report with appropriate recommendations will be provided to

the Commission within 6 months of the start of this evaluation. Both the 90-day and final reports will be made publicly available in accordance with normal Commission processes.

With those plans in place and just underway, we also are currently pursuing limited actions that we recognize as being prudent, even though we do not yet have all the details we need to fully assess the implications of the Japan earthquake and tsunami for the U.S. reactor fleet. Specifically, we have begun enhancing inspection activities through temporary instructions to our inspection staff, including the resident inspectors and the region-based inspectors in our four Regional offices, to look at licensees' readiness to deal with both the design basis accidents and beyond-design basis accidents. We have also issued an information notice to licensees to make them aware of the events in Japan, and the kinds of activities we believe they should be engaged in to verify their readiness. We have directed them to verify that their capabilities to mitigate conditions that result from severe accidents, including the loss of significant operational and safety systems, are in effect and operational. We will not hesitate to take additional immediate actions that we believe to be appropriate.

In your letter of March 18th, you requested that we provide Congress and the public with a daily "situation report" or other similar document providing various updated information on the impacted facilities in Japan. I believe the NRC Office of Congressional Affairs has begun providing that information to your office. With regard to the public, we have in place prominently on the NRC webpage a link to "NRC's Actions on Japan's Emergency." This link, which is updated regularly, provides a range of information, including Congressional and Commission meeting testimony, news releases, and Frequently Asked Questions (FAQs). It also includes links to additional information on the web sites of a number of U.S. government and other organizations.

I want to reiterate that we continue to make our domestic responsibilities for licensing and oversight of the U.S. licensees our top priority and that the U.S. plants continue to operate safely. I look forward to being able to provide you with additional information as it becomes available. If you have any additional questions, please contact me or Ms. Rebecca Schmidt, Director of the Office of Congressional Affairs, at (301) 415-1776.

Sincerely

GBJ

Ellmers, Glenn

From: Ellmers, Glenn
Sent: Wednesday, March 23, 2011 8:32 AM
To: Ryan, Michelle
Cc: Landau, Mindy; Thomas, Ann
Subject: Japan Team - article for NRC Reporter

Hi Michelle,

I know you are swamped; please forward this to someone on your team who can help. The staff are very interested in which of their colleagues are in, or going to, Japan. Unless there is some principled objection, could we get a list, with office affiliations, to form the basis of a short NRC Reporter article for next Wednesday?

Thanks

Glenn Ellmers
Senior Communications Specialist, OEDO
301-415-0442
OWFN - 17F03
Mail stop: 016E15

Y/246

Landau, Mindy

From: Landau, Mindy
Sent: Wednesday, March 23, 2011 9:46 AM
To: Schmidt, Rebecca
Cc: Rihm, Roger
Subject: Quick Check

Becky, this morning Bill mentioned that he thought the March 29th Senate Energy briefing would be more informal than a hearing and that formal testimony may not be required. Do you have more recent information on this? Yesterday you indicated we should go ahead and prepare formal testimony, etc...

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

Y/1247

Landau, Mindy

From: Landau, Mindy
Sent: Thursday, March 24, 2011 8:23 AM
To: DAbate, David
Subject: Still interested in Japan?

David,

The agency is soliciting interested personnel for the second wave of participants to replace the first wave beginning April 1 for about two weeks. If you are still interested, send me a brief summary of your qualifications/interest and I will forward your name to NSIR... 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

Rihm, Roger

From: Rihm, Roger
Sent: Thursday, March 24, 2011 9:52 AM
To: Biggins, James; Riley (OCA), Timothy
Subject: Draft Interim Response to Rep Markey (and others)
Attachments: Markey_Interim_Japan.docx; ACTION: G20110175; ACTION: G20110177; ACTION: G20110194

Based on a meeting with Rebecca Schmidt, it was decided that for all the letters coming in that generally ask about Japan and request a review of the safety of the current fleet, we would provide an interim response, with more information to follow as the task force analyses are completed. We agreed that interim responses would go to Markey, Kucinich, Boxer/Carper, and Lowey. (Since then Blumenthal has come in, and I think the interim might also apply there; haven't really read it carefully yet.)

I've used the 3 letters from Markey as my straw man for this interim response. It also includes a Markey-specific paragraph responding to his specific request for sitreps for members of congress and the public.

Once I get your comments/okay, I can move out on the other interim responses.

TIM: Rebecca was going to pursue trying to respond to the Boxer/Feinstein letter with a briefing. Has she been able to make that happen?

JIM: Please share with others in OGC who you think need to look at this.

Let me know if you have any questions. (I've also attached the 3 Markey incoming letters.)

Roger S. Rihm
Communications and Performance Improvement Staff
Office of the Executive Director for Operations
US NRC
301.415.1717
roger.rihm@nrc.gov

YB49

The Honorable Edward J. Markey

Dear Congressman Markey:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am providing an interim response to your letters of March 11, 15, and 18, 2011, which raised a number of important questions and concerns regarding recent events in Japan and their implications for ensuring the continuing safety of nuclear power plants in the United States. Let me begin by assuring you that our ongoing monitoring of events in Japan and review of all available information leads us to conclude that U.S. plants continue to operate safely.

As events in Japan continue to unfold, our information remains incomplete and not necessarily verified, thus we are not yet in a position to provide the detailed information regarding those events that you, other Members of Congress, and other stakeholders are seeking. Japan is still focused on bringing the nuclear events and their ramifications under control and the NRC's Emergency Operations Center continues to function on a 24/7 basis. We are focused on meeting the near-term technical and information needs of the Japanese government, various components of the Executive Branch, Members of Congress, and the American public, while ensuring there is no reduction in the domestic licensing and oversight functions of the NRC. The NRC will be prepared to share with you a complete and accurate summary of events in Japan when the immediate crisis is over and we have obtained more complete and verified information.

We also are not prepared to address in detail changes that might be made to our domestic regulatory program as a result of the lessons learned from Japan. These decisions will be made over the course of the next 6 – 9 months as the NRC staff implements the Commission's recent direction to create a senior level task force to conduct a methodical and systematic review of our processes and regulations to determine whether the agency should make additional improvements to our regulatory system. This activity will have both near-term and longer-term components.

For the near term effort, the task force is beginning a 90-day review. This review will evaluate all of the currently available information from the Japanese events to identify immediate or near-term operational or regulatory issues potentially affecting the 104 operating reactors in the U.S., including their spent fuel pools. Areas of investigation will include the ability to protect against natural disasters, response to station blackouts, severe accidents and spent fuel accident progression, radiological consequence analysis, and severe accident management issues regarding equipment. Over this 90-day period, staff will develop recommendations, as appropriate, for changes to inspection procedures and licensing review guidance, and recommend whether generic communications, orders, or other regulatory requirements are needed. This 90-day effort will include a 30-day Quick Look Report to the Commission to provide a snapshot of the regulatory response and the condition of the U.S. fleet based on information we have available at that time.

The task force's longer-term review will begin as soon as the NRC has sufficient technical information from the events in Japan, with a goal of commencing no later than the completion of the 90-day near-term report. The task force will evaluate all technical and policy issues related to the event to identify additional potential research, generic issues, changes to the reactor oversight process, rulemakings, and adjustments to the regulatory framework that should be pursued by the NRC. A report with appropriate recommendations will be provided to

the Commission within 6 months of the start of this evaluation. Both the 90-day and final reports will be made publicly available in accordance with normal Commission processes.

With those plans in place and just underway, we also are currently pursuing limited actions that we recognize as being prudent, even though we do not yet have all the details we need to fully assess the implications of the Japan earthquake and tsunami for the U.S. reactor fleet. Specifically, we have begun enhancing inspection activities through temporary instructions to our inspection staff, including the resident inspectors and the region-based inspectors in our four Regional offices, to look at licensees' readiness to deal with both the design basis accidents and beyond-design basis accidents. We have also issued an information notice to licensees to make them aware of the events in Japan, and the kinds of activities we believe they should be engaged in to verify their readiness. We have directed them to verify that their capabilities to mitigate conditions that result from severe accidents, including the loss of significant operational and safety systems, are in effect and operational. We will not hesitate to take additional immediate actions that we believe to be appropriate.

In your letter of March 18th, you requested that we provide Congress and the public with a daily "situation report" or other similar document providing various updated information on the impacted facilities in Japan. I believe the NRC Office of Congressional Affairs has begun providing that information to your office. With regard to the public, we have in place prominently on the NRC webpage a link to "NRC's Actions on Japan's Emergency." This link, which is updated regularly, provides a range of information that includes Congressional testimony, Commission meeting transcripts, news releases, and Frequently Asked Questions (FAQs). It also includes links to additional information on the web sites of a number of U.S. government and other organizations.

I want to reiterate that we continue to make our domestic responsibilities for licensing and oversight of the U.S. licensees our top priority and that the U.S. plants continue to operate safely. I look forward to being able to provide you with additional information as it becomes available. If you have any additional questions, please contact me or Ms. Rebecca Schmidt, Director of the Office of Congressional Affairs, at (301) 415-1776.

Sincerely

GBJ

Rihm, Roger

From: Jaegers, Cathy
Sent: Wednesday, March 16, 2011 10:40 AM
To: Rihm, Roger
Cc: RidsNsirMailCenter Resource; RidsNsirMailCenter Resource; Wimbush, Andrea; RidsNroMailCenter Resource; Berry, Lee; RidsRgn4MailCenter Resource; Owen, Lucy; RidsOgcMailCenter Resource; Remsburg, Kristy; RidsOcaMailCenter Resource; Belmore, Nancy
Subject: ACTION: G20110175
Attachments: ACTION: G20110175

Attached is the action green ticket for OEDO (Rihm) to coordinate with NRR, NRO and NSIR, if required. The ADAMS version will be sent after DPC processes.

EDO Principal Correspondence Control

FROM: DUE: 03/29/11

EDO CONTROL: G20110175
DOC DT: 03/11/11
FINAL REPLY:

Representative Edward J. Markey

TO:

Chairman Jaczko

FOR SIGNATURE OF :

** PRI **

CRC NO: 11-0110

Chairman Jaczko

DESC:

Potential Impacts of the Earthquake in Japan and
Implications for Our Domestic Industry
(Due to Congress: 4/8/11) (EDATS: SECY-2011-0143)

ROUTING:

Borchardt
Weber
Virgilio
Ash
Muessle
OGC/GC
Leeds, NRR
Wiggins, NSIR
Johnson, NRO
Collins, RIV
Burns, OGC
Schmidt, OCA

DATE: 03/16/11

ASSIGNED TO:

EDO

CONTACT:

Rihm

SPECIAL INSTRUCTIONS OR REMARKS:

Please prepare response in accordance with OEDO
Notice 2009-0441-02 (ML093290179). NRR, NSIR and
NRO to provide input to Roger Rihm, OEDO, if
required. Roger Rihm will coordinate response with
OGC and OCA.



EDATS Number: SECY-2011-0143

Source: SECY

General Information

Assigned To: OEDO

OEDO Due Date: 3/29/2011 11:00 PM

Other Assignees:

SECY Due Date: 3/31/2011 11:00 PM

Subject: Potential Impacts of the Earthquake in Japan and Implications for our Domestic Industry

Description:

CC Routing: NRR; NRO; NSIR; RegionIV; OGC; OCA

ADAMS Accession Numbers - Incoming: NONE

Response/Package: NONE

Other Information

Cross Reference Number: G20110175, LTR-11-0110

Staff Initiated: NO

Related Task:

Recurring Item: NO

File Routing: EDATS

Agency Lesson Learned: NO

OEDO Monthly Report Item: NO

Process Information

Action Type: Letter

Priority: Medium

Sensitivity: None

Signature Level: Chairman Jaczko

Urgency: NO

Approval Level: No Approval Required

OEDO Concurrence: YES

OCM Concurrence: NO

OCA Concurrence: NO

Special Instructions: Please prepare response in accordance with OEDO Notice 2009-0441-02 (ML093290179). NRR, NRO, and NSIR to provide input to Roger Rihm, OEDO, if required. Roger Rihm will coordinate response with OGC and OCA.

Document Information

Originator Name: Representative Edward J. Markey

Date of Incoming: 3/11/2011

Originating Organization: Congress

Document Received by SECY Date: 3/16/2011

Addressee: Chairman Jaczko

Date Response Requested by Originator: 4/8/2011

Incoming Task Received: Letter

COMMITTEES

NATURAL RESOURCES
RANKING DEMOCRAT
ENERGY AND COMMERCE

EDWARD J. MARKEY
7TH DISTRICT, MASSACHUSETTS

2108 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-2107
(202) 225-2936

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

DISTRICT OFFICES:

5 HIGH STREET, SUITE 101
MEDFORD, MA 02155
(781) 396-2900

188 CONCORD STREET, SUITE 102
FRAMINGHAM, MA 01702
(508) 875-2900

<http://markey.house.gov>

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 Fukushima 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.

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 investigation⁸ into the adequacy of Commission regulations associated with seismic safety. Earlier this week, I wrote⁹ 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.

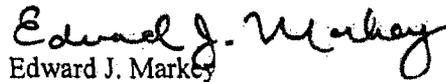
⁸ <http://markey.house.gov/docs/gaoinspection.pdf>

⁹ <http://markey.house.gov/docs/3-7-11.ejmtncr.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

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

Rihm, Roger

From: Jaegers, Cathy
Sent: Wednesday, March 16, 2011 10:39 AM
To: Rihm, Roger
Cc: RidsNrrMailCenter Resource; RidsNsirMailCenter Resource; Wimbush, Andrea; RidsOgcMailCenter Resource; Remsburg, Kristy; RidsOcaMailCenter Resource; Belmore, Nancy
Subject: ACTION: G20110177
Attachments: ACTION: G20110177

Attached is the action green ticket for OEDO (Rihm) to coordinate with NRR and NSIR, if required. The ADAMS version will be sent after DPC processes.

EDO Principal Correspondence Control

FROM: DUE: 03/29/11

EDO CONTROL: G20110177
DOC DT: 03/15/11
FINAL REPLY:

Representative Edward J. Markey
Representative Lois Capps

TO:

Chairman Jaczko

FOR SIGNATURE OF :

** PRI **

CRC NO: 11-0118

Chairman Jaczko

DESC:

Seismic Safety Features in United States
Operational Nuclear Reactors
(EDATS: SECY-2011-0142)

ROUTING:

Borchardt
Weber
Virgilio
Ash
Muessle
OGC/GC
Leeds, NRR
Wiggins, NSIR
Burns, OGC
Schmidt, OCA

DATE: 03/16/11

ASSIGNED TO:

CONTACT:

EDO

Rihm

SPECIAL INSTRUCTIONS OR REMARKS:

Please prepare response in accordance with OEDO
Notice 2009-0441-02 (ML093290179). NRR and NSIR to
provide input to Roger Rihm, OEDO, if required.
Roger Rihm will coordinate response with OGC and
OCA.

EDATS

Electronic Document and Action Tracking System

EDATS Number: SECY-2011-0142

Source: SECY

General Information

Assigned To: OEDO

OEDO Due Date: 3/29/2011 11:00 PM

Other Assignees:

SECY Due Date: 3/31/2011 11:00 PM

Subject: Seismic Safety Features in United States Operational Nuclear Reactors

Description:

CC Routing: NRR; NSIR; OGC; OCA

ADAMS Accession Numbers - Incoming: NONE

Response/Package: NONE

Other Information

Cross Reference Number: G20110177, LTR-11-0118

Staff Initiated: NO

Related Task:

Recurring Item: NO

File Routing: EDATS

Agency Lesson Learned: NO

OEDO Monthly Report Item: NO

Process Information

Action Type: Letter

Priority: Medium

Sensitivity: None

Signature Level: Chairman Jaczko

Urgency: NO

Approval Level: No Approval Required

OEDO Concurrence: YES

OCM Concurrence: NO

OCA Concurrence: NO

Special Instructions: Please prepare response in accordance with OEDO Notice 2009-0441-02 (ML093290179). NRR and NSIR to provide input to Roger Rihm, OEDO, if required. Roger Rihm will coordinate response with OGC and OCA.

Document Information

Originator Name: Representative Edward J. Markey and
Representative Lois Capps

Date of Incoming: 3/15/2011

Originating Organization: Congress

Document Received by SECY Date: 3/16/2011

Addressee: Chairman Jaczko

Date Response Requested by Originator: NONE

Incoming Task Received: Letter

OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET

Date Printed: Mar 15, 2011 16:06

PAPER NUMBER: LTR-11-0118 **LOGGING DATE:** 03/15/2011
ACTION OFFICE: EDO

AUTHOR: REP Edward Markey
AFFILIATION: CONG
ADDRESSEE: Gregory Jaczko
SUBJECT: Requests additional information related to the seismic safety features that are included in nuclear reactors currently in operation in the U.S.

ACTION: Signature of Chairman
DISTRIBUTION: RF, OCA to Ack

LETTER DATE: 03/15/2011
ACKNOWLEDGED: No
SPECIAL HANDLING: Commission Correspondence.

NOTES:
FILE LOCATION: ADAMS

DATE DUE: 03/31/2011 **DATE SIGNED:**

EDO --G20110177

Congress of the United States
Washington, DC 20515

March 15, 2011

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

Dear Chairman Jaczko:

We write to request additional information related to the seismic safety features that are included in nuclear reactors currently in operation in this country. 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 the release of the highly radioactive materials contained within them.

The 9.0 magnitude earthquake caused a number of Japan's nuclear reactors to shut down automatically. However, a combination of tsunami-related damage and the long duration of the external power outages have subsequently led some of these reactors' emergency diesel generators, and thus cooling systems, to fail. To reduce rising pressure inside the Fukushima reactors, radioactive vapor is being vented, but three explosions have occurred as these pressures grew too high.¹ It appears as though meltdowns are proceeding at these reactors. Now life-threatening levels of radiation are being emitted, a 19-mile evacuation and no-fly zone has been established, a fire at a spent fuel pool at one of the units occurred, and 1,350 of the plant's 1,450 workers have been evacuated. Radioactive materials such as cesium and iodine have been detected as much as 100 miles away from these reactors.²

According to analysis prepared by Rep. Markey (see Appendix A, the map appended to this letter), there are eight nuclear reactors located on the seismically active West Coast of the United States, and twenty-seven nuclear reactors located near the New Madrid fault line in the Midwest.³ There are additionally thirty-one nuclear reactors in

¹ http://www.washingtonpost.com/business/economy/nuclear-crisis-deepens-as-third-reactor-loses-cooling-capacity/2011/03/14/ABk6rQV_story.html

² http://www.msnbc.msn.com/id/42066534/ns/world_news-asia-pacific/

³ See <http://pubs.usgs.gov/fs/2009/3071/pdf/FS09-3071.pdf>. In 1811-1812, three major earthquakes (magnitude 7 to 7.7 on the commonly used Richter Scale) occurred near the town of New Madrid, MO. In 1886, a large earthquake (Richter Scale magnitude of about 7) occurred near Charleston, S.C. The United States Geological Survey has estimated that the chance of having an earthquake similar to one of the 1811-12 sequence in the next 50 years is about 7 to 10 percent, and the chance of having a magnitude 6 or larger earthquake in 50 years is 25 to 40 percent.

the United States that are of the same Mark 1 or Mark 2 design as those currently imperiled in Japan, and twelve of these are located in seismically active zones.

The Nuclear Regulatory Commission (NRC)⁴ indicates that safety-significant structures, systems, and components of nuclear reactors must 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.”

According to its website⁵, the San Onofre nuclear power plant, which is located 45 miles from Long Beach, California, is designed to withstand a 7.0 magnitude earthquake. An NRC staff memo⁶ indicates that the Diablo Canyon nuclear power plant, which is located 12 miles from San Luis Obispo, California, is designed to withstand a 7.5 magnitude earthquake. But according to the Southern California Earthquake Center,⁷ there is an 82 percent probability of an earthquake of 7.0 magnitude occurring in the next 30 years, and a 37 percent probability that an earthquake of 7.5 magnitude will occur.

It is not just resilience to the direct effects of an earthquake that raises concerns. While all nuclear power plants are equipped with emergency diesel generators, it is clear from the Japanese catastrophe that these are not themselves infallible, since they all appear to have failed at the Fukushima reactors. These can also fail for other reasons. For example, in 1990,⁸ the Vogtle plant in Georgia experienced a station blackout when a truck knocked over a transmission pole in the switchyard causing a loss of offsite power. The emergency diesel generator started but failed to load. The power plant suffered a complete station blackout, but fortunately power was restored in just over half an hour. NRC regulations only require nuclear power plants to be able to sustain cooling function in a station blackout for 4-8 hours⁹ using back-up battery powered generation capacity.

The vulnerability to the effects of a total station blackout was also noted by the NRC in its 2003 report entitled “Regulatory Effectiveness of the Station Blackout

⁴ <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/fs-seismic-issues.html>

⁵ <http://www.sce.com/PowerandEnvironment/PowerGeneration/SanOnofreNuclearGeneratingStation/publicsafety.htm>

⁶ Research Information Letter 09-001: Preliminary Deterministic Analysis of Seismic Hazard at Diablo Canyon Nuclear Power Plant from Newly Identified “Shoreline Fault”

⁷ <http://www.sceec.org/core/public/sceeccontext.php/3935/13662>

⁸ <http://query.nytimes.com/gst/fullpage.html?res=9C0CEEDF123AF932A35757C0A966958260>

⁹ http://adamswebsearch2.nrc.gov/idmws/DocContent.dll?library=PU_ADAMS_pbnad01&LogonID=b229e2ba98e61e668d07a5da3c0e726&id=032520158

Rule.”¹⁰ Appendix B of this report (attached to this letter) provides reactor-specific information related to outages experienced, demonstrating that many nuclear reactors in this country have already experienced lengthy power outages. The second column in this table reports the overall risk of core damage frequency as calculated by the plant owners. The third column reports the risk of core damage due to complete station blackout as calculated by the plant owners, which is also expressed as a percentage in column 4. If emergency diesel generators were truly fully reliable, there would be no risk associated with a complete station blackout. Instead, many nuclear reactors are estimated to have a real risk of core damage due to a complete station blackout. The fifth column in this table shows four parameters. The first parameter is the battery coping duration in hours, which can easily be seen to be four hours for most reactors, so some reactors can operate on batteries for eight hours.

Clearly, the risks of core damage to reactors due to a complete power outage are non-trivial and have already been contemplated by the NRC. The 4-8 hour battery generation capacity currently in place at U.S. reactor sites would not have helped mitigate the effects of the Japanese earthquake and subsequent tsunami.

Finally, the spent fuel pools at these nuclear reactors can also fail. If the water that cools these fuel rods drains, the zirconium cladding them can catch fire and lead to another source of melting fuel that can spew high level radioactive materials into the environment. This appears to have already occurred in Japan.

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. We are also interested in more detailed information about just what it means to take the “most severe natural phenomena historically reported for the site and surrounding area” into account when designing the safety related features of nuclear reactors. Consequently, we ask for your prompt response to the following questions and requests for information.

- 1) Please provide the Richter or moment magnitude scale rating for each operating nuclear reactor in the United States. If no such rating information exists, then on what basis can such an assertion be made regarding the design of any single nuclear power plant?
- 2) The San Onofre reactor is reportedly designed to withstand a 7.0 earthquake, and the Diablo Canyon reactor is designed to withstand a 7.5 earthquake. According to the Southern California Earthquake Center,¹¹ there is an 82 percent probability of an earthquake of 7.0 magnitude in the next 30 years, and a 37 percent probability that an earthquake of 7.5 magnitude will occur. Shouldn't these reactors be retrofitted to ensure that they can withstand a stronger earthquake than a 7.5? If not, why not?
- 3) Please provide specific information regarding the differences in safety-significant structures between a nuclear power plant that is located in a seismically active area and one that is not. Please provide, for each operating nuclear reactor in a seismically

¹⁰ See <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1776/sr1776.pdf>

¹¹ <http://www.scec.org/core/public/scecontext.php/3935/13662>

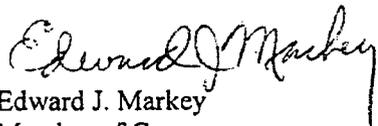
active area, a full list and description of the safety-significant design features that are included that are not included in similar models that are not located in seismically active areas.

- 4) Please fully describe the emergency back-up power requirements that operating nuclear power plants must possess. How long are emergency diesel generators and back-up battery-powered generators required to be able to operate? If different requirements exist for different locations in the United States or for different types of reactors, please also include this information in your response.
- 5) For each operating nuclear power plant, please indicate a) whether the spent fuel pools are located inside or out of the containment structure, b) whether the emergency diesel generators are connected to the cooling and other equipment associated with the spent fuel pools, c) whether the battery-powered generators are connected to the cooling and other equipment associated with the spent fuel pools.
- 6) Please provide a list of all incidents at operating nuclear reactors since 1990 that have involved a) the loss of off-site power, b) a station blackout, or c) a failure of the battery-powered generators at the reactor. For each such incident, please fully describe the circumstances and duration, and impacts or damages, if any.
- 7) In your opinion, can any of the operating nuclear reactors in the United States withstand an earthquake of the magnitude experienced in Japan?

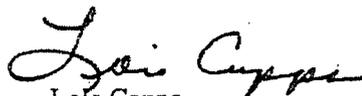
Please provide your response no later than close of business on Friday April 8, 2011.

If you have any questions or concerns, please have your staff contact Dr. Michal Freedhoff of the Natural Resources Committee staff or Dr. Ilya Fischhoff of Rep. Markey's staff at 202-225-2836 or Jonathan Levenshus of Rep. Capps' staff at 202-225-3601.

Sincerely,

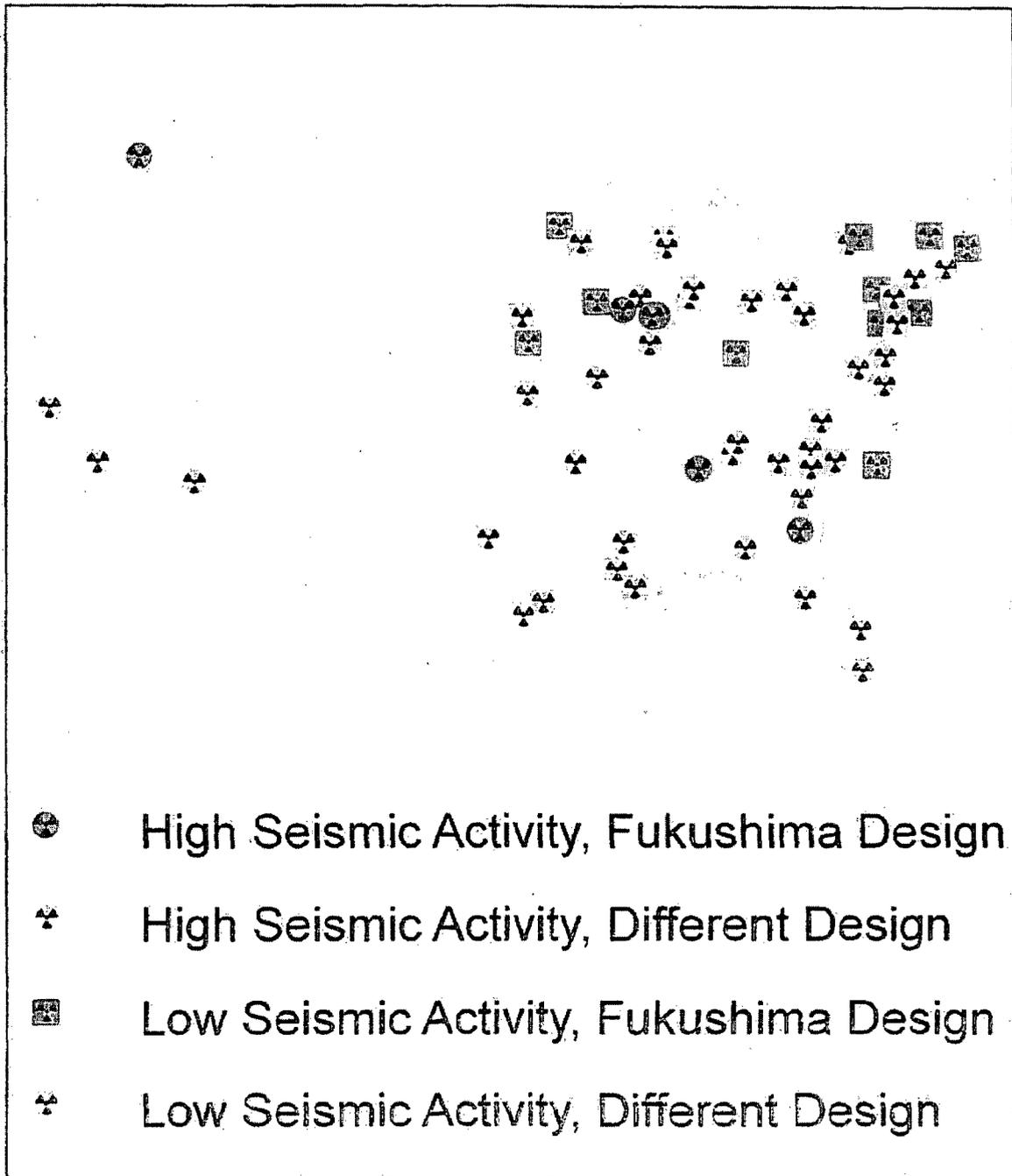


Edward J. Markey
Member of Congress



Lois Capps
Member of Congress

APPENDIX A



APPENDIX B

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-1 Operating pressurized-water reactors

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times > 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Arkansas Nuclear One Unit 1	4.67E-05	1.58E-05	33.8	4/95/10/1	Added 1 DG and cross tie	3.58E-02	2	1			
Arkansas Nuclear One Unit 2	3.40E-05	1.23E-06	3.6	4/95/10/1	Added cross tie	5.84E-02	1	1			
Beaver Valley Unit 1	2.14E-04	6.51E-05	30.4	4/975/60/1	Added cross tie	6.64E-02	2				
Beaver Valley Unit 2	1.92E-04	4.86E-05	25.3	4/975/60/1	Added cross tie	7.44E-02	1				
Braidwood Units 1&2	2.74E-05	6.20E-06	22.6	4/95/10/1		4.53E-02	2				
Bryon Units 1&2	3.09E-05	4.30E-06	13.9	4/95/10/1		4.43E-02					
Callaway	5.85E-05	1.80E-05	30.8	4/975/-/1		4.60E-02					
Calvert Cliffs Units 1&2	2.40E-04	8.32E-06	3.4	4/975/60/4	Added 1 EDG and one 1 DG	1.36E-01	3				
Catawba Units 1&2	5.80E-05	6.0E-07	10.3	4/95/10/1		2.0E-03	1			330	
Comanche Peak Units 1&2	5.72E-05	1.5E-05	26.2	4/95/-/1							

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-1 Operating pressurized-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors						
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times \geq 240 minutes		
							Plant	Weather	Grid	Power	Shutdown	
Crystal River Unit 3	1.53E-05	3.28E-06	21.5	4/975/-4	dc load shed. Added nonclass 1E battery	4.35E-01	3					
Davis-Besse	6.6E-05	3.50E-05	53	4/95/10/2	Added 1 DG	3.50E-02	2	1			1680	
DC Cook Units 1&2	6.2E-05	1.13E-05	18.1	4/975/-2	dc load shed	4.0E-02	1					
Diablo Canyon Units 1&2	8.8E-05	5.0E-06	5.68	4/95/-1	Added 1 DG	9.1E-02	1					261 917
Farley Units 1&2	1.3E-04	1.22E-05	9.4	4/95/10/3	Service water to Aac, auto load shedding	4.70E-02	2					
Fort Calhoun	1.36E-05	NA	-	4/95/-2	DC load shed	2.17E-01	2					
Ginna	8.74E-05	1.0E-06	1.14	4/975/-1		3.50E-03	4					
Harris	7.0E-05	1.71E-05	24.4	4/95/-3	Lighting in several areas, ladder to isolation valve							
Indian Point Unit 2	3.13E-05	4.47E-06	14.3	8/95/60/2	Added a DG for gas turbine auxiliaries	6.91E-02	2		3	390		

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-1 Operating pressurized-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times ≥ 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Indian Point Unit 3	4.40E-05	4.80E-06	10.9	8/95/60/2		6.80E-02	1				
Kewaunee	6.6E-05	2.64E-05	40	4/95/60/2	Cross-tie to nonsafety power source	4.4E-02					
McGuire Units 1&2	4.0E-05	9.26E-06	23.3	4/95/10/1		7.0E-02	3				
Millstone Unit 2	3.42E-05	1.0E-10	NMN	8/975/60/5	Upgraded unit 1-2 crosstie	9.10E-02	1	1		330	
Millstone Unit 3	5.61E-05	5.10E-06	6	8/975/60/5	Added DG	1.12E-01					
North Anna Units 1&2	7.16E-05	8.0E-06	11.2	4/95/60/4	Added DG, switchgear, crosstie	1.14E-02					
Oconee Units 1, 2&3	2.3E-05	2.57E-06	11.2	4/975/10/1		9.0E-02	2				
Palisades	5.07E-05	9.10E-06	17.9	4/95/-/1	DC load shed, compressed air for ADVs	3.0E-02	3			388	
Palo Verde Units 1, 2&3	9.0E-05	1.91E-05	21.2	4/95/10/2	Added 2 gas turbines	7.83E-02	3			1138	
Point Beach Units 1&2	1.15E-04	1.51E-05	13.1	4/975/60/2	Gas turbine modifications	6.10E-02	4				

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-1 Operating pressurized-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times ≥ 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Prairie Island Units 1&2	5.05E-05	3.1E-06	6.14	4/975/10/3	Added 2 EDGs	-	1	2		296 296	
Robinson Unit 2	3.20E-04	2.6E-05	8.13	8/95/60/4	Modified conduit supports in switchgear room	6.1E-02	2			454	
Salem Unit 1	5.20E-05	2.10E-05	40.4	4/975/-/2	EDG compressed air mod	6.0E-02	1				
Salem Unit 2	5.5E-05	1.70E-05	30.9	4/975/-/2	EDG compressed air mod	6.0E-02	2			655	1675
San Onofre Units 2&3	3.0E-05	2.0E-06	6.67	4/95/-/11	DC load shed and crosstie	1.1E-01			2		
St. Lucie Unit 1	2.30E-05	2.65E-06	11.5	4/975/10/5	Added crosstie	1.5E-01	1		3		
St. Lucie Unit 2	2.62E-05	2.64E-06	10.1	4/975/10/5	Added crosstie	1.5E-01					
Seabrook	6.86E-05	1.53E-05	22.3	4/975/-/3	DC load shed	4.93E-02					
Sequoyah Units 1&2	1.70E-04	5.32E-06	3.2	4/975/-/2	DC load shed, added air supply	5.16E-03	2				

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-1 Operating pressurized-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times ≥ 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Summer	2.0E-04	4.9E-05	24.5	4/.95/-/3	DC load shed, battery mod	7.3E-02			1		
South Texas Units 1&2	4.3E-05	1.46E-05	34.9	4/.975/10/5	Procedural cross-tie						
Surry Units 1&2	1.25E-04	8.09E-06	6.47	4/.975/10/4	Added DG	7.69E-02					
Three Mile Island Unit 1	4.49E-04	1.57E-05	3.5	4/.975/10/3	Modifications to existing DGs	5.68E-02					
Turkey Point Units 3&4	3.73E-04	4.70E-06	1.2	8/.95/10/5	Added 2 EDGs and cross-tie	1.7E-01	4	2	7	7950 7908	335
Vogtle Units 1&2	4.9E-05	4.4E-07	11	4/.95/-/2	Added 5 circuit breakers and lighting	6.6E-04					
Waterford Unit 3	1.80E-05	6.24E-06	34.7	4/.975/-/4	DC load shed. Added portable air compressors for EDGs	3.6E-02					
Watts Bar Unit 1	8.0E-05	1.73E-05	21.6	4/.975/-/7/1		3.64E-02					
Wolf Creek	4.2E-05	1.88E-05	44.8	4/.95/-/1		5.12E-02					

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-2 Operating boiling-water reactors

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times ≥ 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Browns Ferry Units 2&3	4.80E-05	1.30E-05	27	4/95/-1	dc load shed	1.12E-01					
Brunswick Units 1&2	2.70E-05	1.80E-05	66.7	4/975/60/5	Modified controls for existing crosstie	7.40E-02	3				1508 814
Clinton	2.66E-05	9.8E-06	36.8	4/95/10/1	Added gas fans for selected room cooling	8.40E-02					
Cooper	7.97E-05	2.77E-05	34.8	4/95/-2		3.50E-02					
Dresden Units 2&3	1.8E-05	9.30E-07	5.03	4/95/60/2	Added 2 DGs	1.12E-01	3	1		240	
Duane Arnold	7.84E-06	1.90E-06	24.2	4/975/-2	dc load shed, RCIC insulation & main control room lighting	1.17E-01			1		
Fermi	5.70E-06	1.3E-07	NMN	4/95/60/1		1.88E-01					
FitzPatrick	1.92E-06	1.75E-06	NMN	4/95/-1	dc load shed, instrumentation and power supply mods	5.70E-02					
Grand Gulf	1.77E-05	7.46E-06	36.8	4/95/-2	dc load shed	6.80E-02					

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-2 Operating boiling-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times ≥ 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Hatch Unit 1	2.23E-05	3.30E-06	14.8	4/95/60/2	Replaced battery chargers	2.20E-02					
Hatch Unit 2	2.36E-05	3.23E-06	13.7	4/95/60/2	Replaced battery chargers	2.20E-02					
Hope Creek	4.63E-05	3.38E-05	73	4/95/-/2	Valve modifications	3.4E-02					
LaSalle Units 1&2	4.74E-05	3.82E-05	80.6	4/975/-/1	dc load shed, New batteries	9.60E-02	1				
Limerick Units 1&2	4.30E-06	1.0E-07	NMN	4/95/60/3	Upgraded cross-ties	5.9E-02					
Monticello	2.60E-05	1.20E-05	46.2	4/95/-/1	dc load shed	7.90E-02					
Nine Mile Point Unit 1	5.50E-06	3.50E-06	NMN	4/975/-/1	dc load shed, added two safety related batteries	5.00E-02	4			595	
Nine Mile Point Unit 2	3.10E-05	5.50E-06	17.7	4/975/-/1	dc load shed	1.20E-01					

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-2 Operating boiling-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times > 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Oyster Creek	3.90E-06	2.30E-06	NMN	4/ 975/60/1	Added cross-tie & reactor pressure indication	3.26E-02	3				240
Peach Bottom Units 2 & 3	5.53E-06	4.81E-07	8.7	8/ 975/60/3	Cross-tie to hydro unit	5.9E-02					
Perry	1.30E-05	2.25E-06	43.4	4/ 95/10/1	Replaced selected cables	6.09E-02					
Pilgrim	5.80E-05	1.0E-10	NMN	8/ 975/10/4	Alarms to line-up Aac	6.17E-01	1	5			1263 534
Quad Cities Units 1&2	1.2E-06	5.72E-07	NMN	4/ 95/60/1	Added 2 DGs	4.81E-02	2				
River Bend	1.55E-05	1.35E-05	87.5	4/ 95/-12	Minor structural mod	3.50E-02	1				
Susquehanna Units 1&2	1.7E-05	4.2E-11	NMN	4/ 975/-12	dc load shed	-	1				
Vermont Yankee	4.30E-06	9.17E-07	21.3	8/ 975/10/4	Modified incoming line and controls	1.0E-01	2			277	
Washington Nuclear Plant Unit 2	1.73E-05	1.07E-05	61.1	4/ 95/-11	dc load shed, replaced inverters	2.46E-02					

Rihm, Roger

From: Clayton, Kathleen
Sent: Monday, March 21, 2011 3:38 PM
To: Rihm, Roger
Cc: RidsNsirMailCenter Resource; RidsOpaMail Resource; RidsOgcMailCenter Resource; RidsOcaMailCenter Resource
Subject: ACTION: G20110194
Attachments: G20110194.pdf

Importance: High

Attached is an action green ticket for EDO. The ADAMS version will be sent after DPC processes.

EDO Principal Correspondence Control

FROM: DUE: 03/23/11 EDO CONTROL: G20110194
DOC DT: 03/18/11
FINAL REPLY:

Senator Edward J. Markey

TO:

Chairman Jaczko

FOR SIGNATURE OF : ** PRI ** CRC NO: 11-0130

Chairman Jaczko

DESC:

ROUTING:

NRC's Assessment of Damages (1) and Assessment of
the Worst Case Consequence Associated with the
Current Nuclear Emergency in Japan (2)
(EDATS: SECY-2011-0156)

Borchardt
Weber
Virgilio
Ash
Muessle
OGC/GC
Wiggins, NSIR
Brenner, OPA
Burns, OGC
Schmidt, OCA

DATE: 03/21/11

ASSIGNED TO: CONTACT:
EDO Rihm

SPECIAL INSTRUCTIONS OR REMARKS:

Please prepare response in accordance with OEDO
Notice 2009-0441-02 (ML093290179). NSIR to provide
input to Roger Rihm, OEDO, if required. Roger will
coordinate response with OGC and OCA. Part 1 of
the ticket is due by COB 03/21/11. Part 2 of the
ticket is due to SECY by 03/23/11 at noon.

EDATS Number: SECY-2011-0156

Source: SECY

General Information

Assigned To: OEDO

OEDO Due Date: 3/22/2011 11:00 PM

Other Assignees:

SECY Due Date: 3/23/2011 12:00 PM

Subject: NRC's Assessment of Damages (1) and Assessment of the Worst Case Consequences Associated with the Current Nuclear Emergency in Japan (2)

Description:

CC Routing: NSIR; OCA; OGC; OPA

ADAMS Accession Numbers - Incoming: NONE

Response/Package: NONE

Other Information

Cross Reference Number: G20110194, LTR-11-0130

Staff Initiated: NO

Related Task:

Recurring Item: NO

File Routing: EDATS

Agency Lesson Learned: NO

OEDO Monthly Report Item: NO

Process Information

Action Type: Letter

Priority: Medium

Sensitivity: None

Signature Level: Chairman Jaczko

Urgency: NO

Approval Level: No Approval Required

OEDO Concurrence: YES

OCM Concurrence: NO

OCA Concurrence: NO

Special Instructions: Please prepare response in accordance with OEDO Notice 2009-0441-02 (ML093290179). NSIR to provide input to Roger Rihm, OEDO, if required. Roger will coordinate response with OGC and OCA. Part 1 of the ticket is due to SECY by COB 03/21/11. Part 2 of the ticket is due to SECY by 03/23/11 at noon.

Document Information

Originator Name: Senator Edward J. Markey

Date of Incoming: 3/18/2011

Originating Organization: Congress

Document Received by SECY Date: 3/21/2011

Addressee: Chairman Jaczko

Date Response Requested by Originator: NONE

Incoming Task Received: Letter

OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET

Date Printed: Mar 21, 2011 14:19

PAPER NUMBER: LTR-11-0130 **LOGGING DATE:** 03/18/2011
ACTION OFFICE: EDO

AUTHOR: Edward Markey
AFFILIATION: SEN
ADDRESSEE: Gregory Jaczko
SUBJECT: Request information re the NRC's current assessments of damage as well as an assessment of the potential worst case consequences asso with the current nuc emergency in Japan

ACTION: Signature of Chairman
DISTRIBUTION: RF, OCA to Ack

LETTER DATE: 03/18/2011
ACKNOWLEDGED: No
SPECIAL HANDLING: Response due to SECY March 21st and March 23rd, Respectively

NOTES: COMMISSION CORRESPONDENCE
Response to question #1 requested COB March 21, 2011...Response to question #2 requested Friday, March 25, 2011..

FILE LOCATION: ADAMS
DATE DUE: 03/21/2011 **DATE SIGNED:**

EDO --G20110194

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

DISTRICT OFFICES:
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(781) 396-2900
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<http://markey.house.gov>

March 18, 2011

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

Dear Chairman Jaczko:

I write to request information regarding the Nuclear Regulatory Commission's (NRC's) current assessments of damage as well as an assessment of the potential worst-case consequences associated with the current nuclear emergency in Japan. As reports have noted, there has been some conflicting information regarding the status of the meltdowns and condition of the spent nuclear fuel ponds at the Fukushima Daiichi nuclear power plant.

As you know, focus of late has shifted to two questions: First, whether containment has been breached at any of the units, and second, whether there remains water (and if so how much) in the spent nuclear fuel ponds, especially in units 3 and 4. However, conflicting information is being provided by different parties.

For example, in your testimony in front of the House Energy and Commerce Committee on Wednesday, you indicated, with regard to unit 4, that you believed that "There is no water in the spent fuel pool and we believe that radiation levels are extremely high, which could possibly impact the ability to take corrective measures."

Following your statement, representatives from Tokyo Electric Power Company (TEPCO), the plant's operator stated that "We can't get inside to check, but we've been carefully watching the building's environs, and there has not been any particular problem," Hajime Motojuku, a spokesman for Tokyo Electric, said Thursday morning in Japan. After that, a spokesman for Japan's Nuclear and Industrial Safety Agency (NISA) said that, "Because we have been unable to go to the scene, we cannot confirm whether there is water left or not in the spent fuel pool at Reactor No. 4."¹ Later that evening, a press release issued by the Nuclear Energy Institute (NEI) stated that both TEPCO and NISA had refuted your statement, and that the spokesmen had stated that "the situation at

¹ <http://www.nytimes.com/2011/03/18/world/asia/18nuclear.html?pagewanted=2&hp>

Unit 4 has changed little during the day today and water remained in the fuel pool. However, both officials said that the reactor had not been inspected in recent hours.”²

A similar situation exists with respect to the extent of damage to the containment structures of units 2 and 3. Numerous press reports have speculated that the hydrogen explosions experienced at these units may have created a path for radioactive materials to escape containment. One of these reports³ states that officials have concluded that “the chambers surrounding units 2 and 3 now have been cracked, allowing radiation to escape.” During a conference call on March 17 with Congressional staff, NRC staff indicated that the NRC believes that there has been a breach in or damage to the primary and/or secondary containment structures in units 1, 2 and 3. Yet earlier that day, the NEI released a statement⁴ that said (in part), on the Fukushima Daiichi plant, that:

“The reactors at the Fukushima Daiichi plant are in stable condition and are being cooled with seawater, but workers at the plant continue efforts to add cooling water to fuel pools at reactors 3 and 4.... Reactor 2 is in stable condition with seawater injection continuing. The reactor’s primary containment may not have been breached, Tokyo Electric Power Co. and World Association of Nuclear Operators officials said on Thursday. Containment pressure is at 65 psig, an indication that containment has not been breached. Access problems at the site have delayed connection of a temporary cable to restore offsite electricity. The connection will provide power to the control rod drive pump, instrumentation, batteries, and power to the control room. Power has not been available at the site since the earthquake on March 11. Reactor 3 is in stable condition with seawater injection continuing. The primary containment is believed to be intact. Pressure in the containment has fluctuated due to venting of the reactor containment structure, but has been as high as 83 psig.”

The information that is being received on a daily basis by Congress is currently limited to daily emails from the State Department, which contains some information related to the nuclear crisis in addition to the earthquake and tsunami relief and consular information provided. This is supplemented by multiple daily emails from the NEI, which as the principal trade association for manufacturers of nuclear power-plants, equipment, nuclear fuel, and owners of utilities which own nuclear plants (including Tokyo Electric Power, which owns the Fukushima Daiichi plants), has a clear vested interest in providing a highly optimistic assessment of the situation.

Now that NRC staff is on the ground in Japan, it is my hope that it will be able to add to the information that is currently being provided to Congress and the public on a daily basis. While I appreciate the daily conference calls your staff has begun to hold, I

² NEI’s **Update 9:00pm March 16** Information on the Japanese Earthquake and Reactors in that Region

³ <http://www.voanews.com/english/news/asia/IAEA-Chief-Heads-to-Japan-to-Assess-Nuclear-Crisis-118105754.html>

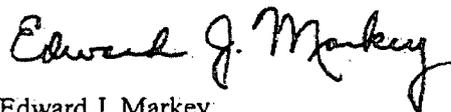
⁴ NEI’s Update 11:45am March 17 Information on the Japanese Earthquake and Reactors in that Region

believe that it is vitally important to all those who may be considering leaving the vicinity of the impacted reactors to be receiving accurate and unbiased written assessment of current conditions. It is also important that the American public fully understand the potential magnitude and timing associated with a worst-case core melt-down and radiation release or spent fuel fire. Members of Congress must also be kept similarly informed so that they can assist any of their constituents who may have family members currently in the impacted areas and so that they can continue their oversight efforts in assuring the safety of our domestic nuclear reactors. Consequently, I ask for your prompt response to the following questions:

- 1) I request that you please begin to provide Congress and the public with a daily "situation report" or other similar document that contains your staff's assessment of the conditions at the impacted reactors, the radiation readings at each unit, the status of efforts to halt the melt-downs and radiation releases from the spent-fuel storage areas, and any reports of radiation exposures experienced by those working at or located in the vicinity of the impacted reactors.
- 2) Please provide me with your assessment of the worst-case potential consequences (including the total radiation that could be released as well as the possible timing for such an event based on current situational awareness), for each of the Daiichi units regarding
 - a. The loss of water in the spent fuel cooling ponds and subsequent fire and/or release of radiation
 - b. A full core melt-down assuming that no further breaches in containment occur
 - c. A full core melt-down assuming that the containment structures are breached.

Thank you very much for your prompt attention to this matter. Please provide me with your initial response to question 1 by close of business on Monday March 21, 2011 and on an ongoing basis thereafter. Please provide me with your response to question 2 by Friday March 25, 2011. If you have any questions or concerns, please have your staff call Dr. Michal Freedhoff of my staff at 202-225-2836.

Sincerely,



Edward J. Markey

Landau, Mindy

From: Landau, Mindy
Sent: Thursday, March 24, 2011 10:13 AM
To: Ellmers, Glenn
Subject: FW: Names of Japan Volunteers
Attachments: JAPANESE TRAVELER INFORMATION (2).docx

The only info I would add if it's not already there is the office they come from (I think most are NRR – Jim Trapp is Region I)

From: Evans, Michele
Sent: Thursday, March 24, 2011 10:12 AM
To: Landau, Mindy
Subject: RE: Names of Japan Volunteers

Attached is list without personal info.

From: Landau, Mindy
Sent: Thursday, March 24, 2011 8:27 AM
To: Evans, Michele
Subject: Names of Japan Volunteers

Michele,

I know you're super busy, but could you forward me a list of the names of the staff who have been sent to volunteer in Japan? It would be nice to acknowledge them in next week's NRC Reporter, and some people have been asking who they are.

Thanks!
Mindy

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