Dean, Bill

From: McCree, Victor
Sent: Friday, March 11, 2011 7:40 PM
To: Virgilio, Martin
Cc: Dean, Bill; Satorius, Mark; Collins, Elmo
Subject: News Reports of Japanese NPP Status

I just listened to the NBC and ABC news "experts" accounts of the status of the Fukishima Daiichi Nuclear Power Plant (FDNPP) Units 1 (and 2) and their forecast of what could happen if electrical power was not soon restored. Their accounts included several mis-statements that we ought to be aware of, and perhaps provide clarity in any NRC public response and/or statements that we make on this subject.

i. One expert implied that the BWR core is normally not covered, and that the ECCS systems only inject after core damage has begun.

ii. The expert also indicated that although the release of pressure from the containment at FDNPP would be filtered, that the filtration was highly unlikely to be successful.

iii. Another expert implied that nuclear power plants have a limited ability to withstand an "expected" earthquake, and that they are not designed to handle an "extraordinary" earthquake. [Note: Although the 8.9 Richter scale magnitude earthquake at FDNPP may have been beyond its design basis (or Safe Shutdown Earthquake) the SSE is, by definition, is an extraordinary earthquake.]

Vic

1/AA

Dean, Bill

From: OPA Resource
Sent: Friday, March 11, 2011 4:26 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: NRC Continues to Track Earthquake and Tsunami Issues
Attachments: 11-043.docx

The attached to be issued and posted in approximately 15 minutes.

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

2/AA

Matakas, Gina

From: HOO Hoc
Sent: Friday, March 11, 2011 3:39 PM
To: Dean, Bill; Borchardt, Bill
Subject: Logbook Entry: 3/11/2011-Tsunami

Ops Officer : VINCE KLCO
Entry Date : 3/11/2011 - 15:11
Entry Type : TSUNAMI
Notify Date - Time : 3/11/2011 - 15:05
Event Date - Time : 3/11/2011 - ()
Site :
Emergency Class :

At 15:05 Eastern, the agency moved the lead for Monitoring to Headquarters. NRC Headquarters will continue to monitor Japan's response to the current situation and provide Federal and International liaison and coordination. Region IV will continue to provide oversight of activities at the Diablo Canyon Nuclear Power Plant through the normal reactor oversight processes.

3\AA

Dean, Bill

From: Dean, Bill
Sent: Friday, March 11, 2011 3:40 PM
To: HOO Hoc
Subject: Re: Logbook Entry: 3/11/2011-Tsunami

Got it. Thanks
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

----- Original Message -----
From: HOO Hoc
To: Dean, Bill; Borchardt, Bill
Sent: Fri Mar 11 15:38:44 2011
Subject: Logbook Entry: 3/11/2011-Tsunami

Ops Officer : VINCE KLCO
Entry Date : 3/11/2011 - 15:11
Entry Type : TSUNAMI
Notify Date - Time : 3/11/2011 - 15:05
Event Date - Time : 3/11/2011 - ()
Site :
Emergency Class :

At 15:05 Eastern, the agency moved the lead for Monitoring to Headquarters. NRC Headquarters will continue to monitor Japan's response to the current situation and provide Federal and International liaison and coordination. Region IV will continue to provide oversight of activities at the Diablo Canyon Nuclear Power Plant through the normal reactor oversight processes.

4/AA

Khanna, Meena

From: Kammerer, Annie
Sent: Friday, March 11, 2011 7:34 AM
To: RES_DE_SGSEB; Case, Michael; Richards, Stuart; Chokshi, Nilesh; Munson, Clifford; Karas, Rebecca; Markley, Michael; Manoly, Kamal; Sheron, Brian; Uhle, Jennifer; Cook, Christopher; Bagchi, Goutam; Khanna, Meena
Subject: FW: M8.9 NEAR THE EAST COAST OF HONSHU, JAPAN
Attachments: ISSC_Notification_Report.pdf

FYI. This is from the working version of our beta ShakeCAST system

---

From: ISSC-Notification@iaea.org [mailto:ISSC-Notification@iaea.org]
Sent: Friday, March 11, 2011 4:38 AM
To: ISSC-Notification@iaea.org
Cc: Kammerer, Annie
Subject: M8.9 NEAR THE EAST COAST OF HONSHU, JAPAN

The following New Earthquake occurred:

Location	NEAR THE EAST COAST OF HONSHU, JAPAN
Magnitude	8.9
Time	2011-03-11 06:46:23
Lat	38.322
Lon	142.369

ISSC ShakeCast Notification System
IAEA

======

5/AA

Status of nuclear power plants in Fukushima as of 13:00 March 15 (Estimated by JAIF)

Power Station	Fukushima #1 Nuclear Power Station					
Unit	1	2	3	4	5	6
Power output (MWe)	460	784	784	784	784	1100
Type of Reactor	BWR-3	BWR-4	BWR-4	BWR-4	BWR-4	BWR-5
Operation Status at the earthquake occurred	Service	Service	Service	Outage	Outage	Outage
Fuel Integrity		Unknown				
Containment Integrity		Damage Suspected				
Core cooling requiring AC power						
Core cooling not requiring AC power						
Building Integrity		Slightly Damaged		Partially Damaged		
Environmental effect	Radiation monitor detect radiation increase in the environment (NPS border: 8,217 μSv/h at 8:31)					
water level of the pressure vessel						
pressure of the pressure vessel	Stable	(No info)	Stable			
Containment pressure	Stable	D/W: Unknown, S/P: Atmosphere	Stable			
Sea water injection to core						
Sea water injection to Containment Vessel		to be decided	to be decided			
Containment venting		Preparing				
Evacuation Area	20km from NPS * People who live between 20km to 30km from the Fukushima #1NPS are to stay indoors.					
INES	Level 4 (estimated by NISA)					
Remarks	Fire broke on the 4th floor of the Unit-4 Reactor Building around 6AM and the radiation monitor readings increased outside of the building. 30mSv between Unit-2 and Unit-3, 400mSv beside Unit-3, 100mSv beside Unit-4 at 10:22. It is estimated that the spent fuels stored in the spent fuel pit heated and hydrogen was generated from these fuels, resulting in the explosion. TEPCO later announced the fire had been extinguished. Other staff and workers than 50 TEPCO employees, who are engaged in water injection operation, have been evacuated.					

Power Station	Fukushima #2 Nuclear Power Station			
Unit	1	2	3	4
Power output (MWe)	1100	1100	1100	1100
Type of Reactor	BWR-5	BWR-5	BWR-5	BWR-5
Operation Status at the earthquake occurred	Service	Service	Service	Service
Fuel Integrity				
Containment Integrity				
Core cooling requiring AC power				
Core cooling not requiring AC power				
Building Integrity				
Environmental effect	Stable (NPS border: 38.5 μSv/h at 6:00)			
water level of the pressure vessel	(No info)	(No info)	(No info)	(No info)
pressure of the pressure vessel	(No info)	(No info)	(No info)	(No info)
Containment pressure	(No info)	(No info)	(No info)	(No info)
Sea water injection to core				
Sea water injection to Containment Vessel				
Containment venting				
Evacuation Area	10km from NPS			
INES	(No Info)			

[Source]
Governmental Emergency Headquarters: News Release (3/14 13:30), Press conference (3/14 11:45, 16:15, 3/15 8:00, 11:00)
NISA: News Release (3/14 7:30)
Tokyo Electric Power Co.: Press Release (3/14 16:00, 17:35, 3/15 6:00), Press Conference (3/14 12:10, 20:00, 3/15 8:00, 8:30)

[Abbreviations]
INES: International Nuclear Event Scale
NISA: Nuclear and Industrial Safety Agency

[Significance]
[redacted]: low
: high
[redacted]: severe

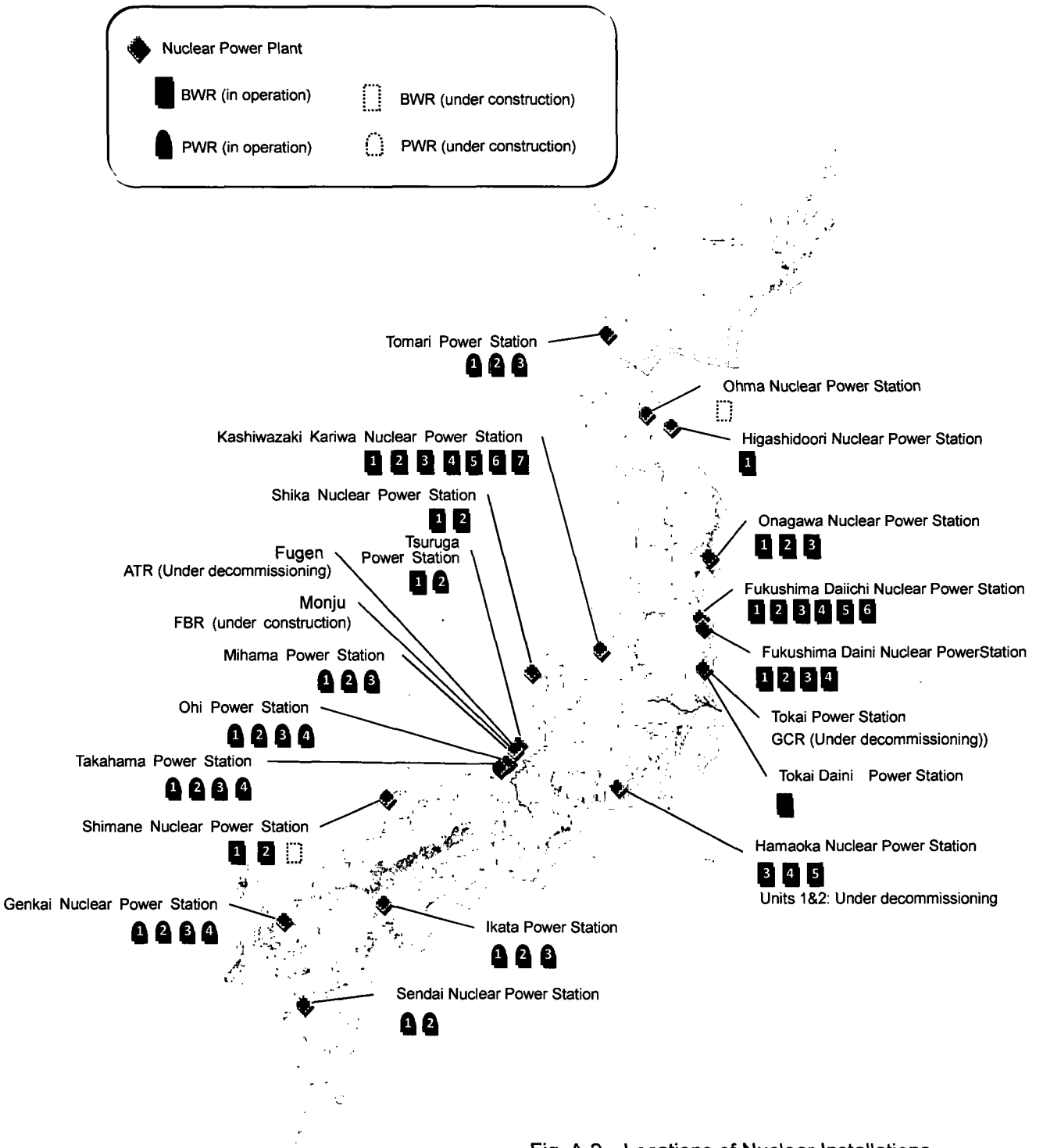


Fig. A-2 Locations of Nuclear Installations

ShakeCast Report

IAEA International Atomic Energy Agency

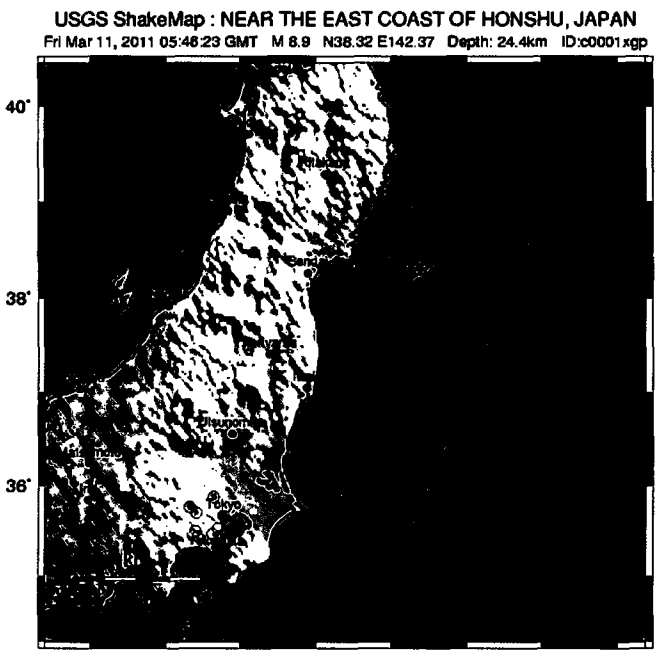
USGS science for a changing world

Magnitude 8.9 - NEAR THE EAST COAST OF HONSHU, JAPAN — Version 4

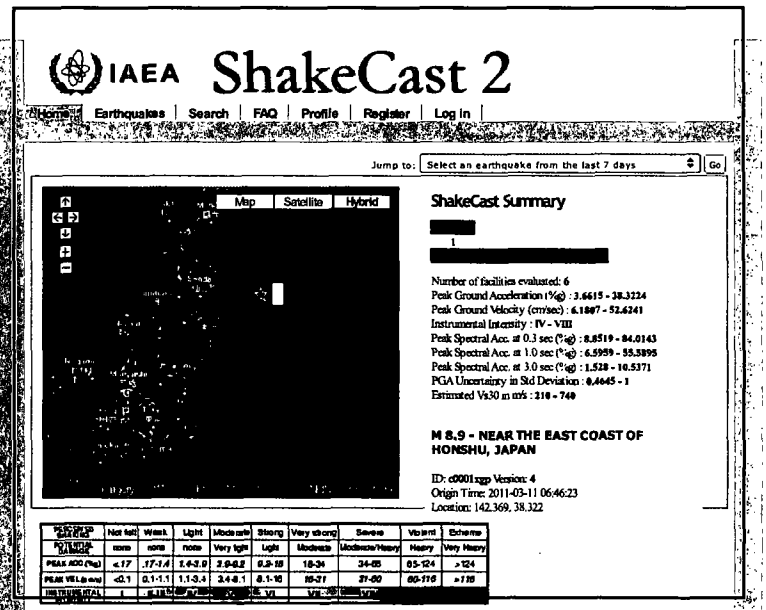
Time: 2011-03-11 05:46:23 GMT
Location: 38.32 N/ 142.37 E
Depth: 24.4 km

Created: 2011-03-11 09:37:54 GMT
For more information and latest version see
http://earthquake.usgs.gov/shakemap

These results are from an automated system and users should consider the preliminary nature of this information when making decisions relating to public safety. ShakeCast results are often updated as addtional or more accurate earthquake information is reported or derived.



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII		



Recent significant earthquakes in the region

- M7.7 Miyagi-Oki, Japan at 6/12/1978 8:14
- M7.4 NEAR THE EAST COAST OF HONSHU, JAPAN at 11/1/1989 18:25
- M7.2 Miyagi-Oki, Japan at 8/16/2005 2:46
- M7 NEAR THE EAST COAST OF HONSHU, JAPAN at 1/18/1981 18:11
- M7 Miyagi-Oki, Japan at 5/26/2003 9:24

FACILITY TYPE	FACILITY ID	FACILITY NAME	LATITUDE	LONGITUDE	DAMAGE LEVEL	MMI	PGA	PGV	PSA03	PSA10	PSA30
NPP	JPN1	Fukushima Daiichi	37.4215	141.034	RED	7.72	25.8708	35.5119	57.8466	37.5128	7.4042
NPP	JPN2	Fukushima Daini	37.3163	141.025	RED	7.76	26.6768	36.4785	59.5783	38.5339	7.5874
NPP	JPN10	Onagawa	38.3998	141.501	RED	7.34	23.483	27.6412	52.4778	29.1987	5.7565
NPP	JPN4	Hamaoka	34.6242	138.14	GREEN	4.96	6.5016	10.322	15.3754	10.9036	2.4143
NPP	JPN7	Kashiwazaki - Kariwa	37.4317	138.598	YELLOW	5.53	8.5166	13.0735	19.9327	13.8102	2.9935
NPP	JPN15	Tokai	36.4654	140.607	RED	7.72	25.8298	35.4623	57.7583	37.4606	7.3948

* - MMI level extends beyond map boundary, actual population exposure may be much larger
** - Some facilities may not appear on the map due to space restriction

Cartwright, William

From: Breskovic, Clarence
Sent: Friday, March 11, 2011 7:34 PM
To: Breskovic, Clarence
Subject: NHK news reports TEPCO started to release air from Fukushima 1 reactor

This will be my last report for the time being as the regular media outlets seem to be on top of things. If you get NHK TV (Japan Broadcasting Corp.) on your cable TV service I recommend watching it.

Thanks,
Clarence

6/AA

Cartwright, William

From: Breskovic, Clarence
Sent: Friday, March 11, 2011 7:28 PM
To: Breskovic, Clarence
Subject: Tokyo Electric Power To Release Reactor Pressure

Tokyo Electric Power To Release Reactor Pressure

Tokyo, March 12 (Jiji Press) -- Tokyo Electric Power Co. has decided to release the pressure from reactors of a quake-hit nuclear power plant in Fukushima Prefecture, northern Japan, to prevent them from breaking down, company sources said Saturday.

Releasing the pressure from the company's Fukushima No. 1 nuclear power plant by opening their valves may let a small amount of radioactive substances leak out into the atmosphere, according to Tokyo Electric Power.

The safety of nearby residents will be ensured as all the residents in a 10-kilometer radius from the power plant have been evacuated or instructed by the government to stay at home, according to the sources.

Immediately after the 8.8-magnitude quake hit northeastern Japan, all the three operating reactors at the power plant stopped automatically.

Internal pressure is feared to have risen at all the reactors. The pressure in the No. 1 reactor increased to 600 kilopascals from the normal level of 400 kilopascals.

Meantime, Tokyo Electric Power is striving to restore the No. 2 reactor's cooling system, which stopped working because the quake caused a power outage and emergency diesel power generation equipment broke down.

While the reactor's cooling water levels are still kept at about 3.5 meters above the top of its nuclear fuel rods, the level's decline would force the fuel rods exposed to air to generate radiation.

Radiation Could Already Have Leaked at Nuke Plant

Tokyo, March 12 Kyodo -- Radioactive substances could already have leaked at the Fukushima No. 1 nuclear power plant after a magnitude 8.8 earthquake hit northern Japan, the operator Tokyo Electric Power Co. said Saturday.

The amount of radiation reached around 1,000 times the normal level in the control room of the No. 1 reactor of the plant, the Nuclear and Industrial Safety Agency also said. The discovery suggests radioactive steam could spread around the facility.

The agency also said radiation has been more than eight times the normal level at a monitoring post near the main gate of the plant.

The authorities expanded the evacuation area for residents in the vicinity of the plant from a 3-kilometer radius to 10 km on the orders of Prime Minister Naoto Kan, who plans to visit the facility later Saturday.

7|AA

Cartwright, William

From: Breskovic, Clarence
Sent: Friday, March 11, 2011 1:57 PM
To: Breskovic, Clarence
Subject: Japan: Radioactive Steam Could Be Released From Troubled Plant

Radioactive Steam Could Be Released From Troubled Plant

Tokyo *Kyodo World Service* 1819 GMT 11 Mar 11
Tokyo, March 12 Kyodo -- Japanese authorities are nearing a decision to release radioactive steam from a troubled nuclear reactor, industry minister Benri Kaieda said Saturday.

Kaieda was referring to the rising pressure inside the No. 1 reactor of the Fukushima No. 1 plant, which was hit by a powerful earthquake Friday.

8/AA

Cartwright, William

From: Breskovic, Clarence
Sent: Friday, March 11, 2011 1:27 PM
To: Breskovic, Clarence
Subject: Secretary Clinton video on supplying "coolant" to Japan

http://www.state.gov/video/?videoid=822755222001

9|AA

Cartwright, William

From: Breskovic, Clarence
Sent: Friday, March 11, 2011 1:14 PM
To: Breskovic, Clarence
Subject: Radiation Level Rising in Fukushima Nuclear Plant Turbine Building - emergency generators dispatched

Radiation Level Rising in Fukushima Nuclear Plant Turbine Building

Fukushima, Japan, March 12 Kyodo -- The radiation level is rising in the building housing a turbine of the No. 1 reactor of the Fukushima No. 1 nuclear power plant following Friday's powerful earthquake, the operator Tokyo Electric Power Co. said Saturday.

The company also said monitoring data suggested the air pressure level has also soared inside the container of the reactor.

State of Emergency Declared at Fukushima Plant

Tokyo *Asahi Shimbun Online* 1733 GMT 11 Mar 11
Friday's devastating earthquake in the Tohoku region may have created a dangerous situation at two nuclear reactors in Fukushima Prefecture.

Officials of the Nuclear and Industrial Safety Agency were informed by Tokyo Electric Power Co. that the emergency core cooling system was not working at two reactors.

In addition, another mechanism that had been used to send water to the core also stopped at 8:30 p.m.

If the cores are not sufficiently cooled, there is a danger of a possible core meltdown.

At a news conference Friday night, Chief Cabinet Secretary Yukio Edano said a state of emergency at a nuclear facility was declared at 4:36 p.m.

It is the first time such a state of emergency has been declared.

According to NISA officials, although the reactor core stopped operations after the earthquake hit, water had to be inserted to the core to cool it because heat continued to be emitted from the nuclear fuel.

Although workers had to initiate emergency core cooling system procedures, the lack of an external power source and the failure of an emergency generator crippled the system that circulates water to the core to cool it.

TEPCO officials dispatched 51 generator vehicles to the reactors in an attempt to restore power. One vehicle reached one of the nuclear reactors late Friday and some of that reactor's power was restored.

At 9:23 p.m., the central government issued an evacuation instruction for residents living within a 3-kilometer radius of the No. 1 Fukushima nuclear power plant as well as an instruction to residents living within a radius of between 3 and 10 kilometers to remain indoors.

Edano said no radiation leakage had been detected.

10|AA

Cartwright, William

From: Breskovic, Clarence
Sent: Friday, March 11, 2011 12:26 PM
To: Breskovic, Clarence
Subject: Japan Update: Water levels at Fukushima; Onagawa fire extinguished

Update9: 3,000 Ordered To Evacuate Near Quake-hit Fukushima Nuclear Plant

Tokyo, March 12 Kyodo -- (EDS: ADDING FIRE EXTINGUISHED AT ONAGAWA PLANT) Japan declared a state of atomic power emergency Friday after the country, which has about 50 nuclear power reactors, was hit by a magnitude 8.8 earthquake, instructing around 3,000 residents near the Fukushima No. 1 plant to evacuate.

Top government spokesman Yukio Edano told an evening press conference, "We have a situation where one of the reactors (of the plant) cannot be cooled down." But the chief Cabinet secretary said the evacuation instruction was only precautionary.

Edano said, "No radiation has leaked outside the reactor. The incident poses no danger to the environment at the moment." He also said early Saturday in Tokyo the incident was under control.

The post-quake situation prompted the Vienna-based International Atomic Energy Agency to scramble for details from contacts in Japan's industry ministry, while saying in a statement that at least four nuclear power plants "closest to the quake have been safely shut down" after the 2:46 p.m. quake.

Tokyo Electric Power Co., the operator of the Fukushima plant, reported that the water level around fuel rods was falling in the reactor. Radioactive materials could be emitted if part of a fuel rod is exposed to the air.

But officials of the prefectural government dismissed the view that the plant is in a critical situation, saying the top of the water is 3.4 meters above the fuel rods at the troubled No. 2 reactor.

The evacuation advisory was issued for people living within a 3-kilometer radius of the plant, while those living within a 10-kilometer radius were asked to stay home, Edano said.

Prime Minister Naoto Kan declared the emergency, the first in the quake-prone country, so that authorities can easily implement emergency relief measures, Edano said. Defense Minister Toshimi Kitazawa ordered the Self-Defense Forces to act in response to the declaration.

The Defense Ministry dispatched a chemical corps of the Ground Self-Defense Force to the plant and Motohisa Ikeda, senior vice industry minister, also left for Fukushima by an SDF helicopter.

According to the industry ministry, a total of 11 nuclear reactors automatically shut down at the Onagawa plant, the Fukushima No. 1 and No. 2 plants and the Tokai No. 2 plant after the strongest recorded earthquake in the country's history.

A fire started at a building housing the turbine of the Onagawa plant in Miyagi at 3:30 p.m. but was put out before 11 p.m., the operator, Tohoku Electric Power Co., said, denying it had detected any signs of radiation leaks.

Water spilled from pools containing fuel rods at the Kashiwazaki-Kariwa plant on the Sea of Japan coast in Niigata Prefecture and the Onagawa plant, the operators said, saying they saw no signs suggesting radiation leaks.

11/AA

Cartwright, William

From: Breskovic, Clarence
Sent: Friday, March 11, 2011 12:02 PM
To: Breskovic, Clarence
Subject: U.S. delivers coolant to Japan nuclear plant: Clinton/ Plant Being Cooled

WASHINGTON | Fri Mar 11, 2011 11:05am EST
WASHINGTON (Reuters) - The United States has transported coolant to a Japanese nuclear plant affected by a massive earthquake and will continue to assist Japan, Secretary of State Hillary Clinton said on Friday.
"We just had our Air Force assets in Japan transport some really important coolant to one of the nuclear plants," Clinton said at a meeting of the President's Export Council.
"You know Japan is very reliant on nuclear power and they have very high engineering standards but one of their plants came under a lot of stress with the earthquake and didn't have enough coolant," Clinton said.

Japan Reactor Being Cooled

LONDON, March 11 (Reuters) - The World Nuclear Association, the main nuclear industry body, said on Friday that it understood the situation at Japan's Fukushima plant after a massive earthquake was under control, and water was being pumped into its cooling system.
"We understand this situation is under control," an analyst at the association told Reuters.
The Japanese government had declared an emergency situation around the plant as a precaution and evacuated residents, saying a cooling system was not working.
The analyst said he understood that a back-up battery power system had been brought online after about an hour, and begun pumping water back into the cooling system, where the water level had been falling.

12|AA

Cartwright, William

From: Breskovic, Clarence
Sent: Friday, March 11, 2011 11:38 AM
To: Breskovic, Clarence
Subject: Japan Update: Evcuations ordered around Fukishima

Contents

Japan Orders Evacuation of Residents Near N-plant 1

Kyodo: Gsdf Sent To Area Near Fukushima Nuke Plant To Assist Evacuation 1

3,000 Ordered To Evacuate Near Quake-hit Fukushima Nuclear Plant 2

Fukushima Pref. Warns of Radiation Leak at N-plant 3

Japan Orders Evacuation of Residents Near N-plant

Tokyo, March 11 (Jiji Press) -- The government on Friday ordered evacuation of residents in a 3-kilometer radius from a quake-hit Tokyo Electric Power Co. nuclear power plant in Fukushima Prefecture, northern Japan, citing a possible radiation leak.

The government, however, has confirmed no radiation leak so far. The evacuation order was issued after the 8.8-magnitude quake hit northern Japan to have all the three reactors at the power plant shut down automatically.

Chief Cabinet Secretary Yukio Edano said at a news conference that the government called for preemptive evacuation, urging the 5,862 residents to stay calm in following the order.

The government also instructed 45,345 residents living outside the area but in a 10-kilometer radius to stay at home.

According to the Nuclear and Industrial Safety Agency of the Ministry of Economy, Trade and Industry, cooling functions of the No. 2 reactor at the plant have stopped working, affected by a power outage caused by the quake.

The agency is unable to confirm cooling water levels at the reactor and the No.1 reactor. The plant's emergency diesel power generation equipment has stopped working, leading the company to dispatch power supply cars, according to the agency.

As the power supply cars have reached the plant, the company is proceeding with work to resupply electricity to restore cooling functions.

The Fukushima prefectural government has reported that cooling water levels at the No.2 reactor are dropping and warned that continued decline would expose nuclear fuel rods to air to generate radiation.

Reactors were also automatically shut down at the company's Fukushima No. 2 nuclear power station, with emergency supply of cooling water starting at one of them.

13|AA

Dean, Bill

From: Sheron, Brian
Sent: Friday, March 11, 2011 7:21 AM
To: Weber, Michael; Martin Brechbeil; Leeds, Eric; Borchardt, Bill; Wiggins, Jim; Haney, Catherine; Miller, Charles; Dean, Bill; McCree, Victor; Satorius, Mark; Collins, Elmo
Cc: Case, Michael; Richards, Stuart
Subject: FW: [Yama] Situation now - Japan NPPs - ECCS mode

FYI.

From: Lawrence.BURKHART@oecd.org [mailto:Lawrence.BURKHART@oecd.org]

Sent: Friday, March 11, 2011 5:51 AM

To: Leeds, Eric; Regan, Christopher; Sheron, Brian; Sangimino, Donna-Marie; Doane, Margaret; Cullingford, Michael; Johnson, Michael; Uhle, Jennifer; Schwartzman, Jennifer

Cc: Holahan, Gary; Williams, Donna; John.NAKOSKI@oecd.org; Diane.JACKSON@oecd.org

Subject: FW: [Yama] Situation now - Japan NPPs - ECCS mode

Dear all,

Greetings from Paris. Im sure you've heard about the earthquake in Japan and Im sure you may have your own information sources. But just wanted to pass on this is an email from a colleague (who used to work at NEA but recently returned to Japan).

Apparently all of the 15 Japanese Nuclear Power Plants shutdown successfully but there are some issues with Diesel Generators operating properly at the plants listed below.

I will send more info if it is relevant and if you would like.

Very Best Regards. Larry

From: Akihiro YAMAMOTO [mailto:a-yamamoto@houshasen.tsuruga.fukui.jp]

Sent: Friday, March 11, 2011 11:30

To: GAUVAIN Jean, NEA/SURN

Cc: REIG Javier, NEA/SURN; ECHAVARRI Luis, NEA; YOSHIMURA Uichiro, NEA/SRAN; GUYOT Lydie, NEA; PEYRAT Marie-Laure, NEA/SRAN; GAS Serge, NEA/RE; BREEST Axel, NEA/SURN; MAUNY Elisabeth, NEA/SURN; LAMARRE Greg, NEA/SURN; REHACEK Radomir, NEA/SURN; HUERTA Alejandro, NEA/SURN; JACKSON Diane, NEA/SURN; GAUVAIN Jean, NEA/SURN; NAKOSKI John, NEA/SURN; GRESS Philippe, NEA/SURN; BURKHART Lawrence, NEA/SURN; IANNOLO Nicolina, NEA/SURN; CHAUHAN Roopa, DAF/COMP; christele.tephanympania@oecd.org; LITTLE Aileen, NEA/ADMI; 'Carlo

14|AA

Vitanza'; AMRI Abdallah, NEA/SURN

Subject: [Yama] Situation now - ECCS mode

Dear all,

TEPCO (Tokyo Electric Power Company) declared the state of emergency of following NPPs:

Fukushima 1-1

Fukushima 1-2

Fukushima 1-3

Fukushima 2-1 **(ECCS mode now)**

I am trying to get information why DG can't start up (problem of intake sea water for the cooling DG system?)

There is a fire from turbine building (B1 floor) at Onagawa NPP unit 1 but the fire fighting was completely succeded.

http://www.yomiuri.co.jp/dy/national/20110311dy01.htm

A while ago, Fukui (my office located) had also earthquake (M4.1). We have 15 NPPs but no damage to the NPPs.

Yama

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Akihiro YAMAMOTO

Ageing Management Specialist,

Nuclear Safety Measurement Division

Fukui Prefectural Government

Telephone: +81 (0) 776 20 0314

E-mail: a-yamamoto@houshasen.tsuruga.fukui.jp

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Matakas, Gina

From: Collins, Daniel
Sent: Friday, March 11, 2011 12:01 PM
To: Lorson, Raymond; Lew, David; Dean, Bill
Subject: FW: Tsunami Warning

Bill/Dave/Ray –

FYI. Per Roy Caniano, Region IV doesn't currently need support in the materials arena.

Dan

From: Caniano, Roy
Sent: Friday, March 11, 2011 11:44 AM
To: Collins, Daniel
Subject: RE: Tsunami Warning

Thank Dan, so far so good. Doesn't appear we will need any support. Thanks again.

From: Collins, Daniel
Sent: Friday, March 11, 2011 7:29 AM
To: Lew, David; Collins, Elmo; Howell, Art; Cain, Chuck; Caniano, Roy
Cc: Dean, Bill; Lorson, Raymond; Clifford, James; Wilson, Peter
Subject: RE: Tsunami Warning

Dave –

If Region IV needs assistance in the materials arena, DNMS can provide at least 8 people in short order (2 from each branch) to travel to the Region IV territories. Other support is possible, but we'll need to talk with Region IV to better scope that out.

Dan

From: Lew, David
Sent: Friday, March 11, 2011 8:08 AM
To: Collins, Elmo; Howell, Art
Cc: Dean, Bill; Collins, Daniel; Lorson, Raymond; Clifford, James; Wilson, Peter
Subject: Tsunami Warning

Elmo/Art,

While it's still early, let us know if you need any assistance, particularly with respect to the materials program. We are canvassing the availability of our materials inspectors in the event you need support.

Dave

15/AA

Dean, Bill

From: R1 IRC
Sent: Friday, March 11, 2011 3:39 PM
To: All R1 Users
Subject: FW: ***NRC IS RESPONDING TO AN EMERGENCY OUTSIDE OF THE UNITED STATES**

Importance: High

FYI.

From: Operations Center Bulletin
Sent: Friday, March 11, 2011 3:04 PM
To: Operations Center Bulletin
Subject: ***NRC IS RESPONDING TO AN EMERGENCY OUTSIDE OF THE UNITED STATES**
Importance: High

THIS IS NOT A DRILL.

The NRC and other Federal agencies are closely following an emergency occurring outside of the United States. Press releases about NRC actions are posted on www.nrc.gov. Information is also available on the NRC External Blog at: http://public-blog.nrc-gateway.gov . Employees contacted by the media are asked to refer the calls to the Office of Public Affairs at 301-415-8200

Two important reminders:

It is possible that some of us will be requested by colleagues in another country to provide technical advice and assistance during this emergency. It is essential that all such communications be handled through the NRC Operations Center. Any assistance to a foreign government or entity must be coordinated through the NRC Operations Center and the U.S. Department of State (DOS). If you receive such a request, contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) immediately.

If you receive information regarding this or any emergency (foreign or domestic) and you are not certain that the NRC's Incident Response Operations Officer is already aware of that information, you should contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) and provide that information.

No response to this message is required.

THIS IS NOT A DRILL

116/AA

Dean, Bill

From: Collins, Elmo
Sent: Friday, March 11, 2011 10:16 AM
To: Satorius, Mark; Dean, Bill; McCree, Victor
Subject: Fw: Agency in Monitoing in Response to Tsunami Warnings and 8.9 Magniture Earthquake in Japan

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From: R4 IRC
To: R4
Sent: Fri Mar 11 10:05:10 2011
Subject: Agency in Monitoing in Response to Tsunami Warnings and 8.9 Magniture Earthquake in Japan

The NRC entered Monitoring at 09:46AM Eastern in response to the 8.9 magnitude earthquake in Japan and subsequent tsunami warnings. NRC Region IV is monitoring the impact on materials licensees in Alaska, Hawaii, and materials licensees and reactors on the Pacific Coast. NRC Headquarters is monitoring Japan's response to the current situation.

If you are not responding to the event, please stay clear of the incident response center. Thank you for your support.

Emergency Response Coordinator
NRC – Region IV

17/AA

Dean, Bill

From: HOO Hoc
Sent: Friday, March 11, 2011 10:09 AM
To: HOO Hoc
Subject: HOO HIGHLIGHT - NRC IN MONITORING MODE AT 0946
Attachments: image001.jpg

The NRC is in the Monitoring Response Mode as of 0946 on 3/11/11. Region IV will take the lead for U.S. sites and HQ for international sites to provide assistance in response to the earthquake in Japan and any adverse affects from a tsunami. This response mode change is NOT associated with event number 46668.

Joe O'Hara
Headquarters Operations Officer
U.S. Nuclear Regulatory Commission
Phone: 301-816-5100
Fax: 301-816-5151
email: hoo.hoc@nrc.gov
secure e-mail: hoo1@nrc.sgov.gov

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

18\AA

Dean, Bill

From: Collins, Elmo
Sent: Friday, March 11, 2011 5:46 AM
To: Virgilio, Martin
Cc: Howell, Art; Weber, Michael; Borchardt, Bill; Leeds, Eric; Boger, Bruce; Dricks, Victor; Uselding, Lara; Doane, Margaret; Wiggins, Jim; Evans, Michele; Weil, Jenny; Powell, Amy; Kennedy, Kriss; Maier, Bill; Miller, Charles; Dean, Bill; McCree, Victor; Satorius, Mark; Howell, Linda
Subject: Addl info: HOO HIGHLIGHT - DIABLO CANYON UNUSUAL EVENT
Attachments: image001.jpg

Marty

We do plan an update phone call at 8 am EST on a HOO bridge to review collected information about progress across Pacific. Region IV plans to lead the brief regarding potential impact on RIV licensees.

For material licensees, we have a couple of portable gage licensees in Guam and American Samoa. A number of licensees in Hawaii.

News reports show earthquake/tsunami impacts in Japan including a nuclear power plant.

Diablo has design features for a tsunami wave. We'll discuss site design features and licensee actions on the call.

Elmo

From: HOO Hoc
To: HOO Hoc
Sent: Fri Mar 11 05:09:33 2011
Subject: HOO HIGHLIGHT - DIABLO CANYON UNUSUAL EVENT

Diablo Canyon declared a Notice of Unusual Event at 0123 PST due to a Tsunami Warning for the coastal areas of California as a result of a 8.9 magnitude earthquake off the coast of Japan. The Agency remains in the NORMAL response mode as of 0452 EST.

Joe O'Hara
Headquarters Operations Officer
U.S. Nuclear Regulatory Commission
Phone: 301-816-5100
Fax: 301-816-5151
email: hoo.hoc@nrc.gov
secure e-mail: hoo1@nrc.sgov.gov

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

19/AA

Dean, Bill

From: Operations Center Bulletin
Sent: Saturday, March 12, 2011 4:20 PM
To: OST02 HOC
Subject: NRC IS RESPONDING TO AN EMERGENCY OUTSIDE of the United States

THIS IS NOT A DRILL.

The NRC and other Federal agencies are continuing to follow an emergency occurring outside of the United States. Press releases about NRC actions are posted on www.nrc.gov. Information is also available on the NRC External Blog at: http://public-blog.nrc-gateway.gov . Employees contacted by the media are asked to refer the calls to the Office of Public Affairs at 301-415-8200

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If you receive information regarding this or any emergency (foreign or domestic) and you are not certain that the NRC's Incident Response Operations Officer is already aware of that information, you should contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) and provide that information.

No response to this message is required.

THIS IS NOT A DRILL

20/AA

Dean, Bill

From: Lew, David
Sent: Saturday, March 12, 2011 12:52 PM
To: Dean, Bill; Roberts, Darrell; Wilson, Peter; Clifford, James; Weerakkody, Sunil; Miller, Chris; Lorson, Raymond; Collins, Daniel; Baker, Pamela; Walker, Tracy
Cc: Dapas, Marc; Sheehan, Neil; Screnci, Diane; Tifft, Doug; McNamara, Nancy
Subject: OEDO/OD/RA confrence call

Noon today, the Executive Team held a conference call with the Office Directors and the Regional Administrators. Bill, Neil Sheehan and I participated in the call. (Bill/Neil, please add anything I missed or correct/clarify as needed). There will be a TA call at 3:30 pm.

- Limited information from our Japanese counterparts (need to be respectful of ongoing event response)
- Much information is second hand via IAEA, industry (via INPO/WANO), TEPCO website information
- NRC external communications will be via the HQs Liaison Team and OPA. Filter requests through the HOO.
- NRC remains in the monitoring mode.
- Chairman attended a meeting with White House. Marty Virgilio participated by VTC.
- Assistance offer to Japanese regulators, but do not currently need NRC support.
- US team deployed consisting of 60-70 people to assess the disaster (not limited to nuclear). NRC has supplied one team member who will be a technical consultant. A second staffed is trying to get on a flight to Japan to support the team and the US embassy.
- Parts of the industry mustering to offer industry support.
- GE is working with Exelon to run some simulator scenarios, Dresden unit most similar to the site.

Unconfirmed information about plants

- Eleven (11) reactor units in the area, but Fukushima Daiichi was hit the hardest. That site has six units. The concerns are currently focused on Units 1 and 2 (Unit 3 is in cold shutdown and the other three were in refueling).
- The Tsunami result is an extended loss of AC. Generators have been delivered to the site but no information that it is connected. Additional DC power has been to support operation of various valves and instruments.
- Fukushima Unit 1 explosion in the reactor building (metal siding taken off the of the reactor building).
- RCS and primary containment are both intact.
- Possible hydrogen detonation but no confirmation.
- Prior to this, venting of the primary containment which was successful in reducing pressure by half.
- Reactor water level was below top of active fuel
- Cs and Iodine detected outside facility indicating that core damage was likely
- Rad levels at the site boundary had been at 100 mrem/hr but now has decreased to 7 mrem per hour
- The licensee was filling containment with borated seawater
- Some workers injured at Unit 1 at the time of the video
- Unit 2 continuing to work through SBO, suppression pool at saturation temperature

Dave

21/AA

Dean, Bill

From: Sheehan, Neil
Sent: Saturday, March 12, 2011 1:05 PM
To: Lew, David; Dean, Bill
Subject: Fw: MOX fuel used at Japan reactor

Good summary on the call, Dave

I added these notes.

Neil Sheehan
NRC Public Affairs Officer
Sent from NRC Blackberry

----- Original Message -----
From: Sheehan, Neil
To: McDermott, Brian; Brenner, Eliot
Sent: Sat Mar 12 12:38:44 2011
Subject: Re: MOX fuel used at Japan reactor

One other item for your checklist: CNN is reporting the Japanese reactor uses "experimental" plutonium fuel, which must be MOX fuel. We can probably expect media questions on which U.S. reactors use, or are planning to use, MOX, and the implications of that during an event.

In the meantime, we can expect continued questions about the nature of the explosion and whether that could happen at a U.S. reactor, as well as questions on the type and levels of radioactivity being released. KI pill usage is another topic.
Neil Sheehan
NRC Public Affairs Officer
Sent from NRC Blackberry

22/AA

Roche, Kevin

From: Joe Colvin [president@ans.org]
Sent: Saturday, March 12, 2011 8:38 PM
To: Roche, Kevin
Subject: Update on Japan Situation
Attachments: ANS Japan Backgrounder.pdf

Dear ANS Members:

I'm sure you are aware of the rapidly developing situation in Japan. The ANS is working on multiple fronts to collect credible information on the incident, and distribute that information through mainstream and social media outlets.

We have communicated with our counterparts at the Atomic Energy Society of Japan to offer any technical or other assistance which may be of help.

We have set up a special page on the ANS blog (http://ansnuclearcafe.org) to aggregate media reports and provide additional information when we consider it to be credible.

We are also working to organize television appearances and other media availabilities for our members so that some of the misinformation that has been presented by anti-nuclear groups can be rebutted with facts. Our goal is not necessarily to be the first on the air, but to be the most credible.

Attached you will find some talking points, along with our current analysis of the sequence of events at Fukushima I-1. I encourage you to talk to your social networks to ensure that people have the right facts and the proper perspective on this incident.

Let me know what other actions our Society should be taking during this nuclear incident.

My thoughts and prayers go out to the people of Japan.

Respectfully,

Joe Colvin

23|AA

American Nuclear Society Backgrounder:
Japanese Earthquake/Tsunami; Problems with Nuclear Reactors

3/12/2011 5:22 PM EST

To begin, a sense of perspective is needed... right now, the Japanese earthquake/tsunami is clearly a catastrophe; the situation at impacted nuclear reactors is, in the words of IAEA, an "Accident with Local Consequences."

The Japanese earthquake and tsunami are natural catastrophes of historic proportions. The death toll is likely to be in the thousands. While the information is still not complete at this time, the tragic loss of life and destruction caused by the earthquake and tsunami will likely dwarf the damage caused by the problems associated with the impacted Japanese nuclear plants.

What happened?

Recognizing that information is still not complete due to the destruction of the communication infrastructure, producing reports that are conflicting, here is our best understanding of the sequence of events at the Fukushima I-1 power station.

- The plant was immediately shut down (scrammed) when the earthquake first hit. The automatic power system worked.
- All external power to the station was lost when the sea water swept away the power lines.
- Diesel generators started to provide backup electrical power to the plant's backup cooling system. The backup worked.
- The diesel generators ceased functioning after approximately one hour due to tsunami induced damage, reportedly to their fuel supply.
- An Isolation condenser was used to remove the decay heat from the shutdown reactor.
- Apparently the plant then experienced a small loss of coolant from the reactor.
- Reactor Core Isolation Cooling (RCIC) pumps, which operate on steam from the reactor, were used to replace reactor core water inventory, however, the battery-supplied control valves lost DC power after the prolonged use.
- DC power from batteries was consumed after approximately 8 hours.
- At that point, the plant experienced a complete blackout (no electric power at all).
- Hours passed as primary water inventory was lost and core degradation occurred (through some combination of zirconium oxidation and clad failure).

- Portable diesel generators were delivered to the plant site.
- AC power was restored allowing for a different backup pumping system to replace inventory in reactor pressure vessel (RPV).
- Pressure in the containment drywell rose as wetwell became hotter.
- The Drywell containment was vented to outside reactor building which surrounds the containment.
- Hydrogen produced from zirconium oxidation was vented from the containment into the reactor building.
- Hydrogen in reactor building exploded causing it to collapse around the containment.
- The containment around the reactor and RPV were reported to be intact.
- The decision was made to inject seawater into the RPV to continue to the cooling process, another backup system that was designed into the plant from inception.
- Radioactivity releases from operator initiated venting appear to be decreasing.

Can it happen here in the US?

- While there are risks associated with operating nuclear plants and other industrial facilities, the chances of an adverse event similar to what happened in Japan occurring in the US is small.
- Since September 11, 2001, additional safeguards and training have been put in place at US nuclear reactors which allow plant operators to cool the reactor core during an extended power outage and/or failure of backup generators – "blackout conditions."

Is a nuclear reactor "meltdown" a catastrophic event?

- Not necessarily. Nuclear reactors are built with redundant safety systems. Even if the fuel in the reactor melts, the reactor's containment systems are designed to prevent the spread of radioactivity into the environment. Should an event like this occur, containing the radioactive materials could actually be considered a "success" given the scale of this natural disaster that had not been considered in the original design. The nuclear power industry will learn from this event, and redesign our facilities as needed to make them safer in the future.

What is the ANS doing?

ANS has reached out to The Atomic Energy Society of Japan (AESJ) to offer technical assistance.

ANS has established an incident communications response team.

This team has compiling relevant news reports and other publicly available information on the ANS blog, which can be found at ansnuclearcafe.org.

The team is also fielding media inquiries and providing reporters with background information and technical perspective as the events unfold.

Finally, the ANS is collecting information from publicly available sources, our sources in government agencies, and our sources on the ground in Japan, to better understand the extent and impact of the incident.

Dean, Bill

From: Dean, Bill
Sent: Saturday, March 12, 2011 11:15 PM
To: McNamara, Nancy; Lew, David
Cc: Tifft, Doug
Subject: Re: SLO update

Thanks to your recommendation nancy. Region IV raised an issue with washington state and dave chimed in that we had inquiries from mass and penn. EDO had a specific discussion with charlie miller on this after the call this afternoon.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

----- Original Message -----
From: McNamara, Nancy
To: Dean, Bill; Lew, David
Sent: Sat Mar 12 20:56:50 2011
Subject: RE: SLO update

Thanks Bill for raising our concerns reg lack of comm for our states. It made them to staff the state liaison position and got us an avenue for all the regional SLOs to voice a united opinion to FSME.

-----Original Message-----
From: Tifft, Doug
Sent: Saturday, March 12, 2011 8:02 PM
To: Dean, Bill; Lew, David
Cc: McNamara, Nancy
Subject: SLO update

Bill / Dave,

I wanted to make sure you are up-to-date on what Nancy and I have been doing with respect to the event in Japan. Earlier today HQ operations center staffed the State Liaison position. (Previously, only the Federal Liaison and Congressional Liaison were staffed.) As you are aware, the Regional SLOs are responsible for state communications when HQ has the lead for the agency response. Therefore, Nancy and I supported teleconferences with the HQ state liaison and the other Regional State Liaison Officers. HQ is working on putting together talking points / Q&A's that are specifically tailored to the states. In the interim, we put out an email to our states pointing them towards the Press Releases and the NRC Blog, and requesting their input for Q&A's. All of our emails were authorized by the liaison team in the HQ Ops Center.

So far, we have received questions from Pennsylvania, Massachusetts, Vermont, New York, and Rhode Island. (The RSLO's in the other regions have been receiving questions from their states as well.)

-Doug

JA/AA

Matakas, Gina

From: Lew, David
Sent: Saturday, March 12, 2011 10:45 AM
To: Dean, Bill
Subject: RE: Fukushima NPP Event

Very early this morning, the reactor building at Fukushima I exploded. This was capture by numerous report videos and posted on the web as well as on TV. The reports were that the containment remained intact. I don't have an first hand information, but the "speculation" is that the tsunami flooding out the diesels and resulted in a SBO. That significant flooding probably took out other stuff as well which made it difficult to get water into the core. There was a marked increase in rad levels and likely fuel damage. There was venting going on, which I assume was containment venting. There were reports of power being available. I have only been able to get information through the web and other media sources.

Nancy just called me and indicated that MA and PA was wondering what the NRC's plans were to put out information. The States suggested that we highlight of extension radiological monitoring capabilities, but I told Nancy that we should not be taking a position that could be interpreted as minimizing this ongoing event and that we are in "denial.".

The NRC has put out a press release and some information on our activities (NRC is in monitoring) but specifically indicated that we would not put on any speculative comments on our blog.

I recommended that Nancy communicate through Neil and ensure that PAOs/Eliot are aware of the States interest for consideration and awareness.

From: Dean, Bill
Sent: Saturday, March 12, 2011 10:30 AM
To: Lew, David
Subject: Re: Fukushima NPP Event

Nope. I am proctoring an SAT test. What is going on? No HOO hilites that I have seen.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: Lew, David
To: Dean, Bill
Sent: Sat Mar 12 09:59:42 2011
Subject: RE: Fukushima NPP Event

Are you getting any info from the HOO on the explosion of the Fukushima reactor building?

From: Dean, Bill
Sent: Saturday, March 12, 2011 9:58 AM
To: Noggle, James; Lew, David
Cc: Wilson, Peter; Henderson, Pamela
Subject: Re: Fukushima NPP Event

Jim
Thanks for the outreach and volunteering if needed. It is that kind of response from individuals like yourself that make me proud to be part of this agency.
Bill Dean

25 | AA

Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: Noggle, James
To: Dean, Bill; Lew, David
Cc: Wilson, Peter; Henderson, Pamela
Sent: Sat Mar 12 09:35:58 2011
Subject: Fukushima NPP Event

Bill and Dave,

I am sure the Japanese Government Ministry of Economic Trade and Industry (METI) is very capable of handling the current nuclear event in Japan. But in case they do reach out for help or the IAEA is looking for assistance, I wanted you to know of my previous experience at that nuclear facility.

Between January 1980 and July 1989, I worked approximately 10 different projects at the Fukushima Daiichi Unit one Nuclear Power Plant as a health physics manager for General Electric International Field Services. My cumulative experience at Fukushima is well over one year onsite. I know the TEPCO organization, the health physics program there (circa 1980's), and how to work well with the Japanese staff at Fukushima.

I am ready and willing to assist if the NRC is called upon for help.

Regards,

Jim

Matakas, Gina

From: OPA Resource
Sent: Saturday, March 12, 2011 2:27 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: NRC Experts Deploy to Japan as Part of U.S. Government Response
Attachments: 11-045.docx

For immediate release and posting.

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US Nuclear Regulatory Commission
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26|AA

NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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No. 11-045 March 12, 2011

NRC EXPERTS DEPLOY TO JAPAN AS PART OF U.S. GOVERNMENT RESPONSE

Two officials from the U.S. Nuclear Regulatory Commission with expertise in boiling water nuclear reactors have deployed to Japan as part of a U.S. International Agency for International Development (USAID) team. USAID is the federal government agency primarily responsible for providing assistance to countries recovering from disaster administering.

"We have some of the most expert people in this field in the world working for the NRC and we stand ready to assist in any way possible," said Chairman Gregory Jaczko.

The NRC has stood up its Maryland-based headquarters Operations Center since the beginning of the emergency in Japan, and is operating on a 24-hour basis.

The NRC will not provide information on the status of that country's nuclear power plants. Check the NRC web site or blog for the latest information on NRC actions. Other sources of information include:

USAID -- www.usaid.gov
U.S. Dept. of State -- www.state.gov
FEMA -- www.fema.gov
White House -- www.whitehouse.gov
Nuclear Energy Institute -- www.nei.org
International Atomic Energy Agency -- www.iaea.org/press/

For background information on generic operations at a boiling-water reactor, including an animated graphic, visit the NRC's website at www.nrc.gov.

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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.

Matakas, Gina

From: OPA Resource
Sent: Saturday, March 12, 2011 11:29 AM
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: NRC in Communication with Japanese Regulations
Attachments: 11-044.docx

Attached for immediate release and posting.

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

27/AA

NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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Blog: http://public-blog.nrc-gateway.gov

No. 11-044 March 12, 2011

NRC IN COMMUNICATION WITH JAPANESE REGULATORS

Officials at Nuclear Regulatory Commission headquarters in Rockville, Md., have spoken with the agency's counterpart in Japan, offering the assistance of U.S. technical experts. Should the Japanese want to make use of this expertise, NRC staffers with extensive background in boiling-water reactors are available to assist ongoing efforts.

The NRC is coordinating its actions with other Federal agencies as part of the U.S. government response. The NRC is examining all available information as part of the effort to analyze the event and understand its implications both for Japan and the United States. The NRC's headquarters Operations Center is operating on a 24-hour basis.

U.S. nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically estimated for the site and surrounding area.

For background information on generic operations at a boiling-water reactor, including an animated graphic, visit the NRC's website at www.nrc.gov.

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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.

Matakas, Gina

From: Lew, David
Sent: Saturday, March 12, 2011 3:55 PM
To: Dean, Bill; Roberts, Darrell; Wilson, Peter; Clifford, James; Weerakkody, Sunil; Miller, Chris; Lorson, Raymond; Collins, Daniel; Baker, Pamela; Walker, Tracy
Cc: Dapas, Marc; Sheehan, Neil; Screnci, Diane; Tifft, Doug; McNamara, Nancy; Hansell, Samuel
Subject: Summary of 3:30 pm TA Briefing

Borchardt provided update

- Still operating on limited information.
- Deputies Meeting at the White House with significant focus on the nuclear event.
- Two NRC staff dispatched: one USAID and other on commercial flight
- NRC is minding its role and allow the White House to carry the messages
- NRC has for objectives
  1. Continue monitoring to the situation best that we can, given limited information.
  2. Outreach to IAEA and proposing IAEA as the point of contact for Japan.
  3. Further development of NRC questions and answers (one set is associated with what we know about Japan – will need to be very factual and not speculate; second set of questions and answers will focus will be on the domestic industry. Expect the public/media focus to turn toward domestic in the next day or so.
  4. Interaction with DHS and federal agencies, including plume plot, possible exposure models, and monitoring on the west coast.
- FEMA has stood down and operating under normal weekend staffing.

New plant updates

- Most attention is on Unit 1
- Unit 2 appears to be shut down safely
- Tsunami interrupted diesel fuel flow or diesel cooling flow which was above ground.
- For some time, the core was uncovered and some fuel damage occurred.
- Believed that the explosion was either a steam explosion or hydrogen explosion.
- Seawater is being used in two ways. Borated seawater to inject into the reactor vessel and seawater to fill basement to cool the torus.
- Not getting indications of a degrading situation.

From: Lew, David
Sent: Saturday, March 12, 2011 12:52 PM
To: Dean, Bill; Roberts, Darrell; Wilson, Peter; Clifford, James; Weerakkody, Sunil; Miller, Chris; Lorson, Raymond; Collins, Daniel; Baker, Pamela; Walker, Tracy
Cc: Dapas, Marc; Sheehan, Neil; Screnci, Diane; Tifft, Doug; McNamara, Nancy
Subject: OEDO/OD/RA conference call

Noon today, the Executive Team held a conference call with the Office Directors and the Regional Administrators. Bill, Neil Sheehan and I participated in the call. (Bill/Neil, please add anything I missed or correct/clarify as needed). There will be a TA call at 3:30 pm.

- Limited information from our Japanese counterparts (need to be respectful of ongoing event response)
- Much information is second hand via IAEA, industry (via INPO/WANO), TEPCO website information
- NRC external communications will be via the HQs Liaison Team and OPA. Filter requests through the HOO.
- NRC remains in the monitoring mode.
- Chairman attended a meeting with White House. Marty Virgilio participated by VTC.
- Assistance offer to Japanese regulators, but do not currently need NRC support.

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- US team deployed consisting of 60-70 people to assess the disaster (not limited to nuclear). NRC has supplied one team member who will be a technical consultant. A second staffed is trying to get on a flight to Japan to support the team and the US embassy.
- Parts of the industry mustering to offer industry support.
- GE is working with Exelon to run some simulator scenarios, Dresden unit most similar to the site.

Unconfirmed information about plants

- Eleven (11) reactor units in the area, but Fukushima Daiichi was hit the hardest. That site has six units. The concerns are currently focused on Units 1 and 2 (Unit 3 is in cold shutdown and the other three were in refueling).
- The Tsunami result is an extended loss of AC. Generators have been delivered to the site but no information that it is connected. Additional DC power has been to support operation of various valves and instruments.
- Fukushima Unit 1 explosion in the reactor building (metal siding taken off the of the reactor building).
- RCS and primary containment are both intact.
- Possible hydrogen detonation but no confirmation.
- Prior to this, venting of the primary containment which was successful in reducing pressure by half.
- Reactor water level was below top of active fuel
- Cs and Iodine detected outside facility indicating that core damage was likely
- Rad levels at the site boundary had been at 100 mrem/hr but now has decreased to 7 mrem per hour
- The licensee was filling containment with borated seawater
- Some workers injured at Unit 1 at the time of the video
- Unit 2 continuing to work through SBO, suppression pool at saturation temperature

Dave

IAEA
International Atomic Energy Agency

INCIDENT AND EMERGENCY CENTRE

EMERCON EMERCON EMERCON

FAX: +43 1 26007 29309

Date: **2011-3-13 20:00 UTC** **Pages incl. cover sheet:**

TO: **All Contact Points**

cc: **Permanent Missions**

Subject: **Status of the Onagawa nuclear power plant**

The Incident and Emergency Centre (IEC) is continuing to monitor the status of the nuclear power plants in Japan following the earthquake.

Based on information received by 15:40 UTC on March 13, 2011 the following update for **Onagawa nuclear power** plant is provided:

At 16:30 JST Article 10 from the Act on Special Measures Concerning Nuclear Emergency Preparedness was activated, due to the increase level of radiation (21 micro Sv/h) at the site boundary.

The dose rate at the site boundary has subsequently returned down to normal background levels.

Investigations on the site indicate that no emissions of radioactivity have occurred from any of the 3 units at Onagawa.

The current assumption of the Japanese authority is that the increased dose rate at the site boundary may have been due to a release of radioactive material from the Fukushima Daiichi NPP.

Elena Buglova

Emergency Response Manager

13-March-2011 20:00 UTC

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International Atomic Energy Agency

IAEA update on Japan Earthquake

StaffReport (#)

0235 CET, 13 March 2011 Japanese authorities have informed the IAEA that Units 1, 2, and 4 at the Fukushima Daini nuclear power plant retain off-site power but are experiencing increased pressure in each reactor. Plant operators have vented the containment at each of the three units and are considering further venting to alleviate the increase in pressure.

Daini Unit 3 is in a safe, cold shutdown, according to Japanese officials.

Japanese authorities have reported some casualties to nuclear plant workers. At Fukushima Daichi, four workers were injured by the explosion at the Unit 1 reactor, and there are three other reported injuries in other incidents. In addition, one worker was exposed to higher-than-normal radiation levels that fall below the IAEA guidance for emergency situations. At Fukushima Daini, one worker has died in a crane operation accident and four others have been injured.

In partnership with the World Meteorological Organization, the IAEA is providing its member states with weather forecasts for the affected areas in Japan. The latest predictions have indicated winds moving to the Northeast, away from Japanese coast over the next three days.

The IAEA continues to liaise with the Japanese authorities and is monitoring the situation as it evolves.

2110 CET, 12 March 2011 Japanese authorities have informed the IAEA that the explosion at Unit 1 reactor at the Fukushima Daiichi plant occurred outside the primary containment vessel (PCV), not inside. The plant operator, Tokyo Electric Power Company (TEPCO), has confirmed that the integrity of the primary containment vessel remains intact.

As a countermeasure to limit damage to the reactor core, TEPCO proposed that sea water mixed with boron be injected into the primary containment vessel. This measure was approved by Japan's Nuclear and Industrial Safety Agency (NISA) and the injection procedure began at 20:20 local Japan time.

Japan has reported that four workers at Fukushima Daiichi were injured by the explosion.

NISA have confirmed the presence of caesium-137 and iodine-131 in the vicinity of Fukushima Daiichi Unit 1. NISA reported an initial increase in levels of radioactivity around the plant earlier today, but these levels have been observed to lessen in recent hours.

Containment remains intact at Fukushima Daiichi Units 1, 2 and 3.

Evacuations around both affected nuclear plants have begun. In the 20-kilometre radius around Fukushima Daiichi an estimated 170000 people have been evacuated. In the 10-kilometre radius around Fukushima Daini an estimated 30000 people have been evacuated. Full evacuation measures have not been completed.

The Japanese authorities have classified the event at Fukushima Daiichi Unit 1 as a level 4 'Accident with Local Consequences' on the International Nuclear and Radiological Event Scale (INES). The INES scale is used to promptly and consistently communicate to the public the safety significance of events associated with sources of radiation. The scale runs from 0 (deviation) to 7 (major accident).

Japan has also confirmed the safety of all its nuclear research reactors.

The IAEA continues to liaise with the Japanese authorities and is monitoring the situation as it evolves.

IAEA Director General's Update on Tsunami and Earthquake Emergency Response

2000 CET, 12 March 2011 IAEA Director General Yukiya Amano provided a video (http://www.youtube.com/user/IAEAvideo) statement on the aftermath of the earthquake and tsunami that struck Japan. Director General Amano expressed his sincerest condolences for the lives and homes lost, and said "My heart goes out to the people of my home country as they rise to the challenge of this immense tragedy."

Director General Amano notes the current effort to prevent further damage to Unit 1 reactor at the Fukushima Daiichi nuclear power plant.

In response to the situation, Director General Amano also explained the IAEA's dual role to use emergency communication channels to exchange verified, official information between Japan and other IAEA Member States, as well as to coordinate the delivery of international assistance, should Japan or other affected countries request it.

The video statement can be accessed here (http://www.youtube.com/user/IAEAvideo)

1340 CET, 12 March 2011 Japan's Nuclear and Industrial Safety Agency (NISA) has informed the IAEA's Incident and Emergency Centre (IEC) that there has been an explosion at the Unit 1 reactor at the Fukushima Daiichi plant, and that they are assessing the condition of the reactor core.

The explosion was reported to NISA by the plant operator, Tokyo Electric Power Company (TEPCO), at 0730 CET. Further details were not immediately available.

Japanese authorities have extended the evacuation zone around the Fukushima Daiichi plant to a 20-kilometre radius from the previous 10 kilometres. At the nearby Fukushima Daini nuclear power plant, the evacuation zone has been extended to a 10-kilometre radius from the previous three kilometres.

The authorities also say they are making preparations to distribute iodine to residents in the area of both the plants.

The IAEA has reiterated its offer of technical assistance to Japan, should the government request this. The IAEA continues to liaise with the Japanese authorities, and is in full response mode to monitor the situation closely around the clock as it

evolves.

0730 CET, 12 March 2011 Japanese authorities have informed the IAEA's Incident and Emergency Centre (IEC) that, starting at 12 March 9:00AM local Japan time, they have started the preparation for the venting of the containment of the Unit 1 reactor at the Fukushima Daiichi plant through a controlled release of vapour. The operation is intended to lower pressure inside the reactor containment.

Evacuation of residents living within ten kilometres of the Fukushima Daiichi nuclear power plant is reported to be under way. An area with a radius of three kilometres around the plant had already been evacuated.

The evacuation of residents living within three kilometres of the Fukushima Daini nuclear power plant is also under way.

The IAEA's IEC continues to liaise with the Japanese authorities, and is in full response mode to monitor the situation closely around the clock as it evolves.

2210 CET, 11 March 2011 Japanese authorities have informed the IAEA's Incident and Emergency Centre (IEC) that officials are working to restore power to the cooling systems of the Unit 2 reactor at the Fukushima Daiichi nuclear power plant. Mobile electricity supplies have arrived at the site.

Japanese officials have also reported that pressure is increasing inside the Unit 1 reactor's containment, and the officials have decided to vent the containment to lower the pressure. The controlled release will be filtered to retain radiation within the containment.

Three reactors at the plant were operating at the time of the earthquake, and the water level in each of the reactor vessels remains above the fuel elements, according to Japanese authorities.

The IAEA's IEC continues to liaise with the Japanese authorities, and is in full response mode to monitor the situation closely round the clock.

2050 CET, 11 March 2011 *IAEA Director General Expresses Condolences Following Japan Earthquake* "I would like to express my condolences and sympathies to the people of Japan who have suffered from this earthquake and to the Government of Japan," said IAEA Director General Yukiya Amano.

2030 CET, 11 March 2011 Japanese authorities have informed the IAEA's Incident and Emergency Centre (IEC) that today's earthquake and tsunami have cut the supply of off-site power to the Fukushima Daiichi nuclear power plant. In addition, diesel generators intended to provide back-up electricity to the plant's cooling system were disabled by tsunami flooding, and efforts to restore the diesel generators are continuing.

At Fukushima Daiichi, officials have declared a nuclear emergency situation, and at the nearby Fukushima Daini nuclear power plant, officials have declared a heightened alert condition.

Japanese authorities say there has so far been no release of radiation from any of the nuclear power plants affected by today's earthquake and aftershocks.

The IAEA's IEC continues to liaise with the Japanese authorities, and is in full response mode to monitor the situation closely round the clock.

1755 CET 11 March 2011 Japanese authorities have informed the IAEA's Incident and Emergency Centre (IEC) that they have ordered the evacuation of residents within a three-kilometre radius of the Fukushima Daiichi nuclear power plant, and told people within a 10-kilometre radius to remain indoors.

The Japanese authorities say there has so far been no release of radiation from any of the nuclear power plants affected by today's earthquake and aftershocks.

"The IAEA continues to stand ready to provide technical assistance of any kind, should Japan request this," IAEA Director General Yukiya Amano said.

The IAEA's IEC continues to liaise with the Japanese authorities, and is in full response mode to monitor the situation closely round the clock.

1245 CET, 11 Mar 2011 The IAEA's Incident and Emergency Centre has received information from Japan's Nuclear and Industrial Safety Agency (NISA) that a heightened state of alert has been declared at Fukushima Daiichi nuclear power plant. NISA says the plant has been shut down and no release of radiation has been detected.

Japanese authorities have also reported a fire at the Onagawa nuclear power plant, which has been extinguished. They say Onagawa, Fukushima-Daini and Tokai nuclear power plants were also shut down automatically, and no radiation release has been detected.

The IAEA received information from its International Seismic Safety Centre that a second earthquake of magnitude 6.5 has struck Japan near the coast of Honshu, near the Tokai plant.

The IAEA is seeking further details on the situation at Fukushima Daiichi and other nuclear power plants and research reactors, including information on off-site and on-site electrical power supplies, cooling systems and the condition of the reactor buildings. Nuclear fuel requires continued cooling even after a plant is shut down.

The IAEA is also seeking information on the status of radioactive sources in the country, such as medical and industrial equipment.

The World Meteorological Organization has informed the IAEA that prevailing winds are blowing eastwards, away from the Japanese coast.

All IAEA staff in Japan, both in the Tokyo office and in nuclear facilities, are confirmed to be safe.

0930 CET, 11 Mar 2011 The IAEA's Incident and Emergency Centre received information from the International Seismic Safety Centre (ISSC) at around 0815 CET this morning about the earthquake of magnitude 8.9 near the east coast of Honshu, Japan.

The Agency is liaising with the Japanese Ministry of Economy, Trade and Industry (METI) to confirm further details of the situation. Japanese authorities reported that the four nuclear power plants closest to the quake have been safely shut down.

The Agency has sent an offer of Good Offices to Japan, should the country request support.

Current media reports say a tsunami alert has been issued for 50 countries, reaching as far as Central America. The Agency is seeking further information on which countries and nuclear facilities may be affected.

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INCIDENT AND EMERGENCY CENTRE

Date: 2011-3-13
UTC Time: 11:30

Total Pages including cover sheet: 4

To: **All Contact Points**

Cc: **Permanent Missions**

Subject: **Status of the Fukushima Daiichi and Onagawa nuclear power plants**

The Incident and Emergency Centre (IEC) is continuing to monitor the status of the nuclear power plants in Japan following the earthquake.

Based on information received by 9:30 UTC on March 13, 2011 the following update for the three reactor units at the Fukushima Daiichi nuclear power plant is provided:

Unit 1

The reactor is being maintained shutdown. There is currently no off-site electrical power supply nor diesel generators providing power to Unit 1. Work continues to restore power to the plant. Water level in the reactor is out of the measuring range, but at least 170 cm below the top of the core. There was an explosion outside of the containment (estimate 06:36 UTC, March 12) during which 4 people were injured. Information received said that containment is intact in Unit 1. The injection of seawater and boron into Unit 1 commenced at 11:20 UTC March 12 using a special piping configuration and is continuing. Radiation monitoring at 4:20 UTC March 13, 2011, indicates the highest level is at measuring point MP4 of 47.1 micro Sv per hour.

Unit 2

The reactor is being maintained shutdown. There is currently no off-site power supply nor diesel generators providing power to Unit 2. Work continues to restore power to the plant. The reactor water level remains unchanged at approximately +375 cm above the top of the core. Cooling of the core is being maintained through reactor core isolation cooling. Containment is intact in Unit 2.

Unit 3

The reactor is being maintained shutdown. There is currently no off-site power supply nor diesel generators providing power to Unit 3. The reactor water level has decreased to a level between -150 to 200 cm below the top of the core. Containment is intact in Unit 3. Venting of the containment of Unit 3 started at 00:15 UTC, March 13. High pressure injection system failed at 5:10JST March 13 and other attempts of cooling have also failed. Injection of water started at 11:55 JST and from 13:12JST injection with sea water started. Accumulation of hydrogen is possible.

Additional Information

Protective countermeasures are being implemented with evacuations out to 20 km around Fukushima Daiichi.

Mobile monitoring has been routinely performed at the site boundary. A summary of results over time is provided below.

Mobile Monitoring Results	
Time and Date	Dose Rate at Site Boundary
06:29 UTC 12-Mar-2011	1015 micro Sv/h
06:47 UTC 12-Mar-2011	141.8 micro Sv/h
10:44 UTC 12-Mar-2011	64.2 micro Sv/h
11:26 UTC 12-Mar-2011	59.1 micro Sv/h
14:30 UTC 12-Mar-2011	47.9 micro Sv/h
18:08 UTC 12-Mar-2011	40.0 micro Sv/h

The results from the **fix monitoring points** (MP1 to MP8) are the following:

Time is in JST

MP1	MP2	MP3	MP4	MP5	MP6	MP7	MP8
			40 uSv/h (03:08, March13)		0.07 uSv/h (04:00, March12		0.07 uSv/h (04:00, March 12
					3.1 uSv/h		4.5 uSv/h

					(02:50, March 13)		(02:50, March 13)
17 uSv/h (11:40, 13 March)			47.1 uSv/h (12:20, 13 March)		26 uSv/h (9:30, 13 March)		

Attachment 1 depicts the location of the fix monitoring points.

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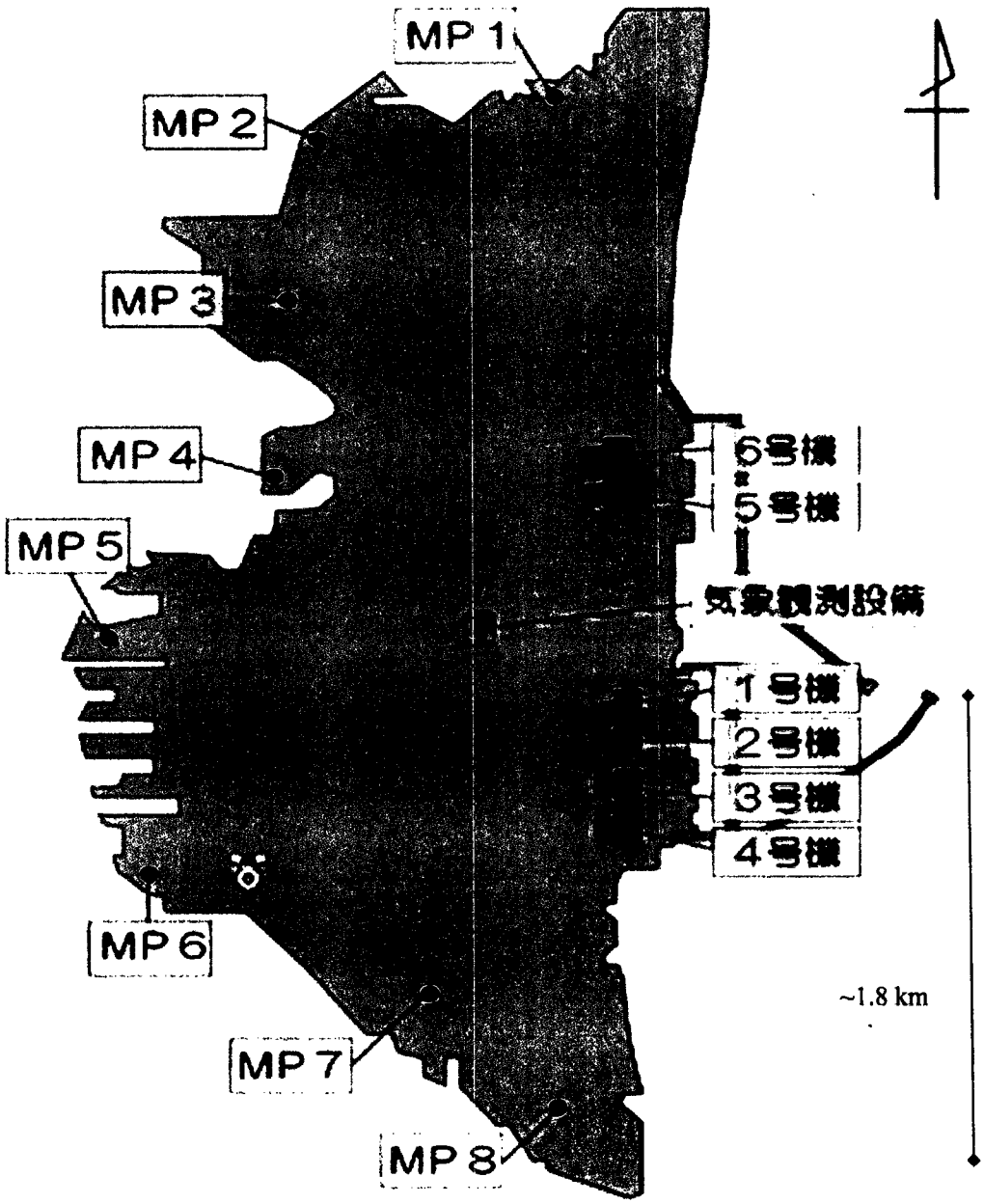
At 16:30 JST Article 10 on Special Measures Concerning Nuclear Emergency Preparedness was activated, due to the increase level of radiation (21 micro Sv/h) at the site boundary.



IAEA Incident and Emergency Centre
Attachment 1: Location of fix Monitoring Points at Fukushima Daiichi
http://www.tepco.co.jp/fukushima1-np/monitoring/monita2.html

Respectfully

Guenther Winkler
Emergency Response Manager
13 March-2011 UTC time: 11:30

IAEA.org
International Atomic Energy Agency

IAEA update on Japan Earthquake

StaffReport (#)

0235 CET, 13 March 2011 -- CORRECTED An earlier version of this release incorrectly described pressure venting actions at Units 1, 2, and 4 at the Fukushima Daini nuclear power plant. Venting did not occur at these units.

Japanese authorities have informed the IAEA that Units 1, 2, and 4 at the Fukushima Daini retain off-site power. Daini Unit 3 is in a safe, cold shutdown, according to Japanese officials.

Japanese authorities have reported some casualties to nuclear plant workers. At Fukushima Daichi, four workers were injured by the explosion at the Unit 1 reactor, and there are three other reported injuries in other incidents. In addition, one worker was exposed to higher-than-normal radiation levels that fall below the IAEA guidance for emergency situations. At Fukushima Daini, one worker has died in a crane operation accident and four others have been injured.

In partnership with the World Meteorological Organization, the IAEA is providing its member states with weather forecasts for the affected areas in Japan. The latest predictions have indicated winds moving to the Northeast, away from Japanese coast over the next three days.

The IAEA continues to liaise with the Japanese authorities and is monitoring the situation as it evolves.

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NISA have confirmed the presence of caesium-137 and iodine-131 in the vicinity of Fukushima Daiichi Unit 1. NISA reported an initial increase in levels of radioactivity around the plant earlier today, but these levels have been observed to lessen in recent hours.

Containment remains intact at Fukushima Daiichi Units 1, 2 and 3.

Evacuations around both affected nuclear plants have begun. In the 20-kilometre radius around Fukushima Daiichi an estimated 170000 people have been evacuated. In the 10-kilometre radius around Fukushima Daini an estimated 30000 people have been evacuated. Full evacuation measures have not been completed.

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The explosion was reported to NISA by the plant operator, Tokyo Electric Power Company (TEPCO), at 0730 CET. Further details were not immediately available.

Japanese authorities have extended the evacuation zone around the Fukushima Daiichi plant to a 20-kilometre radius from the previous 10 kilometres. At the nearby Fukushima Daini nuclear power plant, the evacuation zone has been extended to a 10-kilometre radius from the previous three kilometres.

The authorities also say they are making preparations to distribute iodine to residents in the area of both the plants.

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Evacuation of residents living within ten kilometres of the Fukushima Daiichi nuclear power plant is reported to be under way. An area with a radius of three kilometres around the plant had already been evacuated.

The evacuation of residents living within three kilometres of the Fukushima Daini nuclear power plant is also under way.

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Japanese officials have also reported that pressure is increasing inside the Unit 1 reactor's containment, and the officials have decided to vent the containment to lower the pressure. The controlled release will be filtered to retain radiation within the containment.

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At Fukushima Daiichi, officials have declared a nuclear emergency situation, and at the nearby Fukushima Daini nuclear power plant, officials have declared a heightened alert condition.

Japanese authorities say there has so far been no release of radiation from any of the nuclear power plants affected by today's earthquake and aftershocks.

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The IAEA is seeking further details on the situation at Fukushima Daiichi and other nuclear power plants and research reactors, including information on off-site and on-site electrical power supplies, cooling systems and the condition of the reactor buildings. Nuclear fuel requires continued cooling even after a plant is shut down.

The IAEA is also seeking information on the status of radioactive sources in the country, such as medical and industrial equipment.

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Current media reports say a tsunami alert has been issued for 50 countries, reaching as far as Central America. The Agency is seeking further information on which countries and nuclear facilities may be affected.

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INCIDENT AND EMERGENCY CENTRE

Subject: **Status of the Fukushima Daiichi nuclear power plant**

The Incident and Emergency Centre (IEC) is continuing to monitor the status of the nuclear power plants in Japan following the earthquake.

At 02:00 UTC on March 13, 2011 the IEC spoke to its counterparts in Japan the Nuclear and Industrial Safety Agency (NISA) who provided the following updated information about the three reactor units at the Fukushima Daiichi nuclear power plant:

Unit 1

The reactor is being maintained shutdown. There is currently no off-site electrical power supply nor diesel generators providing power to Unit 1. Work continues to restore power to the plant. Water level in the reactor is out of the measuring range, but at least 170 cm below the top of the core. There was an explosion outside of the containment (estimate 06:36 UTC, March 12) during which 4 people were injured. Containment is intact in Unit 1. The injection of seawater and boron into Unit 1 commenced at 11:20 UTC March 12 using a special piping configuration and is continuing.

Unit 2

The reactor is being maintained shutdown. There is currently no off-site power supply nor diesel generators providing power to Unit 2. Work continues to restore power to the plant. The reactor water level remains unchanged at approximately 355 cm above the top of the core. Cooling of the core is being maintained through reactor core isolation cooling. Containment is intact in Unit 2.

Unit 3

The reactor is being maintained shutdown. There is currently no off-site power supply nor diesel generators providing power to Unit 3. The reactor water level has decreased to a level of 135 cm above the top of the core. Cooling of the core is being achieved through the high pressure coolant injection system. Containment is intact in Unit 3. Venting of the containment of Unit 3 started at 00:15 UTC, March 13. As of 00:25, March 13 borated water was being added into Unit 3.

Additional Information

Protective countermeasures are being implemented with evacuations out to 20 km around Fukushima Daiichi. Additional countermeasures are being considered.

Mobile monitoring has been routinely performed at the site boundary. A summary of results over time is provided below.

Mobile Monitoring Results	
Time and Date	Dose Rate at Site Boundary
06:29 UTC 12-Mar-2011	1015 micro Sv/h
06:47 UTC 12-Mar-2011	141.8 micro Sv/h
10:44 UTC 12-Mar-2011	64.2 micro Sv/h
11:26 UTC 12-Mar-2011	59.1 micro Sv/h
14:30 UTC 12-Mar-2011	47.9 micro Sv/h
18:08 UTC 12-Mar-2011	40.0 micro Sv/h

The Japanese authorities classified the event in Unit 1 according to International Nuclear and Radiological Event Scale (INES) as a level 4.

Emergency Response Manager

13-March-2011 04:00 UTC

IAEA Incident and Emergency Centre

IAEA
International Atomic Energy Agency

INCIDENT AND EMERGENCY CENTRE

Subject: **Status of the Fukushima Daini nuclear power plant**

The Incident and Emergency Centre (IEC) is continuing to monitor the status of the nuclear power plants in Japan following the earthquake.

At 00:00 UTC on March 13, the IEC spoke to its counterparts in Japan the Nuclear and Industrial Safety Agency (NISA) who provided the following updated information about the four reactor units at the Fukushima Daini nuclear power plant:

March 11. The four units at Daini were automatically shutdown at 5:48 UTC. Following the earthquake, off-site power was interrupted but was restored at 11:00 UTC. The water levels in all four units were stable at 15:00 UTC.

Unit 1

Cooling is by the makeup water condensate system.

March 12. A loss of controlling pressure was reported at 05:22 UMT. Work to prepare for venting of the containment started at 00:43 UMT and was completed by 09:00 UMT. At 21:00 UMT, the water level was 519.6 cm above the top of the core and pressure in the containment vessel was 158 kPa.

Unit 2

Cooling is by the makeup water condensate system.

March 12. A loss of controlling pressure was reported at 05:32 UMT. At 21:00 UMT, March 12, the water level was 533.1 cm above the top of the core and pressure in the containment vessel was 168.4 kPa.

Unit 3

This unit is in a cold shutdown. At 21:00 UMT, March 12, the water level was 572.7 cm above the top of the core and pressure in the containment vessel was 29 kPa.

Unit 4

Cooling is by the makeup water condensate system. A loss of controlling pressure was reported at 06:10 UMT. Preparations for venting the containment vessel began at 09:50 UMT – at the same time evacuation of residents within a 3 km radius began. At 17:39 on March 12, evacuation was started within a 10 km radius. At 21:00 UMT, March 12, the water level was 580 cm above the top of the core and pressure in the containment vessel was 99 kPa.

Additional Information

One worker was killed at the site due to a crane accident.

Two workers at the site were seriously injured, and two workers sustained light injuries.

Emergency Response Manager

13-March-2011 02:00 UTC

IAEA Incident and Emergency Centre

News Release

経済産業省
Ministry of Economy, Trade and Industry

March 13, 2011
Nuclear and Industrial Safety Agency

Seismic Damage Information(the 18th Release)
(As of 04:30 March 13, 2011)

Nuclear and Industrial Safety Agency (NISA) confirmed the current situation of Higashidori and Onagawa NPSs, Tohoku Electric Power Co., Inc; Higashidori, Fukushima Dai-ichi, Fukushima Dai-ni and Kashiwazaki-Kariwa NPSs, Tokyo Electric Power Co., Inc. and electricity, gas, heat supply and complex as follows:

1. Summary of Damage(Earthquake at Sanriku-Oki)

(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

(3) Seismic Intensity in Japanese Scale

<Area of Seismic Intensity Larger Than and Including 4>

7: Northern Miyagi Prefecture

6+: Northern and southern Ibaraki Prefecture

5+: Sanpachi-Kamikita Aomori Prefecture

5-: Chuetsu, Niigata Prefecture

<Municipality of Seismic Intensity Larger than and Including 4>

6+: Naraha Machi, Tomioka Machi, Ookuma-machi, and Futaba-machi, Fukushima Prefecture

6-: Ishinomaki-city and, Onagawa town (by Seismograph of NPP)of , Miyagi Prefecture and Tokaimura, Ibaraki Pref.

5-: Kariwa-village, Niigata Prefecture

4: Rokkasho-village, Higashidori-village, Aomori Prefecture, Kashiwazaki-city, Niigata Prefecture and Yokosuka-city, Kanagawa Prefecture

1: Tomari-village, Hokkaido

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

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

(1) The status of operation

Unit 1 (524MWe): automatic shutdown, cold shut down at 0:58, March 12

Unit 2 (825MWe): automatic shutdown

Unit 3 (825MWe): automatic shutdown, cold shut down at 1:17, March 12

(2) Readings of monitoring post

Variation in the monitoring post readings: No

Variation in the main stack monitor readings: No

(3) Report concerning other malfunction

It is confirmed Smoke in the first basement of the Turbine Building was confirmed the extinguished at 22:55 on March 11th.

b. Fukushima Dai-ichi Nuclear Power Station, Tokyo Electric Power Co.,Inc.(TEPCO)

(Okuma-machi 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

The measurement of radioactive materials in the environmental monitoring area near the site boundary by a monitoring car confirmed the increase in the radioactivity compared to the radioactivity at 04:00, March 12 now.

MP4(Moitoring car data at the site boundary, North-west of Unit1): 40microSv/h(03:08, March13)

MP6 (at the main gate) 0.07microSv/h ->3.1 micro Sv/h (04:00, March12->02:50, March 13)

MP8 (at the observation platform) 0.07microSv/h ->4.5 micro Sv/h (04:00, March 12->02:50, March 13)

(3) Wind direction/wind speed(as of 20:38, March 12)
Wind direction: West
Wind Speed: 0.5m/s
(4)Report concerning other malfunction
Article 10* of Act on Special Measures Concerning Nuclear Emergency Preparedness (Fukushima Dai-ichi)
(*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.
-Cable from electric power generating cars are under connecting work(as of 15:04, March 12)
-Pressure in the containment vessel has arisen. Steam release is undertaking in order to relieve pressure.(as of 14:40, March 12)
-A radiation level exceeding 500 microSv/h was monitored at the site boundary(15:29, March 12). A large motion occurred due to an earthquake with close epicentre and an large sound was issued near Unit1 and smoke was observed.

c. Fukushima-Daini Nuclear Power Station(TEPCO)
(Naraha-machi/Tomioka-machi, Futaba-gun, Fukushima pref.)
(1) The status of operation
Unit1(1,100MW): automatic shutdown
Unit2(1,100MW): automatic shutdown
Unit3(1,100MW): automatic shutdown, cold shut down at 12:15, March 12
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) Direction and velocity of wind (As of 01:59, 13 March)
Direction: South-west
Velocity: 4.7m/s
(4) Report concerning other malfunction
No Report of fire, etc.

Article 10* of Act on Special Measures Concerning Nuclear Emergency Preparedness (Fukushima Dai-ni, Unit 1)
(*A heightened alert condition)
Article 15** of Act on Special Measures Concerning Nuclear Emergency Preparedness (Fukushima Dai-ni, Units 1,2 and 4)
(**Nuclear emergency situation)

3. Industrial Safety
○Electricity
* Tokyo Electric Power Co. (as of 04:30, March 13, 2011)
Scale of loss of electrical power: approx. 340 thousand houses
Power loss area:
Ibaraki Pref.: Whole area (approx. 332 thousand houses),
Tochigi Pref.: Mogi-cho, etc. (approx 7 thousand houses)
Chiba Pref.: Katori-shi, etc. approx 3 hundred houses)

* Tohoku Electric Power Co. (as of 22:00, March 12, 2011)
Scale of loss of electrical power: approx.2150 thousand houses (under investigation)
Power loss area:
Iwate Pref.: Whole area, (approx 502 thousand houses)
Akita Pref: Some area (approx 600 houses)
Miyagi Pref: whole area (approx 1,283 thousand houses)
Aomori Pref.: area (approx 250 thousand houses)
Yamagata Pref: Recovered (as of 21:13, March 12)
Fukushima Pref: Some parts of Naka-dori and Hama-dori (approx 114 thousand houses)
Niigata Pref.: Recovered(as of 15:51, March 12)

* Hokkaido Electric Power Co. (as of 14:00, March 12, 2011)
Electrical outage be restored

*Chubu Electric Power Co. (as of 17:11, March 12, 2011)
Electrical outage be restoredinnaoan..(as of 17:11, March12)

○General Gas (as of 21:30, March 12)
The Japan Gas Association dispatched its six advance teams of thirty staff (five teams for Sendai and one team for Joban area) at 07:00, 12 March upon request from Sendai-shi.

Sendai-city municipal Gas, Kesennuma-city municipal Gas, Ishinomaki Gas have trouble contacting at 1:00 12 March. The Japan Gas Association confirmed that there are no supply disruption in the supply area of city gas in Hokkaido, Yamagata, and Akita prefecture.

* Tokyo Gas Co. (whole area of Hitachi-shi)
Hitachi branch: 30,007 houses are in supply disruption. There is no damage in equipment, however, equipment in inoperable due to loss of power. Walkdown unit of eight person departed at 18:45, March 11 and already arrived at 06:00, March 12. Recovery plan will be established by 12 afternoon. Time of recovery is not certain.

Eastern part of Joso: 453 houses were in supply disruption in Ushiku (supply restarted at 17:10, March 11)
471 houses were in supply disruption in Ushiku-shi Ushiku- cho(supply restarted at 22:36 March11)
77 houses are in supply disruption in Ryuugasaki(supply restarted at 16:20, March 11)
40 houses are in supply disruption in Nishi-ku, Yokohama-shi(supply restarted at 17:29, March 11)
Gas leaked from a Nozzle of an LNG tank at Sodegaura but no ignition (restored on 02:30, March 12)
*Gas Bureau of Sendai-shi: whole supply disruption (approx.360 thousand houses)
*Shiogama Gas Co.: approx.12,382 houses are in supply disruption. Shiogama-shi, Tagashiro-shi, Nanahama-shi and Rihu-syo are out of service due to no supply from Gas Bureau of Sendai)

*Hachinohe Gas (Several part of Hachinohe-shi): approx.1,300 houses are in supply disruption.
*Kamaishi Gas Co. : approx.10,000 houses are in supply disruption. First

floor of this Gas facility sank.

*Hatano Gas Co.: Approx. 380 houses are in supply disruption. Restoration will be expected 13th of March.
*Keiyo Gas Co.: Leakage occurred at 5 locations of middle pressure conduit
Leakage occurred at many parts of Low pressure conduits
5,445 houses in Urayasu-shi are in supply disruption.
Supply to Yachiyo Station stopped.
*Kujukuri choei Gas: Approx 258 houses are in supply disruption.
*Atsugi Gas Co: leakage occurred at 1 location of middle pressure conduit.
*Fukushima Gas Co.: (A part of Fukushima-shi) About 2,726 houses are in supply disruption
*Tohoku Gas (part of Shirakawa-shi): 300 houses are in supply disruption
*Joban kyodo Gas(Iwaki-shi): 14,000 houses (whole customer) are in supply disruption
*Tobu Gas Fukushima-shisya: 7,500 houses are in supply disruption (Koriyama-shi, Iwaki-shi) leakage occurred at 2 locations of middle pressure conduit, leakage occurred at 54 locations of low pressure conduits and another leakage occurred on 85 locations. 39 houses in supply disruption.
*Tobu Gas (a part of Tsuchiura-shi) 7,500 houses in supply disruption
(a part of Mito-shi) 330 houses in supply disruption
*Joban Toshi Gas (Mito-shi) 60 houses in supply disruption
*Tosai Gas(Kasukabe-shi) Gas leakage occurred from conduit. 150 houses in apartment are in supply disruption. Supply restarted in the afternoon 12 March.
*Odawara Gas(Odawara-shi)
leakage occured at 1 locations of low pressure branch conduit and 3 locations of ex-core inner conduit and have restored at 21:30 11 March. Other areas are under investigation.

○Community Gas(as of 15:50, March 12)
Severe damage has not been reported to Japan Community Gas Association so far. No information is available about the damage in North part of Ibaraki prefecture.

*Tokyo Gas Energy (North part of Ibaraki): Factory stopped supply to 943

houses in Nakago-New Town due to the leakage from pipe.

*Satoh Kosan (based in Iwatsuki-ku, Saitama City) Iwatsuki-housing complex: Gas leakage occurred from conduit. 451 sites are in supply disruption.

*Syutoken Gas (based in Sakura-City) Chitose-housing complex:1,320 houses are in supply disruption

*Kashima Marui Gas (Kamisu-shi):Gas conduit was damaged. 527 houses are in supply disruption. Time of recovery is not certain.

*Nagashima Central Gas (Katori-shi) Tamatsukuri-housing complex, 222 houses are in supply disruption due to short circuit now under recovery works.
*Taihei Sangyo (Takahagi-shi) Hagigaoka-housing complex 112 houses are in supply disruption due to short circuit. Recovery has completed at 21:00 11 March. (Takahagi-shi) Ishidaki-housing complex 648 houses and (Hitachi-shi) Hitachi-Densen Akasaka-housing complex 222 houses are in supply disruption. Under recovery works.

*Taiyo Nissan Energy Kanto Kajima Branch: (Kamisu-shi) mitsubishi Chemicals Yatabe Complex: 90 houses are in supply disruption due to activation. Investigation is underway for possible gas leakage on the main pipe.

*Nihon Gas (Yaita-shi) Narita Koufuku high residential complex: Production of gas is stopped due to partial damage of the specific production building. 140 houses are in supply sisruption[
(Nasukarasuyama-shi) Kounodai New Town: Gas leakage from Main Pipe.27 houses are in supply disruption.
(Itako-shi) kajima Hinode Housing Complex: 1876 houses are in supply disruption due to damage in the main and branch/torch in and out pipes
(Tokai-mura) Arayadai Housing Complex of JAEA Gas supply was disrupted due to smell of gas in the specified gas production facility.
(Tokai-mura) Nagahori Housing Comlex of JAEA 145 houses were in

supply disruption due to brake of mid-pressure pipe. Affected parts are under repair..
(Hitachioota-shi) Mayumigaoka New Town: 482 gas supply stopped due to autonomy request.
(Inashiki-shi) Yuisa Flat: There are possibilities of breaks in main and branch pipes and supply pipes. 94 houses are in supply disruption. Gas conduit is under repair.

*Imaichi Gas: Gas leakage occurred from conduit at the simple gas complex in Nikko-shi: 240 houses were in gas supply disruption.

*Nihon Gas: Gas leakage occurred from conduit at simple gas complex in the jurisdiction: 76 houses in Nasu-karasuyama-shi, 97 houses in Inashiki-shi, 594 houses in Tokai-mura, Natsu-gun,370 houses in Yaita-shi, and 3,299 houses in Itako-shi were in gas supply disruption.

These areas other than Itako-shi will be restored on March 19. Residents in 1876 houses of Hinode housing complex in Itako-shi evacuated from this region due to liquefaction of the ground. Time of recovery is not certain.

212 houses in Noda-shi were in gas supply disruption. This area has been restored in March 11.

*Horikawa Industry (Bando city, Ibaraki Pref.) : Iwai Greenland Due to liquefaction of the ground, 566 houses are in supply disruption.

*Tajima : 250 houses were in gas supply disruption at the simple gas complex in Hachiooji-city. This area will be restored within March 12.

*Iwatani Kanto (Saitama-shi) Sashiogi Housing Complex: 6 houses are stopped supply. Currently leakage location is under remedy.

○Gas conduit Operators (as of 15:50, March12)
*JX Nikko Nisseki Energy: Hachinohe LNG Base
Premise, electric room and in-house electricity generator equipment, were flooded by the 2nd wave of tsunami and the gas supply was stopped.

Pipe line and bubble station Petroleum Resources Development around Sendai-shi appeared to be flooded with water. Disruption of gas supply does not pose impediment because demands for gas were also disrupted.

○Heat supply (as of 15:50, March12)
West side area at Morioka station: heat supply was stopped due to power failure.
*Yamagata Netsu Kyokyu (Yamagata-shi): Supply was stopped due to emergency shut down condition.

*Onahama Haiyu (Onahama, Iwaki-shi): stopped heat supply due to the breakage of pipe. Heat supply pipes underground might be affected. Time of recovery is not certain.

*"HITACHI NETSU ENERGY"(Hitachi City): stopped heat supply due to the electrical outage at 15:19, March 11.

*"CHIBA NETSU KYOKYU"(Chiba-city): stopped freezer, etc. at 16:19, March 11. Supply was stopped and walkdown is conducted at 16:19, March 11.

*"NISHI-IKEBUKURO NETSU KYOKYU": stopped freezer and boiler at 15:45, March 11.

*"TOKYO NETSU KYOKYU";
-stopped boiler in Takeshiba and Yurakucho areas at 15:20, March 11
-stopped supply to one of the building complex at Hikarigaoka for approx. 3 hours due to the leakage of pipe at 21:35, March 11(Restart supplying at 00:05, March 12)

*"Yokohama Business Park NETSU KYOKYU (Hodogaya-ku, Yokohama city)
15:50 Stopped steam and cold water supply to PREZZO building
16:20 restored by temporary repair

○Complex (as of 11:00, March 12)

*Cosmo Oil factory Chiba branch
A column of Butane Butylene storage tank was broken. Fire occured due to gas leakage. One person suffered serious-injury, 4 persons sufferd minor injury.

*JX Nippon Oil&Energy Corporation Sendai oil factory (sendai-city, Miyagi prefecture)
-Fire occured from an explosion of low temperature LPG tank

4. Action taken by NISA
(March 11)
14:46 Set up of the NISA Emergency Preparedness Headquarters (Tokyo) immediately after the earthquake
15:42: TEPCO reported to NISA in accordance with Article 10 of the Act on Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi, Units 1,2 and 3.
16:36: TEPCO judged the event in accordance with Article 15 of the Act for Special Measures Concerning Nuclear Emergency Preparedness regarding Fukushima Dai-ichi, Units 1 and 2.(notified to NISA at 16:45)
18:08: Unit 1 of Fukushima Dai-ni notified NISA of the situation of the Article 10 of Act on Special Measures Concerning Nuclear Emergency Preparedness.
18:33: Units 1,2 and 4 of Fukushima Dai-ni notified NISA of the situation of the Article 10 of Act on Special Measures Concerning Nuclear Emergency Preparedness.
19:03 : Government declared the state of nuclear emergency
20:50: Fukushima prefecture's emergency preparedness headquarters - issued a directive regarding the accident occurred at Fukushima-Dai-ichi Nuclear Power Station, TEPCO that the residents living in the area of 2km radius from Unit 1 of the Nuclear Power Station must evacuate.(The population of this area is 1,864)
21:23: Directives from Prime Minister to Governor of Fukushima, Mayor of Ookuma and Mayor of Futaba were issued regarding the accident occurred at Fukushima-Dai-ichi Nuclear Power Station, TEPCO, pursuant to Paragraph 3, Article 15 of the Act for Special Measures Concerning Nuclear Emergency Preparedness as follows:

-Residents living in the area of 3km radius from Unit 1 of the Nuclear Power Station must evacuate.
-Residents living in the area of 10km radius from the Unit 1 must take sheltering.

(March12)

5:22 Unit 1 of Fukushima Dai-ni notified NISA of the situation of the Article 15 of Act on Special Measures Concerning Nuclear Emergency Preparedness.

5:32 Unit 2 of Fukushima Dai-ni notified NISA of the situation of the Article 15 of Act on Special Measures Concerning Nuclear Emergency Preparedness.

05:44 Residents living in the area of 10km radius from unit 1 of the Nuclear Power Station must evacuate by the Prime Minister Direction.

06:07 Regarding Units 1,2 and 4 of Fukushima Dai-ni NPS, TEPCO reported NISA in accordance with Article 15 of Act on Special Measures Concerning Nuclear Emergency Preparedness.

6:50 According to the article 64, 3 of nuclear regulation act, government order to control the internal pressure in Fukushima-daiichi unit No. 1 and 2

7:45 Directives from Prime Minister to Governor of Fukushima, Mayors of Hirono, Naraha, Tomioka, Ookuma and Futaba were issued regarding the accident occurred at Fukushima-Dai-ni Nuclear Power Station, TEPCO, pursuant to Paragraph 3, Article 15 of the Act for Special Measures Concerning Nuclear Emergency Preparedness as follows:

-Residents living in the area of 3km radius from Fukushima-Dai-ni Nuclear Power Station must evacuate.

-Residents living in the area of 10km radius from Fukushima-Daini NPS must take aheltering

17:00 Notification pursuant to Article 15 of the Act for Special Measure Concerning Nuclear Emergency Preparedness since the radiation level exceeded the acceptable level of Fukushima Dai-ichi Nuclear Power Station.(NPS).

17:39 Prime Minister directed evacuation of the residents living within the 10 km radius from the Fukushima-Dai-ni NPS

18:25 Prime Minister directed evacuation of the residents living within the 20km radius from the Fukushima Dai-ichi NPS

19:55 Directives from Prime Minister was issued regarding sea water injection to Unit No.1 of Fukushima Dai-ichi NPS.

20:05 According to the article 64, 3 of nuclear regulation act and concerning to directives from Prime Minister, government ordered to inject sea water Unit No.1 of Fukushima Dai-ichi NPS.

<Possible Exposure to Residents>

(1) Case for Travel from Futaba Public Welfare Hospital to Nihonmatsu Man and Woman Symbiosis Center, Fukushima Prefecture

i) No. of persons to be measured: About 60 persons

ii) Measured Result: Not yet

iii) Passage: Exposure could have happened while waiting to be picked up by helicopter at the Futaba high school ground

iv) Other

Prefectural Response Headquarters judged that there were no exposure to 35 persons who traveled from Futaba Public Welfare Hospital to Kawamata Saiseikai Hospital, Kawamata-machi by the private bus provided by Fukushima Prefecture.

(2) Case for Futaba-machi Residents Evacuated by Buses

i) No. of Persons: About 100 persons

ii) Measured Result: 9 persons out of 100 persons

No. of Counts	No. of Persons
18,000cpm	1
30,000-36000cpm	1
40,000cpm	1
little less than 40,000cpm*	1
very small counts	5

*(This results was measured without shoes, though the first measurement exceeded 100,000cpm)

iii) Passage: Under investigation

iV) Other

Though persons evacuated in different location outside of the Prefecture (Miyagi Prefecture), all destinations are under confirmation.

(Contact Person)
Mr. Toshihiro Bannai
Director, International Affairs Office, NISA/METI
Phone:+81-(0)3-3501-1087

Dean, Bill

From: Operations Center Bulletin
Sent: Sunday, March 13, 2011 11:12 AM
To: OST02 HOC
Subject: FW: NRC IS RESPONDING TO AN EMERGENCY OUTSIDE of the United States

THIS IS NOT A DRILL

The NRC is coordinating its actions with other Federal agencies as part of the U.S. government response to the events in Japan. The NRC is examining all available information as part of the effort to analyze the event and understand its implications both for Japan and the United States. The NRC's Headquarters Operations Center in Rockville, MD has been stood up since the beginning of the emergency in Japan and is operating on a 24-hour basis.

NRC Incident Responders at Headquarters have spoken with the agency's counterpart in Japan and offered the assistance of U.S. technical experts. Two officials from the NRC with expertise on boiling water nuclear reactors have deployed to Japan as part of a U.S. International Agency for International Development (USAID) team. USAID is the Federal government agency primarily responsible for providing assistance to countries recovering from disasters.

U.S. nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety significant structures, systems, and components be designed to take in account the most severe natural phenomena historically estimated for the site and surrounding area.

The NRC will **not** provide information on the status of Japan's nuclear power plants. For the latest information on NRC actions see the NRC's web site at www.nrc.gov or blog at http://public-blog.nrc-gateway.gov.

Two important reminders:

It is possible that some of us will be requested by colleagues in another country to provide technical advice and assistance during this emergency. It is essential that all such communications be handled through the NRC Operations Center. Any assistance to a foreign government or entity must be coordinated through the NRC Operations Center and the U.S. Department of State (DOS). If you receive such a request, contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) immediately.

If you receive information regarding this or any emergency (foreign or domestic) and you are not certain that the NRC's Incident Response Operations Officer is already aware of that information, you should contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) and provide that information.

Other Sources of Information:

USAID – www.usaid.gov
U.S. Department of State – www.state.gov
FEMA – www.fema.gov
White House – www.whitehouse.gov
Nuclear Energy Institute – www.nei.org
International Atomic Energy Agency – www.iaea.org/press

No response to this message is required.

30/AA

Matakas, Gina

From: Sheehan, Neil
Sent: Sunday, March 13, 2011 9:12 PM
To: Screnci, Diane; Dean, Bill; Lew, David; McNamara, Nancy; Tifft, Doug
Subject: Q&A on Japanese reactor design

This is a useful Q & A from the NEI blog:

6. How many U.S. reactors use the Mark I containment design used at Fukushima Daiichi Unit 1?

Six U.S. nuclear reactors (Monticello in Minnesota, Pilgrim in Massachusetts, Dresden 2 and 3 and Quad Cities 1 and 2 in Illinois) are the same base design as the Fukushima Daiichi Unit 1 design (BWR-3 design with Mark I containment). Twenty-three U.S. nuclear plants are boiling water reactors (either BWR-2, BWR-3 or BWR-4) and use the Mark I containment: Browns Ferry 1, 2 and 3; Brunswick 1 and 2; Cooper; Dresden 2 and 3; Duane Arnold; Hatch 1 and 2; Fermi; Hope Creek; Fitzpatrick; Monticello; Nine Mile Point 1; Oyster Creek; Peach Bottom 2 and 3; Pilgrim; Quad Cities 1 and 2; Vermont Yankee. Although these are the same basic reactor design, specific elements of the safety systems will vary based on the requirements of the U.S. NRC.

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Matakas, Gina

From: HOO Hoc
Sent: Sunday, March 13, 2011 2:25 PM
To: Dean, Bill
Subject: RE: When is next update call on japan event?

Bill,

Did you receive the ANS call about a Commissioners Assistants Briefing at 15:30 EDT today? Call in using the same number and pass code as before.

Mark Abramovitz

-----Original Message-----
From: Dean, Bill
Sent: Sunday, March 13, 2011 1:24 PM
To: HOO Hoc
Subject: Re: When is next update call on japan event?

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

----- Original Message -----
From: HOO Hoc
To: Dean, Bill
Sent: Sun Mar 13 12:55:03 2011
Subject: RE: When is next update call on japan event?

ET working on details and we will get back to you (and rest of the team).

Regards--Vince

Headquarters Operations Officer
U.S. Nuclear Regulatory Commission
Phone: 301-816-5100
Fax: 301-816-5151
email: hoo.hoc@nrc.gov
secure e-mail: hoo1@nrc.sgov.gov

-----Original Message-----
From: Dean, Bill
Sent: Sunday, March 13, 2011 12:46 PM
To: HOO Hoc
Subject: When is next update call on japan event?

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

32/AA

Orlikowski, Robert

From: Riemer, Kenneth
Sent: Monday, March 14, 2011 1:02 PM
To: Scarbeary, April; Ramirez, Frances; Ruiz, Robert; Haeg, Lucas; Murray, Robert; Thomas, Christopher; Voss, Patricia; Shah, Nirodh; Feintuch, Karl
Cc: Riemer, Kenneth
Subject: Japanese event

Follow Up Flag: Follow up
Flag Status: Flagged

Just a quick update based on what we've heard so far. Just a couple of caveats and general info:

- As Nick indicated in his e-mail, if you get any requests for info or status**, forward them to the HOO**. That way the agency will have one voice.
- It's frustrating, but we have very little factual info as an agency. What we've been getting has been through the State Dept.
- The Japanese regulatory body is very mature, sophisticated and technically competent, as is the Japanese industry so the NRC is being very careful to not interfere or imply that they are not equipped to handle the reactor events.
- The NRC has sent 2 people over with the potential to send some more.
- The plants appear to have survived the earthquake pretty well, but lost the EDG fuel oil supplies (therefore complete station blackout situation) when the tsunami hit. EDG fuel oil tanks were above ground design.
- Repeat of first bullet – if you get any inquiries, **send them to the HOO**

The site has 6 reactors; three were operating and the other three were shut down for maintenance at the time of the earthquake. For the operating units:
Unit 1: similar design to Dresden with iso-condenser. core damage is likely. Core coverage is uncertain. Injecting borated sea water to the core, but have now lost that capability. Hydrogen explosion and have lost secondary containment, but believe primary containment is intact. Venting fission product daughters off-site, but prevailing winds are out to sea.
Unit 2: similar design to Quad Cities/Duane Arnold. in the best (very relative term) shape of the three previously operating reactors. Were operating on RCIC but that is now lost. Primary and secondary containment believed intact, however anticipate that a hydrogen explosion is imminent.
Unit 3: similar design to Quad Cities/Duane Arnold .hydrogen explosion yesterday with breach of secondary containment. Injecting seawater into the core

Boiling in the spent fuel pools – feeding as able with seawater.

I'll provide more tomorrow if we get it.

Ken

33 | AA

Dean, Bill

From: Dean, Bill
Sent: Monday, March 14, 2011 6:00 PM
To: Collins, Elmo; Satorius, Mark; McCree, Victor
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard
Subject: Proposed Outreach activities

I am not sure what you have experienced thus far relative to the events unfolding in Japan, but I have had dialog today with State Liaison officers and emergency management directors, congressional staffers, and FEMA administrators all looking for the same thing: information they can use to address the groundswell of inquiries they are receiving. What do you think about:

1. Periodic calls with SLOs (maybe even daily right now) to update them on current information and receive, and where possible, answer questions; and

2. Inviting FEMA to EOC meetings to discuss emergency preparedness questions emanating from the Japanese situation?

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

34|AA

Orlikowski, Robert

From: Briley, Thomas
Sent: Monday, March 14, 2011 8:12 AM
To: Smagacz, Phillip; Garmoe, Alex
Subject: Japan Update from Steve West

Highlights:

- NRC HQ Operations Center still manned 24/7, updates coming from state department and embassy in Tokyo
- 2 NRC individuals sent to assist via Military Transports
  - Tony Olsis, NRR
  - Jim Trapp, Region I
  - Potential Interest in 6 more individuals

Rx Status:

- Fukushima Dai-ichi, Tokyo Electric Power Co.
  - Unit 1
    - Core damage likely
    - Coverage of core uncertain
    - Injecting borated sea water
      - HAVE NOW LOST CAPABILITY TO INJECT (was being injected via Diesel Fire Pump but have run out of fuel)
    - Looking for how to restore injection
    - Hydrogen explosion caused loss of secondary containment
    - Primary containment still intact
    - Venting in progress, winds out to sea
    - 20 km evacuation
    - Japan has requested technical assistance. PRIORITY IS INJECTION.
  - Unit 2
    - Was on RCIC. Now lost.
    - Some core uncovery?
    - Primary and secondary containment are intact
  - Unit 3
    - Hydrogen explosion last night
    - Breach of secondary containment
    - Primary containment intact
  - Spent Fuel Pool Cooling
    - Lost cooling ability but have sea water available.
  - EDG
    - Tsunami took out fuel oil tanks

Thomas Briley
U.S. Nuclear Regulatory Commission
Region III / Division of Reactor Projects / Branch 6 (DC Cook, Perry, Davis-Besse)
thomas.briley@nrc.gov
630-829-9734

35/AA

Bonaccorso, Amy

From: Gibson, Kathy
Sent: Monday, March 14, 2011 8:46 AM
To: Case, Michael; Scott, Michael
Cc: Sheron, Brian; Uhle, Jennifer; Bonaccorso, Amy; Flory, Shirley
Subject: Re: Japanese Earthquake--Ops Center Request

The best person I know of is Trish Milligan in NSIR. Terry Brock should also have some information.

From: Case, Michael
To: Gibson, Kathy
Cc: Sheron, Brian; Uhle, Jennifer; Bonaccorso, Amy; Flory, Shirley
Sent: Mon Mar 14 08:41:08 2011
Subject: Japanese Earthquake--Ops Center Request

Hi Kathy. They are working on what if scenarios in the Ops Center. They are tasked to compare some of the dose assessment results on the Japanese plants to Chernobyl. They need someone or some information on dose results from Chernobyl. Who do you have to help? The request is specifically from Kathyrn Brock on the PMT.

36|AA

Dean, Bill

From: Dean, Bill
Sent: Monday, March 14, 2011 4:55 PM
To: Screnci, Diane; Sheehan, Neil; McNamara, Nancy; Tifft, Doug
Cc: Lew, David; Roberts, Darrell; Clifford, James; Wilson, Peter; Weerakkody, Sunil
Subject: FW: (Action) Tsunami Fact Sheet - NUREG issued in March 2009 Link
Attachments: Natural Phenomena Limitations.wpd

The attached may be useful in crafting a key message re: plant design features to mitigate natural phenomena

Bill

From: Leeds, Eric
Sent: Monday, March 14, 2011 3:39 PM
To: Grobe, Jack; Virgilio, Martin; Weber, Michael
Cc: Nguyen, Quynh; Ruland, William; Skeen, David; Brown, Frederick; Brenner, Eliot; Collins, Elmo; Dean, Bill; Satorius, Mark; McCree, Victor; Schmidt, Rebecca; Boger, Bruce
Subject: FW: (Action) Tsunami Fact Sheet - NUREG issued in March 2009 Link

FYI – I've asked Quynh Nguyen to work with the Ops Center to create a share-point site to house our Q&As from the Japanese quake and tsunami. Attached is a list of Q&As we created during the last tsunami, which we should consider. The regions requested Q&As to support their EOC meetings next week with members of the public. I'd like to have something completed by the end of the week for the regions.

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

From: Boger, Bruce
Sent: Monday, March 14, 2011 9:21 AM
To: Leeds, Eric
Subject: FW: (Action) Tsunami Fact Sheet - NUREG issued in March 2009 Link

FYI—this is a knowledge management challenge. We've collected information in the past, but we have to drag it out and it's not available in the Ops center.

From: King, Mark
Sent: Monday, March 14, 2011 7:23 AM
To: Boger, Bruce; Brown, Frederick; Thorp, John
Cc: Thomas, Eric
Subject: RE: (Action) Tsunami Fact Sheet - NUREG issued in March 2009 Link

I think the attached is what Bruce is referring to – a natural phenomena limitations document. See attached.

From: Boger, Bruce
Sent: Monday, March 14, 2011 7:20 AM
To: Brown, Frederick; King, Mark; Thorp, John
Cc: Thomas, Eric
Subject: RE: (Action) Tsunami Fact Sheet - NUREG issued in March 2009 Link

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Great. Thanks. This is a start. I still remember something that was created to provide some plant-specific protection information. (e.g., Diablo Canyon has some tsunami protection). I believe we explored west coast plants for tsunamis and east coast plants for hurricane flooding protection. If you can't find it easily (or if Bruce's gray matter failed again), please reach out to the west coast plant PMs to see what tsunami protection they have. I suspect we'll receive some cards and letters. Thanks again.

From: Brown, Frederick
Sent: Monday, March 14, 2011 7:10 AM
To: King, Mark; Thorp, John
Cc: Thomas, Eric; Boger, Bruce
Subject: RE: (Action) Tsunami Fact Sheet - NUREG issued in March 2009 Link

Thanks Mark

From: King, Mark
Sent: Monday, March 14, 2011 7:08 AM
To: Thorp, John; Boger, Bruce
Cc: Brown, Frederick; Thomas, Eric
Subject: RE: (Action) Tsunami Fact Sheet - NUREG issued in March 2009 Link

We had a NUREG issued on this subject back in March 2009.

TSUNAMI HAZARD ASSESSMENT AT NUCLEAR POWER PLANT SITES IN THE UNITED STATES OF AMERICA
Click link to view: [NUREG/CR-6966]

http://pbadupws.nrc.gov/docs/ML0915/ML091590193.pdf

From: Thorp, John
Sent: Monday, March 14, 2011 6:57 AM
To: Boger, Bruce
Cc: Brown, Frederick; King, Mark; Thomas, Eric
Subject: RE: (Action) Tsunami Fact Sheet

We'll look for it; If we don't find it quickly, we'll start producing one. (Mark King, please start looking)

I take it we would define & describe the tsunami phenomena, then address which nuclear stations in the U.S. are located in areas subject to tsunami waves, and describe what we can regarding the design of plants to withstand tsunami impacts?

Thanks,

John

From: Boger, Bruce
Sent: Monday, March 14, 2011 6:48 AM
To: Thorp, John
Cc: Brown, Frederick
Subject: Tsunami Fact Sheet

I seem to recall that OpE developed a tsunami fact sheet? Should we dust it off?

Nuclear Power Plant Design for Natural Phenomena

The NRC regulations require that nuclear power plants be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, and tsunami. Nuclear power plant design reflects consideration of the most severe natural phenomena that have been historically reported for the plant site and surrounding area. The design also provides sufficient margin for the limited accuracy, quantity, and period of time in which the historical data have been accumulated. Additionally, the design considers the appropriate combinations of the effects of the natural phenomena with the effects of normal and accident conditions at the plant.

Each nuclear power plant is, therefore, designed to a specific magnitude or strength of a natural phenomenon that is appropriate for the plant site and surrounding area. For example, a nuclear power plant in Texas or Florida (where earthquakes are of small magnitude and rarely occur) would not be designed for the same earthquake loading as a nuclear power plant in California (where earthquakes are more severe and common).

The attached table shows some examples of design values of natural phenomena for the Waterford Steam Electric Station, Unit 3 (Waterford-3), the River Bend Station (River Bend), South Texas Project, Units 1 and 2 (STP), Wolf Creek Generating Station, Unit 1 (Wolf Creek), Diablo Canyon Nuclear Power Plant ,Units 1 and 2 (Diablo Canyon), Duane Arnold Energy Center (Duane Arnold), and Grand Gulf Nuclear Station, Unit 1 (Grand Gulf).

TABLE 1 - Comparison of Plant-Specific Design Values for Selected Natural Phenomena

PLANT	EARTHQUAKE (ground acceleration, g)		TORNADO WIND SPEED (mph)		SUSTAINED WIND (mph)	FLOOD height above grade (ft)	TSUNAMI/Storm Surge height above grade (ft)
	SSE[1] (horz.)	SSE (vert.)	Translational Speed (mph)	Tangential Speed (mph)			
Waterford-3	0.10	0.07	60	300	200 at 30 ft.	15.5	14.5
River Bend	0.15	0.10	70	290	100 at 30 ft.	N/A[2]	N/A[3]
STP	0.10	0.07g	70	290	125 at 30 ft.	23	N/A[3]
Wolf Creek	0.20/ 0.12[4]	0.20/ 0.12[4]	70	290	100 at 30 ft.	N/A[2]	N/A[5,6]
Diablo Canyon	0.20	0.13	43	157	80[7]	N/A[2]	N/A[2]
Duane Arnold	0.12	0.10	60	300	105-145[8]	12	N/A[5]
Grand Gulf	0.15	0.10	70	290	90 at 30 ft.	N/A[2]	N/A[3]

[1] Safe Shutdown Earthquake
[2] Maximum flood level or tsunami/storm surge is below grade
[3] Tsunami is not a credible event in the Gulf Coast
[4] Power-block/non-power-block
[5] Not a coastal plant
[6] Remote from large bodies of water
[7] Gust factor of 1.1 will apply
[8] Depending on height

Dean, Bill

From: Dean, Bill
Sent: Monday, March 14, 2011 5:05 PM
To: Screnci, Diane; Sheehan, Neil; Roberts, Darrell; Wilson, Peter; Lorson, Raymond; Collins, Daniel; Weerakkody, Sunil; Clifford, James; Lew, David
Subject: FW: OPA Talking Points
Attachments: OPA Talking Points.docx

Bill

From: LIA04 Hoc
Sent: Monday, March 14, 2011 5:02 PM
To: Tifft, Doug; McNamara, Nancy; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; Dean, Bill; McCree, Victor; Collins, Elmo; Heck, Jared; Trojanowski, Robert; Browder, Rachel; Erickson, Randy
Cc: Turtil, Richard; Virgilio, Rosetta; Rautzen, William; Ryan, Michelle; Rivera, Alison; Lukes, Kim; Flannery, Cindy
Subject: OPA Talking Points

Please see the attached for your information and use.

Amanda Noonan
State Liaison – Liaison Team
Incident Response Center

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OPA

TALKING POINTS

JAPAN NUCLEAR SITUATION

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

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

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

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

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

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

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

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

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

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

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

Dean, Bill

From: Dean, Bill
Sent: Monday, March 14, 2011 3:57 PM
To: Dean, Bill; Wilson, Peter; Clifford, James; Roberts, Darrell; Weerakkody, Sunil; Lew, David; Lorson, Raymond
Subject: RE: Confirmation of names for Japan

A later email indicated that bill cook will be going as well.

Bill

From: Dean, Bill
Sent: Monday, March 14, 2011 3:54 PM
To: Wilson, Peter; Clifford, James; Roberts, Darrell; Weerakkody, Sunil; Lew, David; Lorson, Raymond
Subject: FW: Confirmation of names for Japan

FYI. No one from region I at this point.

Bill

From: Leeds, Eric
Sent: Monday, March 14, 2011 1:11 PM
To: Collins, Elmo; Satorius, Mark; McCree, Victor; Dean, Bill; Sheron, Brian; Tracy, Glenn; Hudson, Jody; Johnson, Michael; Miller, Charles; Haney, Catherine; Zimmerman, Roy; Stewart, Sharon; Virgilio, Martin; Weber, Michael; Borchardt, Bill; Mamish, Nader; Doane, Margaret; Muessle, Mary
Cc: Boger, Bruce; Grobe, Jack; Ruland, William; Meighan, Sean
Subject: Confirmation of names for Japan

Folks –

Thanks so much for your help – we have a strong database of names/expertise to support the Japanese. For this first wave, we are sending Chuck Casto, John Monninger, Tony Nakanishi, Tim Kolb, Jack Foster and Richard Devercelly. I believe that Bruce Boger has contacted all those going to join Tony Ulsis and Jim Trapp in Japan.

I imagine that at some point we may need to send a second wave of responders to relieve our first wave. We will let you know as soon as we know if this needs to be done. We are also sensitive not to over-burden any one office.

Thanks again for your support!

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

39/AA

Cohen, Shari

From: Leeds, Eric
Sent: Monday, March 14, 2011 2:35 PM
To: Emche, Danielle
Cc: Doane, Margaret; Mamish, Nader; Carter, Mary
Subject: RE: Confirmation of names for Japan

Yes! Please add Bill Cook from Rgn 1 to the list. Sorry for any confusion caused by my first email.

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

From: Emche, Danielle
Sent: Monday, March 14, 2011 2:32 PM
To: Leeds, Eric
Cc: Doane, Margaret
Subject: RE: Confirmation of names for Japan

Eric,
We got a call from Bruce Boger that a William Cook from Region I should be added to the Japan team. We want to make sure that this has been coordinated with NRR's effort to get the right team together. Please inform us.
Danielle

From: Doane, Margaret
Sent: Monday, March 14, 2011 2:17 PM
To: Emche, Danielle; Ramsey, Jack; Foggie, Kirk; Smith, Brooke; Kreuter, Jane
Subject: FW: Confirmation of names for Japan

FYI

From: Leeds, Eric
Sent: Monday, March 14, 2011 1:11 PM
To: Collins, Elmo; Satorius, Mark; McCree, Victor; Dean, Bill; Sheron, Brian; Tracy, Glenn; Hudson, Jody; Johnson, Michael; Miller, Charles; Haney, Catherine; Zimmerman, Roy; Stewart, Sharon; Virgilio, Martin; Weber, Michael; Borchardt, Bill; Mamish, Nader; Doane, Margaret; Muessle, Mary
Cc: Boger, Bruce; Grobe, Jack; Ruland, William; Meighan, Sean
Subject: Confirmation of names for Japan

Folks –

Thanks so much for your help – we have a strong database of names/expertise to support the Japanese. For this first wave, we are sending Chuck Casto, John Monninger, Tony Nakanishi, Tim Kolb, Jack Foster and Richard Devercelly. I believe that Bruce Boger has contacted all those going to join Tony Ulsis and Jim Trapp in Japan.

I imagine that at some point we may need to send a second wave of responders to relieve our first wave. We will let you know as soon as we know if this needs to be done. We are also sensitive not to over-burden any one office.

Thanks again for your support!

AD|AA

Cohen, Shari

From: Leeds, Eric
Sent: Monday, March 14, 2011 12:48 PM
To: Borchardt, Bill
Subject: Re: David D'Abate

Thanks. We will add him to our database

From: Borchardt, Bill
To: Leeds, Eric
Sent: Mon Mar 14 12:11:03 2011
Subject: FW: David D'Abate

Eric,
FYI. Not pushing.
Bill

From: Landau, Mindy
Sent: Monday, March 14, 2011 12:08 PM
To: Borchardt, Bill
Cc: Muessle, Mary
Subject: David D'Abate

Bill,

For what it's worth, David D'Abate offered his services if you want to send him along with the team. He has PWR, not BWR experience, but worked extensively on navy subs, was a reactor operator and also spent several years in Japan and is very familiar with their culture.

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

41/AA

Cohen, Shari

From: Leeds, Eric
Sent: Monday, March 14, 2011 9:28 AM
To: McCree, Victor
Subject: RE: NRC Support for Japan

Outstanding – thanks, Vic!

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

From: McCree, Victor
Sent: Monday, March 14, 2011 9:18 AM
To: Leeds, Eric
Cc: Virgilio, Martin
Subject: NRC Support for Japan

Eric,

Here's a brief list of Region II folks that you may want to consider for providing EOC support to the ongoing nuclear events in Japan:

1. **Rudy Bernhard,** Senior Reactor Analyst, Senior Resident Inspector at Grand Gulf; GE SRO Certification at Dresden, Hatch and River Bend; General Electric Construction/Pre-op/Start-up Testing/ and Operations, Browns Ferry Restart support.

2. **Bruno Caballero,** Senior Operator Licensing Examiner, former SRO at Browns Ferry (BWR4/Mark 1)

3. **Len Wert,** SRI Browns Ferry and Hatch (BWR4/Mark 1)

4. **Chuck Casto,** former licensed SRO at Browns Ferry (BWR4/Mark 1)

5. **Joel Munday,** former licensed SRO at Brunswick ((BWR4/Mark 1), SRI at Hatch (BWR4/Mark 1)

Vic

A21 AA

Matakas, Gina

From: Sheehan, Neil
Sent: Monday, March 14, 2011 5:05 AM
To: Brenner, Eliot; Harrington, Holly; Burnell, Scott; Screnci, Diane; Dean, Bill; Lew, David
Subject: Graphic on Japan reactor explosions

There's a good interactive graphic on The New York Times' web site showing how secondary containment was involved in the two hydrogen explosions: http://www.nytimes.com/interactive/2011/03/12/world/asia/the-explosion-at-the-japanese-reactor.html .

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Manoly, Kamal

From: Stutzke, Martin
Sent: Monday, March 14, 2011 3:21 PM
To: Ake, Jon; Kammerer, Annie; Hayden, Elizabeth
Cc: Burnell, Scott; Manoly, Kamal; Munson, Clifford; Chokshi, Nilesh
Subject: RE: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

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

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

Marty

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

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

Kamal, Marty, Cliff-
Is this an accurate representation of our current path?

From: Kammerer, Annie
Sent: Monday, March 14, 2011 11:53 AM
To: Hayden, Elizabeth
Cc: Burnell, Scott; Ake, Jon
Subject: RE: EXAMPLE OF REQUEST: Earthquake plans/reports/risk analysis for San Onofre nuclear power plant

The list that was analyzed was basically everything in the CEUS. I don't think we made the list of which plants were OK and which not public due to too much uncertainty. Jon Ake would know.

Jon, can you answer? Did we make the list of plant names and which screened in public?

From: Hayden, Elizabeth
Sent: Monday, March 14, 2011 1:48 PM
To: Kammerer, Annie

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From: Johnson, Michael
Sent: Monday, March 14, 2011 2:02 PM
To: Holahan, Gary
Cc: Leeds, Eric; Virgilio, Martin; Borchardt, Bill; Grobe, Jack; Boger, Bruce; Sheron, Brian; Williams, Donna; Wiggins, Jim
Subject: RE: Recommendation for proactive action by NRC in light of Japan events

Thanks Gary. NRR's lead of course. I like the idea using this as an opportunity to highlight the importance of previous requirements/actions as a proactive step. We will need to think about the correct vehicle. I also like having industry involved up front in whatever we decide to do.

From: Holahan, Gary
Sent: Monday, March 14, 2011 1:55 PM
To: Johnson, Michael
Cc: Leeds, Eric; Virgilio, Martin; Borchardt, Bill; Grobe, Jack; Boger, Bruce; Sheron, Brian; Williams, Donna; Wiggins, Jim
Subject: Recommendation for proactive action by NRC in light of Japan events

Mike,

The events in Japan reinforce the importance of preparedness for the unexpected. In that light, I suggest that NRC take some form of proactive step to reinforce both the Severe Accident Management Guidelines and the 50.54 (hh) (formerly B.5.b) protection for "Loss of Large Area of the plant from fires and explosions".

50.54 (hh) seems particularly relevant, stating "Each licensee shall develop and implement guidance and strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities under the circumstances associated with loss of large areas of the plant due to explosions or fire..."

The NRC could issue Orders, Bulletins, or letters on an expedited basis (in the next few days) to require or encourage licensees to confirm their readiness to implement the severe accident management guidance and strategies under 50.54 (hh). This would not involve any new requirements, but would simply reinforce the existing requirements.

I recommend that we coordinate this activity with the industry to ensure their full and early cooperation. This would be similar to the level of cooperation we undertook for the security bulletins following 9/11.

Gary

Matakas, Gina

From: Meighan, Sean
Sent: Monday, March 14, 2011 11:03 AM
To: Dean, Bill
Subject: RE: Possible support to Japan

Received,,, thank you.

Very Respectfully
Sean

From: Dean, Bill
Sent: Monday, March 14, 2011 10:57 AM
To: Meighan, Sean
Cc: Wilson, Peter; Clifford, James; Roberts, Darrell; Lorson, Raymond; Collins, Daniel; Weerakkody, Sunil; Leeds, Eric; Boger, Bruce; Lew, David
Subject: Possible support to Japan

Region I has several individuals that may be suited to assist as discussed in a conference call with Eric Leeds this morning.

Below are staff for consideration regarding the ongoing events in Japan.

For support on severe accident mitigation. All are knowledgeable of SAMAs and B.5.b strategies. All have considerable BWR backgrounds. These are the three Region I Senior reactor analysts.

1. Bill Cook
2. Wayne Schmidt
3. Chris Cahill

Also, Ray Lorson and Blake Welling, who have been SRIs at BWRs have indicated a willingness to support this initiative.

For expertise on radiological health effects and plume modeling.

1. Ron Nimitz
2. Jim Noggle (worked at Fukushima in the 1980's)

For expertise on incident response

1. Ray McKinley (former BWR 4 SRO)

Bill

45/AA

Valentine, Nicholee

From: Jolicoeur, John
Sent: Monday, March 14, 2011 12:34 PM
To: Abrams, Charlotte; LIA02 Hoc
Subject: FW: press releases from our Japanese counterpart

FYI

From: Hon, Andrew
Sent: Monday, March 14, 2011 11:40 AM
To: NRR_DPR_PLPB_Distribution
Subject: press releases from our Japanese counterpart

While I was on the 7th floor, my next cube is a foreign assignee from the Japanese "NRC" NISA. Here is link to their website for press releases on the situation in Japan.
http://www.nisa.meti.go.jp/english/index.html

Andy

A6/AA

Dean, Bill

From: LIA04 Hoc
Sent: Monday, March 14, 2011 7:17 PM
To: LIA06 Hoc
Cc: Barker, Allan; Browder, Rachel; Collins, Elmo; Dean, Bill; Erickson, Randy; Heck, Jared; Logaras, Harral; Maier, Bill; McCree, Victor; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Flannery, Cindy; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta
Subject: FW: ACTION: Do States Require Additional Information?
Attachments: Questions from the States.doc

Amanda Noonan
State Liaison – Liaison Team
Incident Response Center

From: Virgilio, Rosetta
Sent: Monday, March 14, 2011 6:45 PM
To: Turtil, Richard; LIA04 Hoc; Mroz (Sahm), Sara
Subject: FW: ACTION: Do States Require Additional Information?

I agree

From: LIA04 Hoc
Sent: Monday, March 14, 2011 6:25 PM
To: Virgilio, Rosetta; LIA06 Hoc; Thaggard, Mark; McGinty, Tim
Cc: Noonan, Amanda; Brenner, Eliot; Mroz (Sahm), Sara; Miller, Charles; Leeds, Eric; Virgilio, Martin
Subject: RE: ACTION: Do States Require Additional Information?

I think it is important to make sure that NSIR/EP is looped in on the development and distribution of any answers. This is for a few reasons: 1) to maintain consistency with existing EP messaging; 2) to ensure consistency with FEMA REPP communications; and 3) to allow for consistency with any future messaging.
-Sara (from the LT room)

Sara Mroz
Outreach and Communications
Office of Nuclear Security and Incident Response
Sara.Mroz@nrc.gov

From: Virgilio, Rosetta
Sent: Monday, March 14, 2011 6:13 PM
To: LIA06 Hoc; Thaggard, Mark; McGinty, Tim
Cc: Noonan, Amanda; LIA04 Hoc; Brenner, Eliot; Mroz (Sahm), Sara; Miller, Charles; Leeds, Eric; Virgilio, Martin
Subject: RE: ACTION: Do States Require Additional Information?

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Thank you, Tim. In my conversation with OEDO (just prior to receiving your email) I was informed that NRR/Eric Leeds has taken on the responsibility (Quynh Nguyen is the POC) for the collection of questions and development of answers for responding to our stakeholders on the events involving the earthquake in Japan and the implications for NRC licensees. That being the case, shouldn't we provide the State Qs to NRR to address?

From: LIA06 Hoc
Sent: Monday, March 14, 2011 5:56 PM
To: Thaggard, Mark; LIA04 Hoc; Miller, Charles; Virgilio, Rosetta; Brenner, Eliot; Mroz (Sahm), Sara; Noonan, Amanda
Subject: RE: ACTION: Do States Require Additional Information?

This is email is primarily for Charlie and Rosetta, to close the loop. We discussed the need for providing consistent information to the States, via the RSLO's, with the Executive Team and the Chairman a few minutes ago. The Chairman directed us to coordinate with FEMA since they have an established relationship with the States. We settled on working with OPA to provide the information tailored to our best extent to the questions and concerns that would be expressed by the States, and provide to FEMA for awareness and commonality, and then the RSLO's for sharing.

A broad conference call with all States is not currently being contemplated, we'd like to see how providing a common set of information works first. Tim McGinty , LT Director

---

From: Tifft, Doug
Sent: Monday, March 14, 2011 3:44 PM
To: McNamara, Nancy; LIA04 Hoc; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; LIA06 Hoc
Cc: Turtil, Richard; Virgilio, Rosetta; Rautzen, William; Lukes, Kim; Flannery, Cindy; Trojanowski, Robert
Subject: RE: ACTION: Do States Require Additional Information?

Amanda,

We just got off a conference call with all the Region 1 state liaison officers and emergency directors. Bill Dean opened the meeting. A strong message the states sent Bill was that they need to be informed before information hits the public.

Here are some of the questions we heard. I broke them into the two categories you requested. I think we need answers to the hypothetical questions ASAP as well. (I know we'll be looking for this for our upcoming annual assessment meetings, that start for Region 1 next week.)

Questions related to event in Japan:
Could this happen at [X plant]?
What is the sequence of events at the Japanese reactors?
What is the magnitude of the release at the Japanese facility? (There are conflicting reports in the press.) (ie, offsite dose rates)
Who are the Federal Contacts (for the state) to get information on what DOE & EPA are doing?
When will the plume hit the US?
What are the environmental consequences to the US?
What dose rates do we expect to see in the US?
How do the Japanese reactor designs compare to the US reactor designs of similar vintage?
When the states receive questions from the public / media that the NRC would be better to answer, where should they direct these calls?
What is the NRC doing to correct misinformation in the public / media?

Hypothetical questions related to US plants:
What would the effect be on [plant X] if a 9.0 earthquake hit?
What would the effect be on [plant X] if a subsequent tsunami hit?

Why is Indian Point safe if there is a fault line underneath it?

-Doug

From: McNamara, Nancy
Sent: Monday, March 14, 2011 1:27 PM
To: LIA04 Hoc; Tifft, Doug; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; LIA06 Hoc
Cc: Turtil, Richard; Virgilio, Rosetta; Rautzen, William; Lukes, Kim; Flannery, Cindy
Subject: RE: ACTION: Do States Require Additional Information?

Absolutely. We are having a conf. call at 1:30 w/all our states to hear their opinions. But the more we can give, the better. We've been getting questions all morning and Bill Dean has a call with a NY congressional arranged through OCA.

From: LIA04 Hoc
Sent: Monday, March 14, 2011 1:24 PM
To: McNamara, Nancy; Tifft, Doug; Woodruff, Gena; Barker, Allan; Logaras, Harral; Maier, Bill; LIA06 Hoc
Cc: Turtil, Richard; Virgilio, Rosetta; Rautzen, William; Lukes, Kim; Flannery, Cindy
Subject: ACTION: Do States Require Additional Information?

Nancy, Doug, Bob, Gena, Alan, Harral, and Bill:

It is our understanding that a few additional questions from SLOs have come in from states following distribution/communication of recent Q&As and Press Releases.

In view of this, we are assessing whether additional information may be needed/if there are additional pressing questions about **the radiological fallout from Japan.**

Currently the Operation Center is responding to an International Emergency and any possible implications from this event that may affect the United States. If States have specific questions about Reactors in the United States they should be answered by the RSLO's if it reasonable. If the questions are regarding hypothetical events at U.S. Reactors these questions can be collected and answered, if possible, at a later date.

BOTTOM LINE: do we sense a need to provide additional Q&As and other information pieces that respond to State needs? We respectfully request that you make this assessment using practical judgment and beg your indulgence in communicating real State needs for additional information.

Amanda Noonan
State Liaison – Liaison Team
Incident Response Center

Matakas, Gina

From: Harrington, Holly
Sent: Monday, March 14, 2011 8:48 PM
To: OPA Resource; 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; 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: RE: Press Release: NRC Sends Additional Experts to Assist Japan
Attachments: 11-048.docx

This press release has gone out with slight change. See attached.

From: OPA Resource
Sent: Monday, March 14, 2011 6:59 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: NRC Sends Additional Experts to Assist Japan

For immediate release.

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

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NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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

No. 11-048 March 14, 2011

NRC SENDS ADDITIONAL EXPERTS TO ASSIST JAPAN

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

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

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

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

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

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Dean, Bill

From: OPA Resource
Sent: Monday, March 14, 2011 6:59 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: NRC Sends Additional Experts to Assist Japan
Attachments: 11-048.docx

For immediate release.

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

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Matakas, Gina

From: Leeds, Eric
Sent: Monday, March 14, 2011 7:24 AM
To: Dean, Bill; McCree, Victor; Satorius, Mark; Collins, Elmo; Sheron, Brian; Evans, Michele; Zimmerman, Roy; Johnson, Michael
Cc: Holahan, Gary; Campbell, Andy; Correia, Richard; Uhle, Jennifer; Howell, Art; Pederson, Cynthia; Wert, Leonard; Lew, David; Weber, Michael; Virgilio, Martin; Grobe, Jack; Boger, Bruce; HOO Hoc
Subject: ACTION: Assistance to Japanese

Folks –

The Japanese requested the US supply six individuals with knowledge of the BWR 3 & 4 design to assist them in their hour of need. I'd like to discuss potential candidates with you on a conference call today at 9:30 am. I will work through the HOOs to set up a conference call and send you the number. We do not have a lot of details with regard to how long, although we do know these folks will assist in their EOCs at two different locations in Japan. I'll keep you informed as we learn more.

Thanks for your help!

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

50/AA

Dean, Bill

From: Dean, Bill
Sent: Monday, March 14, 2011 4:59 PM
To: Screnci, Diane; Sheehan, Neil; Roberts, Darrell; Wilson, Peter; Clifford, James; Weerakkody, Sunil; Lew, David
Subject: FW: Potential questions for EOC meetings

FYI. Does this cover the landscape for us do you think?

Bill

From: McCree, Victor
Sent: Monday, March 14, 2011 4:46 PM
To: Hannah, Roger; Ledford, Joey
Cc: Collins, Elmo; Dean, Bill; Satorius, Mark; Wert, Leonard; Casto, Chuck
Subject: FW: Potential questions for EOC meetings

Here are questions that OPA, et.al., are asked to consider in developing the agency Q&As for the Japanese earthquake/tsunami...and that can be referenced by NRC managers in preparation for the ROP end-of-cycle and other near term public meetings.

Vic

From: Croteau, Rick
Sent: Monday, March 14, 2011 4:35 PM
To: McCree, Victor
Cc: Wert, Leonard; Jones, William
Subject: Potential questions for EOC meetings

Vic,
Not sure how you wanted these, but here are some of the questions we could see being asked at EOCs:

1. **Do US nuclear plants have better capabilities to respond to natural disasters than the plants in Japan?**
2. **Did the NRC share the post 9/11 enhancements to the U.S. facilities with the Japanese?**
3. **Could there be core damage and radiation release at a US plant if a natural disaster exceeding the plant design were to occur?**
4. **Could explosions like those that occurred in Japan happen at a U.S facility?**
5. **How would the U.S. have responded to the events of March 11?**
6. **How are US BWRs similar and/or different from the plants experience problems in Japan?**
7. **Why are US plants safe to operate considering the events in Japan?**
8. **How big an earthquake is plant X designed to handle (for each plant)?**
9. **Is plant X designed to withstand a tsunami (for each coastal plant)?**
10. **What is the NRC doing to ensure this (Japan event) doesn't happen at US plants?**
11. **How will the U.S. learn from the failures at the Japanese reactors?**
12. **Is the NRC relooking at seismic analysis for US plants?**
13. **Is the event in Japan worse than TMI and Chernobyl?**
14. **What is the longer term prognosis for keeping the reactors cooled at the Japanese facilities?**
15. **Does the NRC participate in inspection of the Japanese facilities?**
16. **Given low probability events do occur, how does the U.S . ensure that U.S. plant designs are not significantly degraded by risk-informed changes?**
17. **How does the NRC ensure people can escape if an accident occurs from a natural disaster when the infrastructure is also affected or destroyed in an area around a plant?**

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Rick

Matakas, Gina

From: LIA04 Hoc
Sent: Monday, March 14, 2011 1:49 PM
To: Dean, Bill; McCree, Victor; Collins, Elmo; Heck, Jared
Cc: Turtil, Richard
Subject: FW: NRC Press Release No. 11-047
Attachments: 11-047.pdf

From: LIA04 Hoc
Sent: Monday, March 14, 2011 1:39 PM
To: Tifft, Doug; McNamara, Nancy; Barker, Allan; Woodruff, Gena; Trojanowski, Robert; Logaras, Harral; Maier, Bill
Cc: Rautzen, William; Turtil, Richard; Virgilio, Rosetta; Rivera, Alison; Flannery, Cindy; Ryan, Michelle
Subject: NRC Press Release No. 11-047

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NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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Blog: http://public-blog.nrc-gateway.gov

No. 11-047 March 14, 2011

JAPANESE GOVERNMENT ASKS FOR ASSISTANCE WITH REACTOR EVENTS; U.S. GOVERNMENT AND NRC PREPARING RESPONSE

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

Included in a U.S. Agency for International Development (USAID) team dispatched earlier to Japan to assist with the disaster are two boiling-water reactor (BWR) experts from the NRC. They are currently in Tokyo offering technical assistance. USAID is the federal government agency primarily responsible for providing help to countries recovering from a disaster.

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

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

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Matakas, Gina

From: LIA04 Hoc
Sent: Monday, March 14, 2011 6:06 PM
To: Flannery, Cindy; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta; Barker, Allan; Browder, Rachel; Collins, Elmo; Dean, Bill; Erickson, Randy; Heck, Jared; Logaras, Harral; Maier, Bill; McCree, Victor; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena
Subject: RE: Request from the States

Copied from the LT Director in response to the State Questions -

This is email is primarily for Charlie and Rosetta, to close the loop. We discussed the need for providing consistent information to the States, via the RSLO's, with the Executive Team and the Chairman a few minutes ago. The Chairman directed us to coordinate with FEMA since they have an established relationship with the States. We settled on working with OPA to provide the information tailored to our best extent to the questions and concerns that would be expressed by the States, and provide to FEMA for awareness and commonality, and then the RSLO's for sharing.

A broad conference call with all States is not currently being contemplated, we'd like to see how providing a common set of information works first.

Tim McGinty , LT Director

From: McNamara, Nancy
Sent: Monday, March 14, 2011 4:20 PM
To: LIA04 Hoc
Cc: Tifft, Doug
Subject: Request from the States

We had a request from the States that if HQs rejects a question from the States that has been submitted, to please let the RSLOs know so we may tell them versus just letting them hang thinking we are getting them the answer.

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Dean, Bill

From: Dean, Bill
Sent: Tuesday, March 15, 2011 10:22 PM
To: McKinley, Raymond
Subject: Fw: EDO Update

Some good words to use for the HS outing if you do it next week.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: EDO Update <nrc.announcement@nrc.gov>
To: Taylor, Renee
Sent: Tue Mar 15 10:14:43 2011
Subject: EDO Update

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

EDO Update

Tuesday, March 15, 2011

We are all saddened about the tragic events in Japan. Our thoughts and prayers go out to all of those affected by the earthquake and tsunami. The serious nuclear power plant issues have obviously been a special focus of the NRC. Rest assured, we are closely monitoring the situation and providing requested assistance. Senior managers and staff have been manning the Operations Center in rotations 24 hours a day since the earthquake. Over the weekend, we sent two staff members to Japan who are boiling-water reactor experts (the technology used at the Fukushima site). At the Japanese government's request, we have also sent nine additional NRC staff to help the American embassy in Tokyo and to support the Japanese regulators. Not surprisingly, the Congressional hearing scheduled for this Wednesday, which was originally to focus on our Fiscal Year 2012 budget, will now be primarily focused on the events in Japan.

It is not for the NRC to speak for the Japanese or United States governments, so I won't comment on the situation in any greater detail. Additional information can be obtained from the International Atomic Energy Agency and the U.S. Agency for International Development, a part of the State Department that is coordinating the U.S. response and assistance efforts.

It is possible that some of you will be requested by colleagues in another country to provide technical advice and assistance during this

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emergency. It is essential that all such communications be handled through the NRC Operations Center. If you receive such a request, contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) immediately. All media calls should be forwarded to the Office of Public Affairs (301-415-8200).
If you receive information regarding this or any emergency (foreign or domestic) and you are not certain that the NRC's Incident Response Operations Officer is already aware of that information, you should contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) and provide that information.

Notwithstanding the significance of what is occurring in Japan, we still have our domestic mission to carry out, and with the exception of the small number of people who have been directly called upon to respond to this situation we should all proceed with previously planned activities. We will continue to process licensing actions, conduct inspections, and fulfill our regulatory responsibilities.

In accordance with NRC regulations, every American nuclear power plant is designed with multiple, redundant safety systems to be robust enough to withstand the seismic and natural event risks associated with its specific location. In other words, the NRC analyzes every reactor site for own specific features and potential hazards, and requires the plant to be designed and operated accordingly. But in calculating risks, a certain level of uncertainty is always present. To compensate for these uncertainties, the NRC utilizes the concept of "defense in depth"—an approach to safety where multiple, diverse, and redundant layers of protection are used to prevent accidents and mitigate consequences. While it is inappropriate to speculate on what would happen to an American nuclear power plant under similar circumstances to the Japan event, we do know that U.S. nuclear facilities are among the most robust and well-protected civilian structures in the country.

Let me express my thanks to the NRC staff that have served in or supported the Operations Center since the earthquake hit. I'd also like to thank those who have had to compensate for their colleagues who have been called away from their regular duties.

I will keep you informed of ongoing developments.

Bill

Bill Borchardt, EDO

Dean, Bill

From: NRC Announcement [nrc.announcement@nrc.gov]
Sent: Tuesday, March 15, 2011 9:36 AM
To: NRC Announcement
Subject: From the Chairman: Events in Japan

NRC Daily Announcements

Tuesday March 15, 2011 -- Headquarters Edition

From the Chairman: Events in Japan

From the Chairman: Events in Japan

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

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

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

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

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Frequently Asked Questions About the NRC Daily Announcements Email

55|AA

Cartwright, William

From: Thorp, John
Sent: Tuesday, March 15, 2011 10:33 PM
To: Brown, Frederick
Cc: Thomas, Eric
Subject: FW: Japan event

Fred,

Can you tell me whether we can, from the IRC, share information with the Swedish Nuclear Safety Authority? For example, do we have anyone from OIP as part of the response team, who can interface with the Swedes and other foreign regulatory authorities?

Thanks,

John

From: HOO Hoc
Sent: Tuesday, March 15, 2011 8:01 PM
To: ET07 Hoc; PMT01 Hoc; RST01 Hoc; LIA01 Hoc; LIA02 Hoc; LIA04 Hoc; LIA07 Hoc; LIA11 Hoc; LIA12 Hoc; Gott, William; Marshall, Jane; McDermott, Brian; Morris, Scott; Thorp, John
Subject: FW: Japan event

From: Broman, Kenneth [mailto:Kenneth.Broman@ssm.se]
Sent: Tuesday, March 15, 2011 7:52 PM
To: HOO Hoc
Cc: Sandwall, Johanna
Subject: VB: Japan event

Dear Sir,

Mr. John Thorpe is out of office.

Can we establish an information exchange?

Best regards
Kenneth Broman

Från: Broman, Kenneth
Skickat: den 16 mars 2011 00:45
Till: 'Thorp, John'
Kopia: Sandwall, Johanna
Ämne: SV: Japan event

Dear John,

We still have problems with fast and reliable information.

Our task is to serve our government and public with relevant information.

We share our understanding of the situation with Finland to get a second opinion. But it would be of great help if you have information to share with us.

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Dean, Bill

From: LIA04 Hoc
Sent: Tuesday, March 15, 2011 6:52 PM
To: Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Flannery, Cindy; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Satorius, Mark
Subject: Issued Press Material: EPA Statement on Rad Monitoring
Attachments: EPA Statement on Rad Monitoring.docx

EPA issued a statement that their radiation monitoring data is available online.

Issued 3/15/11 at 18:31:39 EST

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Martin, Robert

From: Andrachek, James D [andracjd@westinghouse.com]
Sent: Tuesday, March 15, 2011 2:25 PM
To: Meighan, Sean; Martin, Robert; Steger (Tucci), Christine
Subject: RE: Query - Call from Westinghouse Request to share New Reg. CR with Japan

Thank you very much.

From: Meighan, Sean [mailto:Sean.Meighan@nrc.gov]
Sent: Tuesday, March 15, 2011 2:05 PM
To: Andrachek, James D; Martin, Robert; Steger (Tucci), Christine
Subject: RE: Query - Call from Westinghouse Request to share New Reg. CR with Japan

Jim:

DORL PM Bob Martin found answers for 3 of the documents.

NUREG/CR-4294, Leak Rate Analysis of the Westinghouse Reactor Coolant Pump, Public Legacy Library accession no. 8508020424, listed as publically available.

NUREG/CR-4821, Reactor Coolant Pump Shaft Seal Stability During Station Blackout, Public Legacy Library accession no. 8706120189, listed as publically available.

NUREG/CR-5167, Cost/Benefit Analysis for Generic Issue 23: Reactor Coolant Pump Seal Failure, Public Legacy Library accession no. 9104250014, listed as publically available.

You can release the above 3 documents.

For the last document, NUREG/CR-4906P, please do not release yet.

Very Respectfully
Sean

From: Andrachek, James D [mailto:andracjd@westinghouse.com]
Sent: Tuesday, March 15, 2011 1:01 PM
To: Meighan, Sean; Martin, Robert
Subject: RE: Query - Call from Westinghouse Request to share New Reg. CR with Japan

Sean/Bob,

The PDF contains both the number and title of three of the NUREG/CRs.

I don't have a title of the fourth, but the number is: NUREG/CR-4906P.

Thank you for your support on this.

Jim Andrachek
412.374.5018

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Valentine, Nicholee

From: Bowman, Eric
Sent: Tuesday, March 15, 2011 12:24 PM
To: Manoly, Kamal
Cc: Wilson, George; Hiland, Patrick; Skeen, David; Kauffman, John; Stutzke, Martin; Ake, Jon; Couret, Ivonne; Beasley, Benjamin; Rosenberg, Stacey
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

Kamal,
I would suggest using 60 days rather than 45 days for the public comment period to reflect the MD 8.18 preferred comment period.

V/R Eric

From: Manoly, Kamal
Sent: Tuesday, March 15, 2011 11:32 AM
To: Beasley, Benjamin; Couret, Ivonne
Cc: Wilson, George; Hiland, Patrick; Skeen, David; Kauffman, John; Stutzke, Martin; Ake, Jon; Bowman, Eric
Subject: FW: NBC deadline question for NRC on seismic hazard estimates

Ben,
Please revise as shown below in red.

From: Manoly, Kamal
Sent: Tuesday, March 15, 2011 11:22 AM
To: Beasley, Benjamin
Cc: Wilson, George; Hiland, Patrick; Skeen, David; Kauffman, John; Stutzke, Martin; Ake, Jon; Bowman, Eric
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

Ben;
Below is my input on item 4. Please make sure that Marty and Jon are comfortable with my dates.
The NRC is working on developing a Generic Letter (GL) to request information from affected licensees. The GL will likely be issued in a draft form within the next 2 months to stimulate discussions with industry in a public meeting. After that it has to be approved by CRGR, presented to ACRS and issued as a draft for formal public comments (60 days). After evaluation of the public comments it can then be finalized for issuance. We anticipate to issue the GL by the end of this calendar year as the new consensus seismic hazard estimates are expected to be available. The information from licensees will likely require 3-6 months to complete. Staff's review will commence after receiving licensees' responses. Based on staff's review, a determination can be made regarding cost beneficial backfits where it can be justified.

From: Hiland, Patrick
Sent: Tuesday, March 15, 2011 9:33 AM
To: Manoly, Kamal
Cc: Wilson, George
Subject: FW: NBC deadline question for NRC on seismic hazard estimates
Importance: High

Kamal help George Wilson co-ordinate this response. Don't leave out RES.

From: Bill Dedman [mailto:Bill.Dedman@msnbc.com]
Sent: Tuesday, March 15, 2011 9:06 AM

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To: Manoly, Kamal; Sheron, Brian; Hiland, Patrick; OPA Resource
Subject: NBC deadline question for NRC on seismic hazard estimates

Good morning,

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

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

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

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

I have these questions:

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

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

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

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

Thank you for your help.

Regards,

Bill Dedman

This e-mail message and attached documents are confidential; intended only for the named recipient(s) above and may contain information that is privileged, confidential, proprietary, and/or exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, you are hereby notified that any unauthorized use, dissemination, distribution or copy of this communication is strictly prohibited. No waiver of privilege, confidence or otherwise is intended by virtue of this communication. If you have received this message in error, or are not the named recipient(s), please immediately notify the sender, destroy all copies and delete this e-mail message from your computer. Thank you.

Cartwright, William

From: Nielsen, Rick M (INPO) [NielsenFM@INPO.org]
Sent: Tuesday, March 15, 2011 6:11 PM
To: Thomas, Eric
Subject: Re: Industry Efforts

Btw, the IER L1 was sent to EDO by Bill Webster about an hour ago.

Rick

Sent from my iPhone

On Mar 15, 2011, at 5:18 PM, "Thomas, Eric" <Eric.Thomas@nrc.gov<mailto:Eric.Thomas@nrc.gov>> wrote:

Hi Rick,

Please see below. Is there a new POC for me to contact so I can get a hold of the SOER when it becomes available?

Thanks, Eric

From: Boger, Bruce
Sent: Tuesday, March 15, 2011 5:04 PM
To: Leeds, Eric; Grobe, Jack; Ruland, William
Cc: Dean, Bill; Lew, David; McCree, Victor; Wert, Leonard; Satorius, Mark; Pederson, Cynthia; Collins, Elmo; Howell, Art; Virgilio, Martin; Thomas, Eric; Brown, Frederick
Subject: Industry Efforts

I spoke with Randy Edington (CNO Palo Verde) and later with Steve Nichols (INPO) regarding industry actions as a result of the situation in Japan. The CNOs teleconferenced over the weekend and agreed to a series of near-term actions. INPO issued a Level 1 Event Report (highest level) to its members this afternoon. It identifies 4 actions, with due dates, and requires a written response. In general, the actions include walkdowns and verifications of aspects of facility capabilities to address B.5.b equipment and procedures, SAMGs, mitigation of SBO conditions, mitigation of internal and external flooding, and fire and flooding events that could be impacted by a concurrent seismic event. This should help shape the generic communication we've been discussing. INPO is figuring out how quickly they will be able to share the report with us. The report won't be available to the public, but we can share it internally.

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Thank you.

60|AA

Dean, Bill

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

Attached to be released in approximately 15 minutes.

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

Lel | AA

Dean, Bill

From: OPA Resource
Sent: Tuesday, March 15, 2011 1:28 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: NRC Analysis Continues to Support Japan's Protective Actions

To be issued and posted to the live web in 15 minutes.

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

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Dean, Bill

From: OPA Resource
Sent: Tuesday, March 15, 2011 2:46 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: *RESEND*Press Release: NRC Analysis Continues to Support Japan's Protective Actions
Attachments: 11-049.docx

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

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

63|AA

Cartwright, William

From: Cullingford, Michael
Sent: Tuesday, March 15, 2011 8:41 AM
To: Thomas, Eric
Subject: FW: TEPCO Earthquake Information Update as of March 14, 2300(JST) - Fukushima Daini Unit 1 in Cold Shutdown

fyi

From: Hidehiko Yamachika [mailto:yamachika-hidehiko@jnes-usa.org]
Sent: Monday, March 14, 2011 7:13 PM
To: 'Hidehiko Yamachika'; Emche, Danielle; Foggie, Kirk; Cullingford, Michael
Cc: Aono, Kenjiro; Michael W. Chinworth
Subject: RE: TEPCO Earthquake Information Update as of March 14, 2300(JST) - Fukushima Daini Unit 1 in Cold Shutdown

With regard to the mail below, NISA announced that there was explosion in the suppression room at 5:10 pm in Washington time, causing some damage to the suppression chamber.
The damage can be expected by the fact of pressure decrease at the suppression chamber from 3 atmospheric pressure in normal condition to 1 atmospheric pressure.

From: Hidehiko Yamachika [mailto:yamachika-hidehiko@jnes-usa.org]
Sent: Monday, March 14, 2011 6:49 PM
To: 'Hidehiko Yamachika'; Emche, Danielle; Foggie, Kirk; Cullingford, Michael
Cc: Aono, Kenjiro; Michael W. Chinworth
Subject: RE: TEPCO Earthquake Information Update as of March 14, 2300(JST) - Fukushima Daini Unit 1 in Cold Shutdown

A Chief Cabinet Secretary announced early in the morning of 15th March that defect was found in suppression poor.
*Unfortunately I have no idea which kind of defect is.

From: Hidehiko Yamachika [mailto:yamachika-hidehiko@jnes-usa.org]
Sent: Monday, March 14, 2011 4:54 PM
To: 'Hidehiko Yamachika'; Emche, Danielle; Foggie, Kirk; Cullingford, Michael
Cc: Aono, Kenjiro; Michael W. Chinworth
Subject: RE: TEPCO Earthquake Information Update as of March 14, 2300(JST) - Fukushima Daini Unit 1 in Cold Shutdown

A Chief Cabinet Secretary, Edano, announced at 4:40 pm in EDT that Government-TEPCO joint Head Quarter has been foamed to perform an integrated action.

64/AA

Cartwright, William

From: Cullingford, Michael
Sent: Tuesday, March 15, 2011 1:22 PM
To: Thomas, Eric
Subject: FW: TEPCO Earthquake Information Update as of March 15, 1300(JST) - Fukushima Daiichi NPS
Attachments: Fukushima daiichi unit1-3 parameter.xls

fyi

From: Hidehiko Yamachika [mailto:yamachika-hidehiko@jnes-usa.org]

Sent: Tuesday, March 15, 2011 12:41 PM

To: Emche, Danielle; Cullingford, Michael; Foggie, Kirk

Cc: Cullingford, Michael; Aono, Kenjiro

Subject: FW: TEPCO Earthquake Information Update as of March 15, 1300(JST) - Fukushima Daiichi NPS

FYI

This is from TEPCO.

P.S. Michael-san: Please forward to someone whom I slip in mind to send.

From: 松尾　建次 [mailto:matsuo.kenji@wash.tepco.com] **On Behalf Of** matsuo.kenji@tepco.co.jp

Sent: Tuesday, March 15, 2011 12:19 PM

To: matsuo.kenji@tepco.co.jp

Subject: TEPCO Earthquake Information Update as of March 15, 1300(JST) - Fukushima Daiichi NPS

Dear Friends,

The following is status of Fukushima-Daiichi NPS as of 13:00, March 15.

Units 1,2 and 3 continues water injection using fire engine (sea water).
The status is stable right now (around 11:00pm).

Atteched is plant parameters of units 1,2 and 3. (water level, reactor pressure, D/W pressure, S/C pressure)

Contacts:
TEPCO Washington Office 202-457-0790
Kenji Matsuo, General Manager
Yuichi Nagano, Deputy General Manager,
Masayuki Yamamoto, Manager, Nuclear Power Programs

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Plant Status of Fukushima Daiichi Nuclear Power Station (as of 13:00 Mar 15th)

All 6 units of Fukushima Daiichi Nuclear Power Station have been shut down.

Unit 1(Shut down)
-Reactor has been shut down. However, the explosive sound and white smoke were confirmed after the big quake occurred at 3:36PM Mar 12th. It was assumed to be hydrogen explosion and currently under the investigation.
-We have been injecting sea water into the reactor pressure vessel.

Unit 2(Shut down)
-Reactor has been shut down and Reactor Core Isolation Cooling System has been injecting water to the reactor. However, reactor pressure has increased because the system stopped, causing reactor water level to drop. Following the instruction by the government and with fully securing safety, measure to lower the pressure level within the reactor containment vessel and injection of sea water were taken, reactor pressure and water level resumed.
-We are continuing the injection of sea water into the reactor.
-At approximately 6:00am, an abnormal noise began emanating from nearby Pressure Suppression Chamber and the pressure within this chamber decreased.
-While we continue sea water injection operations, the temporary transfer of TEPCO employees and workers from other companies not directly involved in this work has begun.

Unit 3(Shut down)
-Reactor has been shut down. However, the explosive sound and white smoke were confirmed at 11:01AM Mar 14th. It was assumed to be hydrogen explosion and currently under the investigation.
-Also, we restarted the injection of sea water to the reactor at 2:30am Mar 15th , which was temporarily stopped.

Unit 4 (shut down due to regular inspection)
-Reactor has been shut down and sufficient level of reactor coolant to ensure safety is maintained.
-Currently, we do not believe there is any reactor coolant leakage inside the reactor containment vessel.
-We have confirmed the sustained damage around the 5th floor rooftop area of the Nuclear Reactor Building.
-Afterwards, we confirmed the outbreak of fire at the northwestern part of Nuclear Reactor Building. We immediately reported this matter to the fire department and the related authorities.
-However, at approximately 11:00am, when TEPCO employee arrived at the seen to confirm, the fire had already died down. We will continue to monitor the situation carefully.

Unit 5 (outage due to regular inspection)
-Reactor has been shut down and sufficient level of reactor coolant to ensure safety is maintained.

-Currently, we do not believe there is any reactor coolant leakage inside the reactor containment vessel.

Unit 6 (outage due to regular inspection)

-Reactor has been shut down and sufficient level of reactor coolant to ensure safety is maintained.

-Currently, we do not believe there is any reactor coolant leakage inside the reactor containment vessel.

Casualty

-2 workers of cooperative firm were injured at the occurrence of the earthquake, and were transported to the hospital.

-1 TEPCO employee who was not able to stand by his own with his hand holding left chest was transported to the hospital by an ambulance.

-1 subcontract worker at important earthquake-proof building was unconscious and transported to the hospital by an ambulance.

-The radiation exposure of 1 TEPCO employee, who was working inside the reactor building, exceeded 100mSv and was transported to the hospital.

-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 Power Station for consultation with a medical advisor.

-4 workers were injured and transported to the hospital after explosive sound and white smoke were confirmed around the Unit 1.

-11 workers were injured and transported to Fukushima Daini Nuclear Power Station after explosive sound and white smoke were confirmed around the Unit 3.

-Presence of 2 TEPCO employees at the site is not confirmed.

Others

-We are currently coordinating with the relevant authorities and departments as to how to secure the cooling water to cool down the water in the spent nuclear fuel pool.

-We measured radioactive materials inside of the nuclear power station area (outdoor) by monitoring car and confirmed that radioactive materials level is getting higher than ordinary level. As listed below, we have determined that specific incidents stipulated in article 15, clause 1(Abnormal increase in radiation dose measured at site boundary) have occurred.

- Determined at 4:17 pm Mar 12th (Around Monitoring Post 4)
- Determined at 8:56 am Mar 13th (Around Monitoring Post 4)
- Determined at 2:15 pm Mar 13th (Around Monitoring Post 4)
- Determined at 3:50 am Mar 14th (Around Monitoring Post 6)
- Determined at 4:15 am Mar 14th (Around Monitoring Post 2)

(Above are previously announced)

- Determined at 9:27 am Mar 14th (Around Monitoring Post 3)
- Determined at 9:37 pm Mar 14th (Around main entrance)
- Determined at 6:51 am Mar 15th (Around main entrance)
- Determined at 8:11 am Mar 15th (Around main entrance)

-We will continue to make announcements when it was determined that a specific incident stipulated in article 15, clause 1 has occurred.

-The national government has instructed evacuation for those local residents within 20km radius of the periphery because it's possible that radioactive materials are discharged.

-We will continue to take all measures to restore the security of the site and to monitor the environment of the site periphery.

Basu, Sudhamay

From: Farmer, Mitchell T. [farmer@anl.gov]
Sent: Tuesday, March 15, 2011 7:27 PM
To: Tinkler, Charles
Cc: Basu, Sudhamay; Gavrilas, Mirela; Lee, Richard; Grandy, Christopher
Subject: RE: Fukushima

I'm sure you know the fire's back in unit 4. As I noted to you earlier Charlie, I heard they did a full core unload into the pool for unit 4 so they could do maintannce on the reactor. I don't know if that's true but at this point I'd have to assume that it is. So, Unit 4 pool has a full core load in it and needs full attention. I think there are a couple of days of time on the other units, but this one needs full attention. Even if they can get up to the stairwell opening and aim a fire hose over towards the pool that would be a great help; use the stairwell as shielding. That's easy for me to say setting here at my computer. I also heard there were holes in the upper structure from the earlier hydrogen explosion in unit 4. It would be really nice if they could use an aerial lift that could go up to the opening with the hose attachment without personnel involved, I don't think this helicopter concept will work. Also, a good soldier with the appropriate weapon could probably make an appropriate opening in the exterior buidling adjacent to the pool so that a fire hose could be dropped in near or in the pool. I suspect at this time that radiation levels are far too high for near approach. Lifts are available that can go up to 150'; I've pasted in reference for one below (this isn't the greatest but I wanted to confirm that a lift was available). I'm sure they have one somewhere like this in Japan, maybe more compact. Limited data I have indicates the total height of the confiment structure is about 45 m or 150 ft so that this one could reach top of the structure. Sorry, I'm grasping at straws but this needs to be stabilized. I feel a bit helpless here.

http://www.aerialliftequipment.com/inventory.php?id=226

Mitch

From: Farmer, Mitchell T.
Sent: Tuesday, March 15, 2011 3:54 PM
To: 'Tinkler, Charles'
Cc: 'Sud Basu'; Gavrilas, Mirela; 'Lee, Richard'; Grandy, Christopher
Subject: RE: Fukushima

Steve noticed in a washington post article a few minutes ago that from satelite photos they observed steam rising from the spent fuel pool at Unit 3 on Monday. Just thought you should know.

I wanted to try to put this in perspective not knowing much. Sensible heat is about 15 % of the total heat to boil, so if it took 3 days to start boiling, that would mean it would take 20 days to completely boil dry in the whole pool. Assuming that the total pool height is filled 1/3 of the way by the assemblies, with 2/3 of the water layer on top, then the time to boil down to the tops of the assemblies is of the order of (2/3)*20 days or 13 days. This is a groping calculation but I know very little like total decay heat level in the pool and the initial water volume and height.

Mitch

From: Farmer, Mitchell T.
Sent: Tuesday, March 15, 2011 8:58 AM
To: 'Tinkler, Charles'
Cc: 'Sud Basu'; Gavrilas, Mirela; 'Lee, Richard'
Subject: RE: Fukushima

Still worried about pools in 1-3, and whether or not they can gain access to these or the cooling water connections to these pools given the state of the plants. I was thinking about the approach for getting water into these a little more and would suggest that this could be done as an unmanned operation if you attached a pipe to the lift that was off sufficient length to clear the wall of the damaged exterior wall adjacent to the deck of the pool. With a 90 degree elbow on it, you

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could direct water down into (or at least towards) the pool. The operator could articulate the lift platform with the attached pipe over the wall remotely and once in position you could add water with a fire pump through an attached fire hose.

I don't know if this is helpful but it can't hurt. Although I feel somewhat knowledgable about accident progression and accident management planning for the reactor, I wonder if the SAMGs also call for keeping track of the spent fuel pool while you are dealing with the reactor situation. If not, this could be a constructive lessons learned.

Again, let me know if you want me to stop.

Mitch

From: Farmer, Mitchell T.
Sent: Monday, March 14, 2011 8:52 AM
To: 'Tinkler, Charles'
Cc: 'Sud Basu'; Gavrilas, Mirela; Lee, Richard
Subject: RE: Fukushima

Hi Charlie,

I just wanted to send you a note and let you know that I'm a little concerned about the spent fuel storage pools for Units 1 and 3 for the reasons we've talked about over the years. I know you've probably thought of this but it's a stressful time and I just want to make sure the people you've deployed are thinking about this.

I doubt they have access inside the building due to radiation levels so I'm going to make a suggestion which may or may not be nieve, but given the circumstances I'll make it anyway. I know you can get the aerial lifts that can go up at least 10 stories. I was thinking you could send a brave individual up on that with a fire hose on the exterior of the building with an alarming TLD so that he would know if the radiation level was getting to high. You would use the exterior of the secondary containment as shielding. He could place the hose over the exposed wall and then wire tire that to one of the ibeams so that it doesn't blow off when you start deluge over the edge and onto the deck. The wire tie is imparitive as it'll blow back when you start the pump. If they have an extra fire pump that could push water head to 10 stories, you could get some water over the top and into the pool. This might take 1/2 hour or so to execute and so if the dose rate stays below 20 R/hour this could be pulled off.

I hope you don't mind me making suggestions and if it is problematic, please don't hesitate to let me know. Mirela has my cell phone; call me 24/7 if I can be of any assistance. As you know, you have resources here at the lab and I'm sure management would approve of us supporting you know.

Best Regards,
Mitch

ps. I wish we were further along on that remote sensing project for the RCIC that we just started for you; that could be quite helpful now.

From: Tinkler, Charles [mailto:Charles.Tinkler@nrc.gov]
Sent: Saturday, March 12, 2011 1:18 PM
To: Farmer, Mitchell T.
Subject: RE: Fukushima

Thanks Mitch, right now I don't know exactly why they are unable to use their isolation condenser or inject water. Thanks for the reminder on flooding. I appreciate your offer.

From: Farmer, Mitchell T. [mailto:farmer@anl.gov]
Sent: Friday, March 11, 2011 7:43 PM
To: Gavrilas, Mirela; Tinkler, Charles; Basu, Sudhamay; Lee, Richard
Cc: Grandy, Christopher; 'corradin@cae.wisc.edu'
Subject: Fukushima

Hi Mirela, Charlie, Sud, Richard,

Don't know if you are out there. I've been watching the situation at Fukushima and don't like what I'm seeing, at least based on the news reports I have access to. I don't know how long a BWR can go w/o emergency core cooling and not sustain significant core damage but it seems like we're well into that time domain. Is there anything that can be done to help? I don't know, I'm searching. The one thing we learned from MCCI though: if you fear vessel failure and you have any means to flood the cavity then you should do that. They have siliecous concrete in Japan; too much interaction ex-vessel w/o water and coolability is lost. Let me know if there is anything I can do.

Mitch

Dean, Bill

From: Dean, Bill
Sent: Tuesday, March 15, 2011 9:45 PM
To: McNamara, Nancy
Subject: Re: Proposed Outreach activities

Don't get frustrated. What help can we give you?
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

----- Original Message -----
From: McNamara, Nancy
To: Dean, Bill
Sent: Tue Mar 15 20:05:11 2011
Subject: RE: Proposed Outreach activities

Bill, I should pt out that HQs was quick to respond to the state EPZ error. They are now adding a FEMA Rep to the Liaison team. We all recognize that everybody is doing their best under the circumstances. I need to turn this crap off . Have a good night.
-----Original Message-----
From: Dean, Bill
Sent: Tuesday, March 15, 2011 6:49 PM
To: McCree, Victor; Collins, Elmo; Satorius, Mark
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard; Trojanowski, Robert; Woodruff, Gena; Tifft, Doug; McNamara, Nancy
Subject: Re: Proposed Outreach activities

Got it, thanks. Guess this is part of what region I has to deal with.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

----- Original Message -----
From: McCree, Victor
To: Dean, Bill; Collins, Elmo; Satorius, Mark
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard; Trojanowski, Robert; Woodruff, Gena
Sent: Tue Mar 15 14:52:10 2011
Subject: RE: Proposed Outreach activities

Bill,

I apologize for not responding to your email sooner.... Although our SLOs have received a couple of inquiries from state points-of-contact, we have not received the groundswell of inquiries that you have experienced. As a result, our SLO's will stay current on the events in Japan through the regular email updates and respond to any questions from their counterparts.

Also, although we routinely inform FEMA Region IV of our EOC meeting schedule and invite them to participate, they rarely do so. Based on the small number of inquiries we've received from states, EMDs, etc., thus far regarding the Japan event, I do not plan to extend them an additional invitation.

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Vic
-----Original Message-----
From: Dean, Bill
Sent: Monday, March 14, 2011 6:00 PM
To: Collins, Elmo; Satorius, Mark; McCree, Victor
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard
Subject: Proposed Outreach activities

I am not sure what you have experienced thus far relative to the events unfolding in Japan, but I have had dialog today with State Liaison officers and emergency management directors, congressional staffers, and FEMA administrators all looking for the same thing: information they can use to address the groundswell of inquiries they are receiving. What do you think about:

1. Periodic calls with SLOs (maybe even daily right now) to update them on current information and receive, and where possible, answer questions; and

2. Inviting FEMA to EOC meetings to discuss emergency preparedness questions emanating from the Japanese situation?

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

Dean, Bill

From: Dean, Bill
Sent: Tuesday, March 15, 2011 5:26 PM
To: Jackson, Donald
Subject: Re: 4pm Phone Call Concerning 24 Hour Headquarters Incident Response Coverage

Good summary don. Thanks.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: Jackson, Donald
To: Lew, David; Dean, Bill; Wilson, Peter; Weerakkody, Sunil; Roberts, Darrell; Clifford, James; Lorson, Raymond; Collins, Daniel
Cc: Dentel, Glenn
Sent: Tue Mar 15 16:33:57 2011
Subject: 4pm Phone Call Concerning 24 Hour Headquarters Incident Response Coverage

As Region I Duty Officer I participated in a call to brainstorm agency coverage for the Japan Reactor Accident(s). Michelle Evans led the call. Key Points:

- Headquarters Incidence Response will probably continue through April 15, 2011.
- The coverage will be 24/7, with 4 days on and 4 days off, with three shift coverage.
- The plan is to have a watch bill in place and active before this Saturday.
- Michelle Evans will send out a staffing plan this evening, but would include Executive Team, Protective Measures Team, Reactor Safety Team, Public Affairs, International Programs, Liason Team, Others.
- Looking hard for agency leaders that are already qualified, or are leaders that can step in with minimal training. (Pete Wilson, and Monica Orendi were mentioned by name).
- A relief team is being put together to transit to Japan by March 28.
- The Incident Response 24/7 coverage will be staffed while we have folks on the ground in Japan.
- Talked about sending NRC Dosimetry and KI with next team.
- More to follow.....sounds like lots of needs and still working on the exact scope.

Very Respectfully,

Don Jackson
Chief- Region I DRP PB5
(610) 337-5306

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Matakas, Gina

From: McKinley, Raymond
Sent: Tuesday, March 15, 2011 12:31 PM
To: Wilson, Peter; Henderson, Pamela
Cc: Dean, Bill; Lew, David; Screnci, Diane
Subject: FW: Downingtown East HS Nuclear Project

Pete & Pam,

See the attached message below. Several months ago, we agreed to support this public outreach initiative with Downingtown East High School. The teacher who sent the attached message is having her students go through a simulated Emergency Response and Ingestion Pathway scenario related to Limerick. The teacher has advanced this activity in light of the ongoing events in Japan. They want me to go there next week to speak. While I am certainly capable of handling this, I would anticipate that the line of questioning would quickly turn to the events in Japan. In addition, I would also anticipate that the "audience" might expand beyond the students. Given the ongoing and evolving nature of the events in Japan, the timing may not be appropriate. On the other hand, it is an opportunity to educate.

Please let me know if I should proceed with this activity or not.

If you think we should not participate at this time, then I can tactfully decline.

Ray

-----Original Message-----
From: de Gelinas/ Brenda [mailto:bgelinas@dasd.org]
Sent: Sunday, March 13, 2011 9:08 PM
To: McKinley, Raymond
Cc: Smith, George; George Fiore
Subject: Downingtown East HS Nuclear Project

Hi Ray,

I got your contact information from George Smith. While I wasn't planning to begin the Nuclear Project Based Learning project until the end of the school year, I have decided to move the project up in order to take advantage of what is happening in Japan. I've spent the weekend retooling my project and I plan to start it tomorrow. I would love to have you visit my classes as an expert that can help answer questions students come up with. I recognize that this is very short notice and that you may be busy in light of what is happening in Japan, but I was wondering if you would be available any time next week? If we can make this work, I will send you my instructional design so you know what the students are being asked to respond to and what resources they have available.

I'm looking forward to meeting you and hope to work with you!
Brena Gelinas
Chemistry Teacher
DEHS

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Matakas, Gina

From: Dentel, Glenn
Sent: Tuesday, March 15, 2011 12:12 AM
To: Dean, Bill; Lew, David; Wilson, Peter; Roberts, Darrell; Collins, Daniel; Lorson, Raymond; Baker, Pamela; Walker, Tracy; Sunil.Weerakoddy@nrc.gov; Clifford, James; Miller, Chris
Cc: Screnci, Diane; Sheehan, Neil; Trapp, James; McNamara, Nancy; Tifft, Doug; Hansell, Samuel; Hinson, Felicia; raymond.McKinely@nrc.gov; Dentel, Glenn
Subject: March 14, 2011, 11:30pm Japan Nuclear Facility Updates

Update regarding Japan from 1130 pm TA briefing,

Conditions have substantially changed

Fukushima Daiichi
Unit 1 has stable core cooling and intact containment with no SFP issues

Unit 2 has not had core cooling for some time, apparently the pumps were deadheaded. Containment is no longer believed to be intact (They heard a loud explosion in containment and containment pressure reduced to atmospheric pressure). There is possibility of ex vessel fuel damage.

Unit 3 has stable core cooling, there is substantial debris in the SFP from earlier hydrogen explosion

Unit 4 SFP is dry. Potential fuel pool zirconium fire.

20 km evalucuation has been issue by Japan and 30 km shelter in place.

Site Boundary dose rates at Units 1/2 is 3 to 4 R/hr
at Units 3/4 is 10 R/hr

NRC has dispatched 9 individuals to Japan lead by Chuck Casto DOE WRAP team is 7 hours out from arrival in Japan.

Next Update is at 0730.

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Dean, Bill

From: Dean, Bill
Sent: Tuesday, March 15, 2011 9:46 PM
To: McNamara, Nancy
Subject: Re: Proposed Outreach activities

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

----- Original Message -----
From: McNamara, Nancy
To: Dean, Bill; Tifft, Doug
Cc: Lew, David
Sent: Tue Mar 15 19:49:28 2011
Subject: RE: Proposed Outreach activities

Actually, I think getting that national call is about zero to none. Doug and I were pummeled again today by the states. To add hurt to injury NY county referred a school official asking a question regarding the 10 mile EPZ requirement to call HQ PIO. HQs told them to call the State's program control director and told him it was a State law. Needless to say, that psst the State off that we not only referred them to the wrong state agency but that it's a FEMA/NRC regulation not the States. But things are going well:) Good news is that Eric Leeds has someone assigned to work on the Q&A bank we've been forwarding to HQ. With that, Doug hit the bar and I hit Dairy Queen!

ginal Message-----
From: Dean, Bill
Sent: Tuesday, March 15, 2011 6:23 PM
To: McNamara, Nancy; Tifft, Doug
Cc: Lew, David
Subject: Fw: Proposed Outreach activities

As usual, region I stands out!! There is some movement to have HQ lead a periodic call with state LOs.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

----- Original Message -----
From: Satorius, Mark
To: Collins, Elmo; McCree, Victor; Dean, Bill
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard
Sent: Tue Mar 15 16:56:28 2011
Subject: RE: Proposed Outreach activities

We are a lot like RII - no big requests for info from either our states or agreement states. RSLO's intend to stay tied into the latest info and respond to ??'s when they are presented. I've asked DRP and the RSLOs to consider inviting our FEMA V POC and give me a recommendation.

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

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From: Collins, Elmo
Sent: Tuesday, March 15, 2011 2:04 PM
To: McCree, Victor; Dean, Bill; Satorius, Mark
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard; Trojanowski, Robert; Woodruff, Gena; Maier, Bill
Subject: RE: Proposed Outreach activities

Thanks Bill and Victor -

Region IV looks a lot like Region II on these fronts. While we are getting a large number of inquiries, press and public, there is not a ground swell from the states.

That said, it is apparent that States are looking to be treated as a governmental partner, not as press or members of the public and thus, expect more information from NRC than they are getting about the status of the reactors in Japan.

Elmo

-----Original Message-----
From: McCree, Victor
Sent: Tuesday, March 15, 2011 1:52 PM
To: Dean, Bill; Collins, Elmo; Satorius, Mark
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard; Trojanowski, Robert; Woodruff, Gena
Subject: RE: Proposed Outreach activities

Bill,

I apologize for not responding to your email sooner.... Although our SLOs have received a couple of inquiries from state points-of-contact, we have not received the groundswell of inquiries that you have experienced. As a result, our SLO's will stay current on the events in Japan through the regular email updates and respond to any questions from their counterparts.

Also, although we routinely inform FEMA Region IV of our EOC meeting schedule and invite them to participate, they rarely do so. Based on the small number of inquiries we've received from states, EMDs, etc., thus far regarding the Japan event, I do not plan to extend them an additional invitation.

Vic
-----Original Message-----
From: Dean, Bill
Sent: Monday, March 14, 2011 6:00 PM
To: Collins, Elmo; Satorius, Mark; McCree, Victor
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard
Subject: Proposed Outreach activities

I am not sure what you have experienced thus far relative to the events unfolding in Japan, but I have had dialog today with State Liaison officers and emergency management directors, congressional staffers, and FEMA administrators all looking for the same thing: information they can use to address the groundswell of inquiries they are receiving. What do you think about:

1. Periodic calls with SLOs (maybe even daily right now) to update them on current information and receive, and where possible, answer questions; and

2. Inviting FEMA to EOC meetings to discuss emergency preparedness questions emanating from the Japanese situation?

Bill Dean
Regional Administrator

Region I, USNRC
Sent from NRC BlackBerry

Matakas, Gina

From: Maier, Bill
Sent: Tuesday, March 15, 2011 5:19 PM
To: Collins, Elmo; McCree, Victor; Dean, Bill; Satorius, Mark
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard; Trojanowski, Robert; Woodruff, Gena; McNamara, Nancy; Tifft, Doug
Subject: RE: Proposed Outreach activities

Thank you for conveying the States' viewpoints Elmo.

FYI, we conducted a regularly scheduled RSLO counterpart call today and Region I suggested, and I seconded, conduct as Bill Dean suggests below of periodic calls with the SLOs to provide information that can be shared and to field questions that can be answered. Given the intense sensitivity of control of information related to this event, we suggested that the call be conducted by NRC HQs and conducted nationally so that appropriate controls could be applied and all states were getting the same information. FSME agreed to raise the suggestion again with the Executive Team.

-----Original Message-----
From: Collins, Elmo
Sent: Tuesday, March 15, 2011 2:04 PM
To: McCree, Victor; Dean, Bill; Satorius, Mark
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard; Trojanowski, Robert; Woodruff, Gena; Maier, Bill
Subject: RE: Proposed Outreach activities

Thanks Bill and Victor -

Region IV looks a lot like Region II on these fronts. While we are getting a large number of inquiries, press and public, there is not a ground swell from the states.

That said, it is apparent that States are looking to be treated as a governmental partner, not as press or members of the public and thus, expect more information from NRC than they are getting about the status of the reactors in Japan.

Elmo

-----Original Message-----
From: McCree, Victor
Sent: Tuesday, March 15, 2011 1:52 PM
To: Dean, Bill; Collins, Elmo; Satorius, Mark
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard; Trojanowski, Robert; Woodruff, Gena
Subject: RE: Proposed Outreach activities

Bill,

I apologize for not responding to your email sooner.... Although our SLOs have received a couple of inquiries from state points-of-contact, we have not received the groundswell of inquiries that you have experienced. As a result, our SLO's will stay current on the events in Japan through the regular email updates and respond to any questions from their counterparts.

Also, although we routinely inform FEMA Region IV of our EOC meeting schedule and invite them to participate, they rarely do so. Based on the small number of inquiries we've received

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from states, EMDs, etc., thus far regarding the Japan event, I do not plan to extend them an additional invitation.

Vic
-----Original Message-----
From: Dean, Bill
Sent: Monday, March 14, 2011 6:00 PM
To: Collins, Elmo; Satorius, Mark; McCree, Victor
Cc: Howell, Art; Lew, David; Pederson, Cynthia; Wert, Leonard
Subject: Proposed Outreach activities

I am not sure what you have experienced thus far relative to the events unfolding in Japan, but I have had dialog today with State Liaison officers and emergency management directors, congressional staffers, and FEMA administrators all looking for the same thing: information they can use to address the groundswell of inquiries they are receiving. What do you think about:

1. Periodic calls with SLOs (maybe even daily right now) to update them on current information and receive, and where possible, answer questions; and

2. Inviting FEMA to EOC meetings to discuss emergency preparedness questions emanating from the Japanese situation?
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

Dean, Bill

From: Dean, Bill
Sent: Tuesday, March 15, 2011 6:12 PM
To: Evans, Michele
Cc: Lew, David; Wilson, Peter; Lorson, Raymond; Roberts, Darrell; Collins, Daniel; Weerakkody, Sunil; Clifford, James
Subject: Re: Follow-up from 4 pm teleconference on Ops Center Long Term Staffing

Michele, is there any further clarification on skill sets for the people possibly going to Japan??
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: Evans, Michele
To: Hackett, Edwin; Brenner, Eliot; Schmidt, Rebecca; Powell, Amy; Droggitis, Spiros; Doane, Margaret; Mamish, Nader; Dyer, Jim; Brown, Milton; Greene, Kathryn; Stewart, Sharon; Howard, Patrick; Miller, Charles; Moore, Scott; Cohen, Miriam; Tracy, Glenn; Haney, Catherine; Dorman, Dan; Johnson, Michael; Holahan, Gary; Leeds, Eric; Boger, Bruce; Grobe, Jack; Zimmerman, Roy; Campbell, Andy; Sheron, Brian; Uhle, Jennifer; Dean, Bill; Lew, David; McCree, Victor; Wert, Leonard; Casto, Chuck; Satorius, Mark; Pederson, Cynthia; Collins, Elmo; Howell, Art; Muessle, Mary; Andersen, James; Akstulewicz, Brenda; Belmore, Nancy; Quesenberry, Jeannette; Kreuter, Jane; Armstrong, Janine; Hudson, Sharon; Ellis, Marv; Hasan, Nasreen; Ronewicz, Lynn; Schumann, Stacy; Daniels, Stanley; Casby, Marcia; Thomas, Loretta; Walker, Dwight; Sprogeris, Patricia; Schwarz, Sherry; Ross, Robin; Cohen, Shari; Riddick, Nicole; Flory, Shirley; Veltri, Debra; Matakas, Gina; ODaniell, Cynthia; Miles, Patricia; Lee, Pamela; Dubose, Sheila; Buckley, Patricia; Tomczak, Tammy; Owen, Lucy; Tannenbaum, Anita; Gusack, Barbara; Harrington, Holly; Ricketts, Paul; Howell, Linda; Higginbotham, Tina; Ross, Brenda; Boyce, Thomas (OIS); Schaeffer, James; Jackson, Donald
Sent: Tue Mar 15 17:53:24 2011
Subject: Follow-up from 4 pm teleconference on Ops Center Long Term Staffing

Everyone,

Please find attached 1) a list of current positions being staffed in the Ops Center and 2) the staff identified as available to support in Japan.

Regarding additional staff available to support in the ops center, the primary needs are for the specialized positions on the PMT and anyone with previous international experience in OIP.

Regarding support in Japan, please provide any updates/changes to the list by COB March 17. The target time frame for sending these staff members is March 27-April 9, so please consider that when considering staff to put on the list.

Thanks for your support.

Michele

73/AA

Matakas, Gina

From: Collins, Elmo
Sent: Tuesday, March 15, 2011 11:30 AM
To: Satorius, Mark; McCree, Victor; Dean, Bill
Subject: Re: Response to Japan Earthquake/Tsunami

Mark
I think your plans are good as long as it is kept internal - I did it yesterday
Elmo

From: Satorius, Mark
To: McCree, Victor; Collins, Elmo; Dean, Bill
Sent: Tue Mar 15 11:00:00 2011
Subject: RE: Response to Japan Earthquake/Tsunami

I'm headed into a 'routine' all-staff meeting in 5 minutes and have decided to hijack the agenda and pretty much turn the meeting into an a informational update by myself and going into taking all questions from the staff (knowing that I will probably not be able to answer all comers). In addition, I decided this morning to send out the attached email w/ the OUO status as of 730. Not sure the last was kosher, but decided to move forward and beg for forgiveness later rather than ask permission...

From: McCree, Victor
Sent: Tuesday, March 15, 2011 9:11 AM
To: Collins, Elmo; Satorius, Mark; Dean, Bill
Subject: FW: Response to Japan Earthquake/Tsunami

FYI

From: McCree, Victor
Sent: Tuesday, March 15, 2011 10:08 AM
To: R2MAIL; R2RESIDENTS; R2_RESIDENT SITES
Subject: Response to Japan Earthquake/Tsunami

Good Morning.

I'm sure that all of you are aware of the ongoing events in Japan following last Friday's massive earthquake and tsunami. The loss of life and property due to these catastrophic events is truly devastating, and the U.S., along with a host of other countries are extending support to the Japanese government.

Shortly after the event, the NRC entered the Monitoring Mode and staffed the Headquarters Operations (Ops) Center. Our colleagues in the Ops Center have continued to gather information from media sources and the International Atomic Energy Agency which indicate that the condition of the Unit 1, 2 and 3 reactors at the Fukishima Daiichi nuclear station remains dynamic and represents a continuing safety concern. The Japanese government has implemented protective measures for persons within the emergency planning zone of the Fukishima station, including evacuation, sheltering, and issuance of potassium iodide. The NRC does not expect the U.S. to experience any harmful levels of radioactivity.

On yesterday, the NRC dispatched additional experts to Japan to better understand the status of efforts to safely shut down the damaged reactors at the Fukishima Daiichi site. They will provide

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technical advice to the U.S. Ambassador in Japan and contribute to the communications among stakeholders (see http://www.nrc.gov/reading-rm/doc-collections/news/2011/11-048.pdf). Chuck Casto has been designated to lead the NRC team and will serve as the single point of contact for the U.S. Ambassador on nuclear reactor issues. We wish Chuck and his team the best as they take on this challenging and important assignment. Please note that others in Region II also volunteered to support the response to the events in Japan and they may be asked in the coming weeks and months to supplement and/or replace the current U.S. team members.

The extraordinary events in Japan and their impact on that nation's nuclear infrastructure highlight some of the known risks involved in the technology we regulate. The events have also prompted widespread media and public interest in the safe use of nuclear power in this country. In addition, media commentary on the NRC's role in assuring safety of U.S., plants underscores the vital role that we play in ensuring that nuclear facilities are constructed, maintained, and operated in accordance with the requirements of their design and license. Despite these potential distractions, I echo the Chairman's message today in encouraging you to remain focused on carrying out the NRC mission, as well as Region II's vision.

Once again, I truly appreciate your professional, safety-focused, and high quality work.

Thank you, Vic

Dean, Bill

From: Barkley, Richard
Sent: Tuesday, March 15, 2011 6:54 PM
To: Dean, Bill
Cc: Lew, David; Rihm, Roger
Subject: RE: All Employee Meeting - Wednesday, March 16 - 3:30-4:00 Subj: Recent Events in Japan

Will do - I am learning of a Senate hearing this week as well. Trying to get the details - Below is what I heard from Gene Dacus minutes ago.

I plan on watching the webcast of the House hearing tomorrow at 9:30 am if possible. Markey is on that committee as is a member from California.

Yes...2-hearings this week and the briefing requests are coming in fast too.

-----Original Message-----
From: Barkley, Richard
Sent: Tuesday, March 15, 2011 6:13 PM
To: Dacus, Eugene
Subject: RE: VY License Renewal Postponed by One Week

Anytime Gene - I feel we will be talking quite a bit in the coming months.

Keep dressing sharp - Your number of appearances on the Hill will be up sharply this year.

-----Original Message-----
From: Dean, Bill
Sent: Tuesday, March 15, 2011 6:36 PM
To: Barkley, Richard
Cc: Matakas, Gina; ODaniell, Cynthia; Lew, David
Subject: Re: All Employee Meeting - Wednesday, March 16 - 3:30-4:00 Subj: Recent Events in Japan

Thanks rich. Sit in on our 845 mtg tomorrow as we discuss key messages. Btw, out of the retreat we are eliminating the 845 mtgs on wed and fri on a trial basis.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

----- Original Message -----
From: Barkley, Richard
To: Dean, Bill
Sent: Tue Mar 15 18:17:35 2011
Subject: FW: All Employee Meeting - Wednesday, March 16 - 3:30-4:00 Subj: Recent Events in Japan

Very good move boss - Can I get you anything to support this meeting?

75|AA

From: Matakas, Gina
Sent: Tuesday, March 15, 2011 5:40 PM
To: All R1 Users
Subject: All Employee Meeting - Wednesday, March 16 - 3:30-4:00 Subj: Recent Events in Japan

On Behalf of Bill Dean -

An all employee meeting has been scheduled for Wednesday, March 16 from 3:30 – 4:30, to discuss the recent events in Japan. The meeting will be held in the main conference room and a bridge line will be set-up for employees who are not in the office, but would like to call-in.

Thank You.

Gina Matakas

Dean, Bill

From: LIA04 Hoc
Sent: Tuesday, March 15, 2011 3:36 PM
To: Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Satorius, Mark; Flannery, Cindy; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta
Subject: NRC Presss Release: NRC Analysis Continues to Support Japan's Protective Actions
Attachments: 11-049.pdf

Latest press release

Alison Rivera
State Liaison

From: McIntyre, David
Sent: Tuesday, March 15, 2011 3:24 PM
To: taskforce-1@state.gov
Cc: LIA04 Hoc
Subject: FW: NRC Analysis Continues to Support Japan's Protective Actions

Per our Liaison Team's request.

David McIntyre
NRC Public Affairs

From: opa administrators [mailto:opa@nrc.gov]
Sent: Tuesday, March 15, 2011 3:56 PM
To: McIntyre, David
Subject: NRC Analysis Continues to Support Japan's Protective Actions

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Dean, Bill

From: Satorius, Mark
Sent: Tuesday, March 15, 2011 11:00 AM
To: McCree, Victor; Collins, Elmo; Dean, Bill
Subject: RE: Response to Japan Earthquake/Tsunami
Attachments: Update on Japan

I'm headed into a 'routine' all-staff meeting in 5 minutes and have decided to hijack the agenda and pretty much turn the meeting into an a informational update by myself and going into taking all questions from the staff (knowing that I will probably not be able to answer all comers). In addition, I decided this morning to send out the attached email w/ the OUO status as of 730. Not sure the last was kosher, but decided to move forward and beg for forgiveness later rather than ask permission...

From: McCree, Victor
Sent: Tuesday, March 15, 2011 9:11 AM
To: Collins, Elmo; Satorius, Mark; Dean, Bill
Subject: FW: Response to Japan Earthquake/Tsunami

FYI

From: McCree, Victor
Sent: Tuesday, March 15, 2011 10:08 AM
To: R2MAIL; R2RESIDENTS; R2_RESIDENT SITES
Subject: Response to Japan Earthquake/Tsunami

Good Morning.

I'm sure that all of you are aware of the ongoing events in Japan following last Friday's massive earthquake and tsunami. The loss of life and property due to these catastrophic events is truly devastating, and the U.S., along with a host of other countries are extending support to the Japanese government.

Shortly after the event, the NRC entered the Monitoring Mode and staffed the Headquarters Operations (Ops) Center. Our colleagues in the Ops Center have continued to gather information from media sources and the International Atomic Energy Agency which indicate that the condition of the Unit 1, 2 and 3 reactors at the Fukishima Daiichi nuclear station remains dynamic and represents a continuing safety concern. The Japanese government has implemented protective measures for persons within the emergency planning zone of the Fukishima station, including evacuation, sheltering, and issuance of potassium iodide. The NRC does not expect the U.S. to experience any harmful levels of radioactivity.

On yesterday, the NRC dispatched additional experts to Japan to better understand the status of efforts to safely shut down the damaged reactors at the Fukishima Daiichi site. They will provide technical advice to the U.S. Ambassador in Japan and contribute to the communications among stakeholders (see http://www.nrc.gov/reading-rm/doc-collections/news/2011/11-048.pdf). Chuck Casto has been designated to lead the NRC team and will serve as the single point of contact for the U.S. Ambassador on nuclear reactor issues. We wish Chuck and his team the best as they take on this challenging and important assignment. Please note that others in Region II also volunteered to support the response to the events in Japan and they may be asked in the coming weeks and months to supplement and/or replace the current U.S. team members.

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The extraordinary events in Japan and their impact on that nation's nuclear infrastructure highlight some of the known risks involved in the technology we regulate. The events have also prompted widespread media and public interest in the safe use of nuclear power in this country. In addition, media commentary on the NRC's role in assuring safety of U.S., plants underscores the vital role that we play in ensuring that nuclear facilities are constructed, maintained, and operated in accordance with the requirements of their design and license. Despite these potential distractions, I echo the Chairman's message today in encouraging you to remain focused on carrying out the NRC mission, as well as Region II's vision.

Once again, I truly appreciate your professional, safety-focused, and high quality work.

Thank you, Vic

Dean, Bill

From: LIA07 Hoc
Sent: Tuesday, March 15, 2011 1:55 PM
To: LIA07 Hoc
Cc: LIA09 Hoc; LIA11 Hoc; LIA01 Hoc; HOO Hoc
Subject: 1330 EDT (March 15, 2011) USNRC Earthquake/Tsunami SitRep
Attachments: USNRC Earthquake-Tsunami Update.031511.1330EDT.docx

Attached, please find a 1330 EDT situation report from the US Nuclear Regulatory Commission's Emergency Operations Center regarding the impacts of the earthquake/tsunami on March 15, 2011. This Update includes information on dose rates near Fukushima Daiichi, Fukushima Daiichi plant parameters, and NRC PMT hypothetical Worst Case Analyses.
Please note that this information is "Official Use Only" and is only being shared within the federal family.
Please call the Headquarters Operations Officer at 301-816-5100 with questions.
-Jim

Jim Anderson
Office of Nuclear Security and Incident Response
US Nuclear Regulatory Commission
james.anderson@nrc.gov
LIA07.HOC@nrc.gov (Operations Center)

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Dean, Bill

From: Royal, Judith
Sent: Wednesday, March 16, 2011 5:48 PM
To: Baker, Pamela; Walker, Tracy; Wilson, Peter; Weerakkody, Sunil; Roberts, Darrell; Clifford, James; Lorson, Raymond; Todd, Colleen; Dean, Bill; Lew, David
Cc: Todd, Colleen; Broadwater, Lynne; Marziale, Riqueza; ORourke, Christine; Darang, Kristine; Bearde, Diane; Screnci, Diane
Subject: FW: Advance copy of OHR memo re waiver of work schedule rules and biweekly cap for employees working in the Operations Center and Japan
Attachments: Untitled.PDF - Adobe Acrobat Pro.pdf

All – FYI – DRM will advise HQ that Jim Trapp and Bill Cook are in Japan so that their HRMS accounts can be adjusted. Please advise DRM (Pam or Tracy) if additional selections are made for Region I employees to work in Japan or to support the Operations Center so that appropriate notification can be made to HQ.

Thanks,
Judy

From: Davidson, Lawrence
Sent: Wednesday, March 16, 2011 3:19 PM
To: Cohen, Miriam; Tracy, Glenn; Bolduc, Angela; Thoman, Raymond; Brown, Milton; Matheson, Mary; Jones, Jackie; Buchholz, Jeri; Dosch, William; Gartman, Michael; Martin, Gillian; Powell, Dawn; Salter, Susan; 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; Lopez, Joseph; Marziale, Riqueza; ORourke, Christine; Reeves, Gloria; Royal, Judith; Rubic, Mark; Scott, Mary; Thomas-Richards, Karen; Todd, Colleen; Trent, Glenn
Subject:

All,

Attached is an advance copy of a memo announcing waiver of work schedule rules and waiver of the biweekly cap for employees serving in and supporting the NRC Operations Center, as well as NRC employees working in Japan, in response to the current, serious nuclear power plant issues in that country. The memo will be sent to rids boxes shortly. If you have any questions, please let me know, and please ask your supervisors and employees to contact me for any needed assistance.

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

79|AA

Dean, Bill

From: Lew, David
Sent: Wednesday, March 16, 2011 1:45 PM
To: Jackson, Todd; Barkley, Richard; Royal, Judith
Cc: Hinson, Felicia; Lorson, Raymond; Wilson, Peter; Dean, Bill
Subject: RE: Need to support families of NRC staff traveling to Japan

Todd, Thanks for your concern and thinking of this. It is important that we are backing each other up and thinking about these important aspects. We had a discussion this morning during which Pete Wilson had brought up the same issue for discussion. Pete has the action and next steps. Dave

---

From: Jackson, Todd
Sent: Wednesday, March 16, 2011 12:54 PM
To: Lew, David; Barkley, Richard; Royal, Judith
Cc: Hinson, Felicia; Lorson, Raymond
Subject: Need to support families of NRC staff traveling to Japan

Dave, Rich, Judy,

Not sure who is the correct person to contact so I will address several, but is NRC reaching out to the spouses and families of those who have traveled to Japan? It could be very helpful to provide some support to them, considering all the scary headlines out there (disturbing example from a few minutes ago is pasted below, and taken from website at:
http://news.yahoo.com/s/ap/20110316/ap_on_re_as/as_japan_earthquake_foreigners_leaving).

If possible, they would benefit from the same emails being sent out to NRC staff to inform us of what is going on. I have talked with Bill Cook's wife, who is also a neighbor, and I think official information and support would be helpful to all the families if not already being offered.

Thanks for listening,

Todd

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* Print
* Back to story

Yahoo! News

More governments advising citizens to leave Tokyo

By TOMOKO A. HOSAKA, Associated Press Tomoko A. Hosaka, Associated Press 46 mins ago

TOKYO – Australia advised its citizens in Japan on Wednesday to consider leaving Tokyo and earthquake-affected areas, joining a growing number of governments and businesses telling their people it may be safer elsewhere.

The Department of Foreign Affairs and Trade said in a travel advice update that Australians with no need to be in the area should think about leaving but added that the decision had nothing to do with the threat of nuclear contamination from a damaged nuclear power plant.

"We are providing this advice because of the continuing disruption to major infrastructure, its impact on the welfare of people on the ground and continuing aftershocks," the notice said.

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Concerns about radiation, however, were at the forefront of other countries' worries as the situation at the Fukushima Dai-ichi nuclear plant appeared to worsen. Surging radiation levels forced Japan to order emergency workers to temporarily withdraw from its crippled nuclear plant Wednesday, losing time in a desperate operation to cool the overheating reactors.

Tokyo, which is about 170 miles (270 kilometers) from the stricken nuclear complex, reported slightly elevated radiation levels Tuesday, but officials said the increase was too small to threaten the 39 million people in and around the capital.

France urged its citizens with no reason to stay in Tokyo return to France or head to southern Japan. The government has asked Air France to mobilize aircraft in Asia to assist with departures.

Serbia and Croatia advised their citizens to leave Japan, while Croatia said it was moving its embassy from Tokyo to Osaka because of the nuclear crisis.

More than 3,000 Chinese have already been evacuated from Japan's northeast to Niigata on Japan's western coast, according to Xinhua News Agency. On Tuesday, Beijing became the first government to organize a mass evacuation of its citizens from the quake-affected area.

Other governments, including the U.S. and U.K., are taking a more measured approach.

The U.K Foreign & Commonwealth Office advises against all nonessential travel to Tokyo and northeastern Japan. It urges British citizens in the country to observe Japanese authorities' advice, which includes a 20-kilometer (12.4-mile) exclusion zone around the Fukushima nuclear plant.

It said it is actively monitoring the situation.

U.S. Ambassador to Japan John Roos briefed reporters Wednesday night, saying American officials are carefully monitoring radiation levels.

"If we assess that the radiation poses a threat to public health, we will share that information and provide relevant guidance immediately," Roos said.

The Philippine Embassy in Tokyo told its citizens to follow advisories issued by Japanese authorities. It added, however, that Filipinos who are concerned about possible radiation exposure "may wish to voluntary relocate to areas further away, or depart voluntarily from the country using their own means."

If relocation and repatriation become necessary, the Philippine government will defray the costs involved, the Department of Foreign Affairs said in a statement.

An Indian software services company, L&T Infotech, on Wednesday ordered the temporary evacuation of 185 employees and their family members from Japan. It said in a release that it had chartered a special Kingfisher Airlines flight that will depart Friday to Chennai, India.

Cirque du Soleil has also decided to move its performers and staff working in Japan to Macau, said spokeswoman Chantal Cote in an e-mail. Its show "ZED" is based at Tokyo Disneyland, the touring "KOOZA" show was performing at the Fuji Dome in Tokyo.

Associated Press writers Rod McGuirk in Canberra, Australia, Erika Kinetz in Mumbai, Camille Rustici in Paris and Joe McDonald in Tokyo contributed to this report.
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Matakas, Gina

From: Ruland, William
Sent: Wednesday, March 16, 2011 1:21 PM
To: Collins, Elmo; McCree, Victor; Satorius, Mark; Dean, Bill
Subject: A link for information about the Japanese reactors.

http://www.jaif.or.jp/english/

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Brown, Eva

From: Cherry, Ronald C [CherryRC@state.gov]
Sent: Wednesday, March 16, 2011 6:22 AM
To: Brown, Eva
Cc: Trapp, James
Subject: RE: Status Report : Daiichi ~ 3 Hours Old

Eva,

Thanks very much. I'll forward this and future updates to the Embassy's Emergency Task Force to go into their sitreps.

Best,

Ron

This email is UNCLASSIFIED.

From: Brown, Eva [mailto:Eva.Brown@nrc.gov]
Sent: Wednesday, March 16, 2011 6:35 PM
To: Cherry, Ronald C
Cc: Trapp, James
Subject: Status Report : Daiichi ~ 3 Hours Old

Ron,

Jim Trapp requested that I provide the following status to you. This information is about 5 hours old and I have included a photo we pulled off the internet of the 4 sites.

This is the status with an update from the IAEA (16 March 0355 GTM):

Daiichi Unit 1
Primary : Intact - Believed RCS Breach
Secondary: Lost
SFP Status: Unknown

Daiichi Unit 2
Primary : Intact- Believed RCS Breach
Secondary: Lost
SFP Status: Unknown

Daiichi Unit 3
Primary : Intact - Believed RCS Breach
Secondary: Lost
SFP Status: Unknown

Daiichi Unit 4
Primary : Intact; core offloaded (~107 days ago)
Secondary: Lost
SFP Status: Fuel reported uncovered

Daiichi Unit 5 (Shutdown January 3, 2011)
Primary : Intact

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Secondary: Intact
SFP Status: Increasing temperature (80 degrees C); RPV level down 40 cm in last 5 hours 0700-1200 GMT 3/15. Unit 6 operational diesel being used to provide water to Unit 5 (IAEA 16 March 0355GMT)

Daiichi Unit 6 (Shutdown August 14, 2010)
Primary : Intact
Secondary: Intact
SFP Status: Increasing temperature (80 degrees C)

Eva Brown, RST BWR Systems and Ops Analyst
Nuclear Regulatory Commission
(301) 816-5516

Dion, Jeanne

From: Kammerer, Annie
Sent: Wednesday, March 16, 2011 5:29 PM
To: RES Distribution
Subject: sharepoint site where latest and greatest seismic Q&As can be found moving forward

Please see the file that contains the latest document at...

http://portal.nrc.gov/edo/nrr/NRR%20TA/FAQ%20Related%20to%20Events%20Occuring%20in%20Japan/Forms/AllItems.aspx

We will be updating this daily or almost daily in the foreseeable future. So please go to this site if you'd like to see the latest.

The site gives RES the credit since we're the lead and started it; but there is a big team supporting this that includes staff from RES, NRO, NRR and the regions.

Annie

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Dean, Bill

From: Dean, Bill
Sent: Wednesday, March 16, 2011 10:28 PM
To: Royal, Judith
Subject: RE: Advance copy of OHR memo re waiver of work schedule rules and biweekly cap for employees working in the Operations Center and Japan

thanks Judy. Assume we will adjust to the right TAC that just got issued?

From: Royal, Judith
Sent: Wednesday, March 16, 2011 5:48 PM
To: Baker, Pamela; Walker, Tracy; Wilson, Peter; Weerakkody, Sunil; Roberts, Darrell; Clifford, James; Lorson, Raymond; Todd, Colleen; Dean, Bill; Lew, David
Cc: Todd, Colleen; Broadwater, Lynne; Marziale, Riqueza; ORourke, Christine; Darang, Kristine; Bearde, Diane; Screnci, Diane
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Judy

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Sent: Wednesday, March 16, 2011 3:19 PM
To: Cohen, Miriam; Tracy, Glenn; Bolduc, Angela; Thoman, Raymond; Brown, Milton; Matheson, Mary; Jones, Jackie; Buchholz, Jeri; Dosch, William; Gartman, Michael; Martin, Gillian; Powell, Dawn; Salter, Susan; 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; Lopez, Joseph; Marziale, Riqueza; ORourke, Christine; Reeves, Gloria; Royal, Judith; Rubic, Mark; Scott, Mary; Thomas-Richards, Karen; Todd, Colleen; Trent, Glenn
Subject:

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

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Matakas, Gina

From: LIA04 Hoc
Sent: Wednesday, March 16, 2011 7:08 AM
To: Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Satorius, Mark
Cc: Piccone, Josephine; Flannery, Cindy; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta
Subject: QA's for Talking to the Public
Attachments: boardfile.docx

Please see attached

Amanda Noonan
State Liaison – Liaison Team
Incident Response Center

85|AA

Questions and Answers for OPA:
March 15, 2011; 8:50 pm

1. **Can this happen here?**

   The events that have occurred in Japan are the result of a combination of highly unlikely natural disasters. These include the fifth largest earthquake in recorded history and the resulting devastating tsunami. It is highly unlikely that a similar event could occur in the United States.

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

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

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

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

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

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

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

   The NRC has taken a number of actions:
   a. Since the beginning of the event, the NRC has continuously manned its Operations Center in Rockville, MD in order to gather and examine all available information as part of the effort to analyze the event and understand its implications both for Japan and the United States.
   b. A team of 11 officials from the NRC with expertise in boiling water nuclear reactors have deployed to Japan as part of a U.S. International Agency for International Development (USAID) team.

c. The NRC has spoken with its counterpart agency in Japan, offering the assistance of U.S. technical experts.
d. The NRC is coordinating its actions with other Federal agencies as part of the U.S. government response.

6. What other U.S. agencies are involved, and what are they doing?

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

7. What else can go wrong?

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

8. What is the worst-case scenario?

In a nuclear emergency, the most important action is to ensure the core is covered with water to provide cooling to remove any heat from the fuel rods. Without adequate cooling, the fuel rods will melt. Should the final containment structure fail, radiation from these melting fuel rods would be released to the atmosphere and additional protective measures may be necessary depending on factors such as prevailing wind patterns.

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

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

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

In response to nuclear emergencies, the NRC works with other U.S. agencies to monitor radioactive releases and predict their path. The NRC continues to monitor information regarding wind patterns near the Japanese nuclear power plants. Nevertheless, given the thousands of miles between the two countries, Hawaii, Alaska, the U.S. Territories and the U.S. West Coast are not expected to experience any harmful levels of radioactivity.

11. Is the U.S. government tracking the radiation released from the Japanese plants?

Yes, a number of U.S. agencies are involved in monitoring and assessing radiation including EPA, DOE, and NRC. The best source of additional information is the Environmental Protection Agency.

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

The NRC understands that EPA is utilizing its existing nationwide radiation monitoring system, RadNet, to monitor continuously the nation's air and regularly monitors drinking water, milk and precipitation for environmental radiation. EPA has publicly stated its agreement with the NRC's assessment that we do not expect to see radiation at harmful levels reaching the U.S. from damaged Japanese nuclear power plants. Nevertheless, EPA has stated that it plans to work with its federal partners to deploy additional monitoring capabilities to parts of the western U.S. and U.S.territories.

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

See response to Question 10.

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

At this time, the NRC does not believe that protective measures are necessary in the United States. We do not expect any U.S. states or territories to experience harmful levels of radioactivity. In the unlikely event that circumstances change, U.S. residents should listen to the protective action decisions of their states and counties. These protective action decisions could include actions such as sheltering, evacuation, or taking potassium iodide. The NRC will provide technical assistance to the states should they request it.

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

At this time, the NRC does not believe that protective measures are necessary in the United States. We do not expect any U.S. states or territories to experience harmful levels of radioactivity. In the unlikely event that circumstances change, U.S. residents should listen to the protective action decisions of their states and counties. These protective action decisions could include actions such as sheltering, evacuation, or taking potassium iodide. The NRC will provide technical assistance to the states should they request it. United States citizens in Japan are encouraged to follow the protective measures recommended by the Japanese government. These measures appear to be consistent with steps the United States would take.

16. What are the risks to my children?

See response to Question 15.

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

    The NRC does not expect that residents of the United States or its territories are at any risk of exposure to harmful levels of radiation resulting from the events in Japan. Any changes to travel are a personal decision. The NRC is unaware of any travel restrictions within the United States or its territories.

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

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

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

19. **I am traveling to Asia (not Japan). Should I adjust my travel plans to avoid flying through plume or being contaminated once on the ground?**

    The NRC is not the responsible federal agency to advise U.S. citizens on foreign travel restrictions. That responsibility belongs to the Department of State.

20. **What is the official agency to report radiation numbers and what is the public contact?**

    NRC regulations require nuclear power plants to report any radiation doses detected at the plant that could be harmful to the public. This would include doses that are generated by the plant or by an external source. During an event in the U.S., it is the state's responsibility to provide protective action decisions for public health and safety. For this incident, the Japanese are responsible for reporting the public dose; nevertheless, should radiation doses be detected within the U.S., it would still be the state's responsibility to provide protective action decisions for public health and safety.

21. **How many plants are located in seismic areas?**

    Although we often think of the US as having "active" and "non-active" earthquake zones, earthquakes can actually happen almost anywhere. Seismologists typically separate the US into low, moderate, and high seismicity zones. The NRC requires that every plant be designed for site-specific ground motions that are appropriate for their location. In

addition, the NRC has specified a minimum ground shaking level to which the plants must be designed.

22. Where would I get IOSAT Potassium Iodide if my city should experience fallout from the Japanese nuclear disaster? Is this the right precaution or is there anything else that can be done to protect myself?

We do not expect any U.S. states or territories to experience harmful levels of radioactivity. As such, we do not believe that there is any need for residents of the United States to take potassium iodide. U.S. residents should listen to the protective action decisions by their states and counties. If necessary, protective action decisions could include actions such as sheltering, evacuating, or taking potassium iodide.

Additional information regarding the use of potassium iodide can be found on NRC's webpage at the following link:
http://www.nrc.gov/about-nrc/emerg-preparedness/about-emerg-preparedness/potassium-iodide-use.html

Since Potassium Iodide is classified as a drug. Additional information is on the Food and Drug Administration's web site. www.fda.gov

23. My loved one is overseas, how do I find out if they are ok?

We are directing public inquiries with regard to concern for loved ones overseas to the State Department, Consular Services at 202-647-7004.

Dean, Bill

From: Dean, Bill
Sent: Wednesday, March 16, 2011 10:32 PM
To: Doug.Tifft@nrc.gov; Lew, David; Wilson, Peter
Subject: FW: As per MSNBC investigative reporter

i see this response as not satisfactory to effectively address the article. it is written in a way that is not accessible to the public.

From: Nguyen, Quynh
Sent: Wednesday, March 16, 2011 4:24 PM
To: Tifft, Doug; LIA04 Hoc; OST05 Hoc
Cc: McNamara, Nancy; Meighan, Sean
Subject: RE: As per MSNBC investigative reporter

Sorry, I meant Documents for OPA Review...

From: Tifft, Doug
Sent: Wednesday, March 16, 2011 4:21 PM
To: Nguyen, Quynh; LIA04 Hoc; OST05 Hoc
Cc: McNamara, Nancy
Subject: FW: As per MSNBC investigative reporter

I understand the below input was provided to OPA. Do you know if it was approved? Were any changes made?

Thanks,

-Doug

From: Munson, Clifford
Sent: Wednesday, March 16, 2011 3:45 PM
To: Tifft, Doug; Manoly, Kamal; Scales, Kerby
Cc: Wilson, George; Beasley, Benjamin; Chokshi, Nilesh; Nguyen, Quynh; McNamara, Nancy; Gray, Mel; Kammerer, Annie; Ake, Jon
Subject: RE: As per MSNBC investigative reporter

Doug,

Below is the response that we provided to OPA – Scott Burnell on the MSNBC report. Hopefully, this will help clarify. Please contact Annie Kammerer if you have further questions. She is currently in the Op Center.

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Thanks,

Cliff

Clifford Munson, Ph.D.

Senior Level Advisor

U.S. NRC - Office of New Reactors

Division of Site and Environmental Reviews

301-415-6947

clifford.munson@nrc.gov

The objective of the GI-199 Safety/Risk Assessment was to perform a conservative, screening-level assessment to evaluate if further investigations of seismic safety for operating reactors in the central and eastern U.S. (CEUS) are warranted consistent with NRC directives. The results of the GI-199 SRA should not be interpreted as definitive estimates of plant-specific seismic risk. The nature of the information used (both seismic hazard data and plant-level fragility information) make these estimates useful only as a screening tool. The NRC does not rank plants by seismic risk.

Currently operating nuclear plants in the United States remain safe, with no need for immediate action. This determination is based on NRC staff reviews of updated seismic hazard information and the conclusions of the Generic Issue 199 Screening Panel. Existing plants were designed with considerable margin to be able to withstand the ground motions from the "deterministic" or "scenario earthquake" that accounted for the largest earthquake expected in the area around the plant. During the mid-to late-1990s, the NRC staff reassessed the margin beyond the design basis as part of the Individual Plant Examination of External Events (IPEEE) program. The results of the GI-199 assessment demonstrate that the probability of exceeding the design basis ground motion may have increased at some sites, but only by a relatively small amount. In addition, the Safety/Risk Assessment stage results indicate that the probabilities of seismic core damage are lower than the guidelines for taking immediate action.

From: Tifft, Doug
Sent: Wednesday, March 16, 2011 3:24 PM
To: Manoly, Kamal; Scales, Kerby
Cc: Wilson, George; Munson, Clifford; Beasley, Benjamin; Chokshi, Nilesh; Nguyen, Quynh; McNamara, Nancy; Gray, Mel

Subject: RE: As per MSNBC investigative reporter

Thanks, that helps.

But is the reporters statement that our data shows that Indian Point Unit 3 is the plant in the US with the highest risk of suffering core damage from an earthquake an accurate conclusion from our data?

I seem to recall discussions where it was mentioned that the GI-199 data is only valid in aggregate for the nuclear industry, and is not enough data to draw any conclusion about any one reactor site. Is that true?

-Doug

From: Manoly, Kamal
Sent: Wednesday, March 16, 2011 3:19 PM
To: Scales, Kerby
Cc: Wilson, George; Munson, Clifford; Beasley, Benjamin; Chokshi, Nilesh; Nguyen, Quynh; Tifft, Doug; McNamara, Nancy
Subject: RE: As per MSNBC investigative reporter

Kerby,

The list in GI-199 Comm Plan (Q/A23) identifies the plants by name only that are in the continue category for GI-199 (Delta CDF) to request additional information via a generic communication. The GI-199 applies only to plants in Eastern and Central US. The list provided for the top 10 contains interpretation of total CDF based on information provided to the reporter concerning all plants in the US. That is why you see Diablo in the list of 10 even though Diablo is not a GI-199 plant.

Kamal

From: Scales, Kerby
Sent: Wednesday, March 16, 2011 1:47 PM
To: Manoly, Kamal
Cc: Wilson, George; Munson, Clifford; Beasley, Benjamin; Chokshi, Nilesh
Subject: FW: As per MSNBC investigative reporter

Kamal,

Can you review the list below and respond back to George and copy me?

Thanks,

From: Nguyen, Quynh
Sent: Wednesday, March 16, 2011 1:39 PM
To: Scales, Kerby
Cc: Tifft, Doug; Meighan, Sean
Subject: FW: As per MSNBC investigative reporter

Can you get somebody to check this quickly?

Thanks,

Q

From: Tifft, Doug
Sent: Wednesday, March 16, 2011 12:56 PM
To: OST05 Hoc; LIA04 Hoc; Nguyen, Quynh
Cc: McNamara, Nancy
Subject: FW: As per MSNBC investigative reporter

Please see below list. I think this is referring to GI 199, but the list of plants is completely different from the list in our GI 199 Comm Plan. Did the reporter mis-interpret the GI 199 documents? If so, where did they go wrong?

See Q23:

http://www.internal.nrc.gov/communications/plans/active/CommPlan_Generic_Issue199.pdf

-Doug

From: Giarrusso, John (CDA) [mailto:John.Giarrusso@state.ma.us]
Sent: Wednesday, March 16, 2011 11:48 AM
To: McNamara, Nancy; Tifft, Doug
Subject: Fw: As per MSNBC investigative reporter

From: DeNicola, Fran (CDA) [mailto:Fran.Denicola@state.ma.us]
Sent: Wednesday, March 16, 2011 11:00 AM
To: john.giarrusso@state.ma.us <John.Giarrusso@state.ma.us>; Viveiros, John L. (CDA) <John.L.Viveiros@state.ma.us>; peter.judge@state.ma.us <Peter.Judge@state.ma.us>; linda.lecuyer@state.ma.us <Linda.Lecuyer@state.ma.us>
Subject: As per MSNBC investigative reporter

The top 10
Here are the 10 nuclear power sites with the highest risk of suffering core damage from an earthquake, showing their NRC risk estimates based on 2008 and 1989 geological data. (The full list of 104 reactors is below.)

1. Indian Point 3, Buchanan, N.Y.: 1 in 10,000 chance each year. Old estimate: 1 in 17,241. Increase in risk: 72 percent.

2. Pilgrim 1, Plymouth, Mass.: 1 in 14,493. Old estimate: 1 in 125,000. Increase in risk: 763 percent.

3. Limerick 1 and 2, Limerick, Pa.: 1 in 18,868. Old estimate: 1 in 45,455. Increase in risk: 141 percent.

4. Sequoyah 1 and 2, Soddy-Daisy, Tenn.: 1 in 19,608. Old estimate: 1 in 102,041. Increase in risk: 420 percent.

5. Beaver Valley 1, Shippingport, Pa.: 1 in 20,833. Old estimate: 1 in 76,923. Increase in risk: 269 percent.

6. Saint Lucie 1 and 2, Jensen Beach, Fla.: 1 in 21,739. Old estimate: N/A.

7. North Anna 1 and 2, Louisa, Va.: 1 in 22,727. Old estimate: 1 in 31,250. Increase in risk: 38 percent.

8. Oconee 1, 2 and 3, Seneca, S.C.: 1 in 23,256. Old estimate: 1 in 100,000. Increase in risk: 330 percent.

9. Diablo Canyon 1 and 2, Avila Beach, Calif.: 1 in 23,810. Old estimate: N/A.

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10. Three Mile Island, Middletown, Pa.: 1 in 25,000. Old estimate: 1 in 45,455. Increase in risk: 82 percent.

Dean, Bill

From: Dean, Bill
Sent: Wednesday, March 16, 2011 12:41 PM
To: Lew, David
Subject: RE: FYI. Liaison Call at 10:30

Thanks.

Bill

From: Lew, David
Sent: Wednesday, March 16, 2011 12:36 PM
To: Dean, Bill
Subject: RE: FYI. Liaison Call at 10:30

Bill, I had touched base with Nancy directly to pass on the information and to get a characterization on the difficult call from yesterday. Sounds like the Liaison call with the regions today went better. I plan to touch base with Scott, to reinforce our desire to maintain a construction relationship moving forward, but to ensure that he understands the communications challenges as well. Dave

---

From: Dean, Bill
Sent: Wednesday, March 16, 2011 12:02 PM
To: McNamara, Nancy; Tifft, Doug
Cc: Lew, David
Subject: Re: FYI. Liaison Call at 10:30

Fyi-lots of reaction to our and region IV pressuring of HQ. Elmo and I were both quite passionate about our situation. We have go ahead to leverage the info on sharepoint site and any other public info or active comm plans. But they did ask us to convey to states that these "whatif" questions may not get answered real promptly. Let's at least set up a weekly call that I can participate in to help. And any more that you and doug want to do.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: McNamara, Nancy
To: Dean, Bill
Sent: Wed Mar 16 10:57:27 2011
Subject: RE: FYI. Liaison Call at 10:30

No it is not. Apparently, there is something going on over in Japan. The essence of the call is to say "it's going to be a very busy day and we expect things to really ramp up today" but they weren't "allowed to tell us any more information. It was one of those...we know something but we can't tell you anything...just be prepared.

From: Dean, Bill
Sent: Wednesday, March 16, 2011 10:47 AM
To: McNamara, Nancy
Subject: Re: FYI. Liaison Call at 10:30

That is good news.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

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From: McNamara, Nancy
To: Dean, Bill; Lew, David
Sent: Wed Mar 16 10:10:40 2011
Subject: FYI. Liaison Call at 10:30

Bill/Dave, there is a Gov't Liaison call with the 4 regions and HQs at 10:30 this morning. Maybe there will be some movement on our request for a national call. If you are interested in listening in on that call, we were told to call into the ops center and ask for "Counterpart Link 6118" Otherwise, Doug and I will be participating and will keep you informed.

Nancy

Dean, Bill

From: Dean, Bill
Sent: Wednesday, March 16, 2011 10:37 PM
To: Henderson, Pamela
Cc: David.Lew@nrc.gov; Wilson, Peter; Weerakkody, Sunil
Subject: FW: Info: Possible request wrt KI

what does our stash look like and can we help region IV?

From: Collins, Elmo
Sent: Wednesday, March 16, 2011 2:38 PM
To: McCree, Victor; Satorius, Mark; Dean, Bill; Wiggins, Jim; Rudisail, Steven
Cc: Evans, Michele; Pederson, Cynthia; Lew, David; Wert, Leonard; Howell, Art; Croteau, Rick; Munday, Joel; Christensen, Harold; Jones, William
Subject: RE: Info: Possible request wrt KI

☺

From: McCree, Victor
Sent: Wednesday, March 16, 2011 1:35 PM
To: Collins, Elmo; Satorius, Mark; Dean, Bill; Wiggins, Jim; Rudisail, Steven
Cc: Evans, Michele; Pederson, Cynthia; Lew, David; Wert, Leonard; Howell, Art; Croteau, Rick; Munday, Joel; Christensen, Harold; Jones, William
Subject: RE: Info: Possible request wrt KI

Thanks Elmo – we had provided a "stash" of KI for Chuck to carry along with him, but he inadvertently left it in his office. I'll ask our guys (Steve – your action) to interface with yours and share as much as we can.

Vic
From: Collins, Elmo
Sent: Wednesday, March 16, 2011 2:33 PM
To: Satorius, Mark; Dean, Bill; McCree, Victor; Wiggins, Jim
Cc: Evans, Michele; Pederson, Cynthia; Lew, David; Wert, Leonard; Howell, Art
Subject: Info: Possible request wrt KI

All

Chuck Casto had a layover here in Texas on his way to Japan. In the hurriedness of getting on the plane, he found that he might not have been equipped as he needed to be, especially wrt KI. So, Region IV gave all our KI (53 packets) to Chuck for use in Japan, along with dosimeters and pocket dosimeters. So, Region IV finds itself without an immediate stash of KI for use if we had to send a site team.

Needless to say, given the high demand for KI, it is difficult to purchase on the open market.

Your staff will likely be contacted to see if we can beg, borrow, or steal enough packets of KI in order to equip a site team.

Thank you for your cooperation and generosity.

Elmo

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Dean, Bill

From: LIA04 Hoc
Sent: Wednesday, March 16, 2011 6:58 PM
To: OST05 Hoc; Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Flannery, Cindy; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta
Cc: Piccone, Josephine; LIA11 Hoc; LIA01 Hoc; LIA05 Hoc; Akstulewicz, Brenda; Deavers, Ron; Nguyen, Quynh; Bonaccorso, Amy; Virgilio, Rosetta; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Satorius, Mark
Subject: Screening at Airports and State inquiries

We have received several requests through the RSLOs regarding the screening of planes/passengers/baggage landing in the U.S. from Japan. We have a contact, Helen Sterling (202-344-2433), with DHS/Customs and Border Protection.

They (DHS/CBP) are developing a sheet on just this topic she anticipates will be released tomorrow. As soon as the State Liaison receives her document, which she indicates will be releasable to the public, we will forward to everyone on to: and cc:

RSLOs: Inquiries have come in from several States, including HI (Eckerd) and TN (Crosslin).

Richard Turtil
State Liaison – Liaison Team
Incident Response Center

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Cartwright, William

From: Cullingford, Michael
Sent: Wednesday, March 16, 2011 1:29 PM
To: Thomas, Eric
Cc: Boger, Bruce; Grobe, Jack
Subject: FW: TEPCO Earthquake Information Update as of March 14, 2300(JST) - Fukushima Daini Unit 1 in Cold Shutdown

fyi

From: Aono Kenjiro [mailto:aono-kenjiro@jnes-usa.org]
Sent: Tuesday, March 15, 2011 5:08 PM
To: Emche, Danielle; Foggie, Kirk; Cullingford, Michael
Cc: 'Yamachika, Hidehiko'; 'Michael Chinworth'; Aono Kenji
Subject: RE: TEPCO Earthquake Information Update as of March 14, 2300(JST) - Fukushima Daini Unit 1 in Cold Shutdown

TEPCO announced at 4:07pm as follows.

Followings are current status of Fukushima-Daiichi/Daini NPS.
Highlits of this time are:
- Fukushima-Daiichi units 1,2 and 3 continues seawater injection as of 0:30 am on March 16.
- At Fukushima-Daini unit4 ,it was confirmed that the pressure at the outlet of the pumps of the Emergency Equipment Cooling Water System has been decreased, we stopped the Residual Heat Removal System (B) for the inspection at 8:05 pm

---

From: Yamachika, Hidehiko [mailto:yamachika-hidehiko@jnes-usa.org]
Sent: Tuesday, March 15, 2011 12:50 PM
To: 'Emche, Danielle'; 'Foggie, Kirk'; 'Cullingford, Michael'
Cc: Aono, Kenjiro; Michael Chinworth
Subject: RE: TEPCO Earthquake Information Update as of March 14, 2300(JST) - Fukushima Daini Unit 1 in Cold Shutdown

Sorry, I failed to identify who said the below. But NHK carries press release of NISA or TEPCO.

From: Emche, Danielle [mailto:Danielle.Emche@nrc.gov]
Sent: Tuesday, March 15, 2011 12:43 PM
To: Yamachika, Hidehiko; Foggie, Kirk; Cullingford, Michael
Cc: Aono, Kenjiro; Michael Chinworth

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Cartwright, William

From: Brown, Frederick
Sent: Wednesday, March 16, 2011 7:20 AM
To: Thorp, John
Cc: Thomas, Eric
Subject: RE: Japan event

John,

This is being treated like all (there are many) similar requests from foreign countries, and there is a Liaison Team in the Op Center who handles these.

This is not a US event, and we get primarily the same open-source information as the Swedes.

Fred

-----Original Message-----
From: Thorp, John
Sent: Tuesday, March 15, 2011 10:33 PM
To: Brown, Frederick
Cc: Thomas, Eric
Subject: FW: Japan event

Fred,

Can you tell me whether we can, from the IRC, share information with the Swedish Nuclear Safety Authority? For example, do we have anyone from OIP as part of the response team, who can interface with the Swedes and other foreign regulatory authorities?

Thanks,

John

From: HOO Hoc
Sent: Tuesday, March 15, 2011 8:01 PM
To: ET07 Hoc; PMT01 Hoc; RST01 Hoc; LIA01 Hoc; LIA02 Hoc; LIA04 Hoc; LIA07 Hoc; LIA11 Hoc; LIA12 Hoc; Gott, William; Marshall, Jane; McDermott, Brian; Morris, Scott; Thorp, John
Subject: FW: Japan event

From: Broman, Kenneth [mailto:Kenneth.Broman@ssm.se]
Sent: Tuesday, March 15, 2011 7:52 PM
To: HOO Hoc
Cc: Sandwall, Johanna
Subject: VB: Japan event

Dear Sir,

Mr. John Thorpe is out of office.

Can we establish an information exchange?

Best regards
Kenneth Broman

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Cartwright, William

From: Breskovic, Clarence
Sent: Wednesday, March 16, 2011 4:35 PM
To: Breskovic, Clarence
Subject: Just in: Areva to supply 100 tons of boric acid and other aid to Japam

Areva press release:

AREVA is Mobilized for Japan

Paris, March 16, 2011

Following the earthquake and tsunami that struck northern Japan, AREVA is mobilizing its forces to provide support to residents of the affected area and to the rescue workers and personnel working near the Fukushima nuclear plant.

AREVA has chartered a plane that will depart for Japan as soon as possible to deliver 3,000 activated charcoal protective masks, 10,000 overalls and 20,000 gloves. The aircraft will also carry 100 tons of boric acid, a neutron absorber, made available by EDF.

French rescue workers left for Japan early this week with radioactivity detection equipment provided by AREVA's subsidiary, Canberra, specializing in the manufacture of nuclear detection and measurement equipment. Equipment in AREVA's Tokyo offices has already been made available to the Japanese security teams.

The Group also decided as of Monday to donate one million euros to the Japanese Red Cross.

Clarence Breskovic
International Policy Analyst
U.S. Nuclear Regulatory Commission
Office of International Programs
11555 Rockville Pike
Rockville, MD 20852, USA
Tel: 1-301-415-2364
Fax: 1-301-415-2395
Alternate Email: cal.breskovic@gmail.com

92|AA

Cartwright, William

From: Breskovic, Clarence
Sent: Wednesday, March 16, 2011 1:30 PM
To: Breskovic, Clarence
Subject: Recent CRS Reports

U.S. Tsunami Programs: A Brief Overview [1483 Kb]

Terrorist Use of the Internet: Information Operations in Cyberspace [223 Kb]

Iran: U.S. Concerns and Policy Responses [751 Kb]

China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues [674 Kb]

Intelligence Issues for Congress [273 Kb]

The Congressional Budget Process: A Brief Overview [240 Kb]

Bahrain: Reform, Security, and U.S. Policy [325 Kb]

Managing the Nuclear Fuel Cycle: Policy Implications of Expanding Global Access to Nuclear Power [553 Kb]

The Proposed U.S.-South Korea Free Trade Agreement (KORUS FTA): Provisions and Implications [521 Kb]

Nuclear Weapons R&D Organizations in Nine Nations [176 Kb]

Nuclear Cooperation with Other Countries: A Primer [145 Kb]

Clarence Breskovic
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Rockville, MD 20852, USA
Tel: 1-301-415-2364
Fax: 1-301-415-2395
Alternate Email: cal.breskovic@gmail.com

93|AA

Brown, Eva

From: Cherry, Ronald C [CherryRC@state.gov]
Sent: Wednesday, March 16, 2011 5:25 AM
To: Brown, Eva
Cc: RST01 Hoc; Trapp, James; Ulses, Anthony
Subject: RE: GE Hitachi Command Center Contact - Rich Rossie

Eva,

Will do.

Ron

This email is UNCLASSIFIED.

From: Brown, Eva [mailto:Eva.Brown@nrc.gov]
Sent: Wednesday, March 16, 2011 6:24 PM
To: Cherry, Ronald C
Cc: RST01 Hoc; Trapp, James; Ulses, Anthony
Subject: GE Hitachi Command Center Contact - Rich Rossie

Ron,

Please communicate the following information to Charles Casto, the lead for the NRC response team. The GE Hitachi contact in Tokyo is Rich Rossi, Head Engineering Contact Team, at GEH Command Center [090 3108 2207].

Thanks so much for your cooperation and support.

Eva Brown, Reactor Safety Team - BWR Systems and Ops Analyst
United States Nuclear Regulatory Commission
(301) 816-5516

AA/AA

Dean, Bill

From: Dean, Bill
Sent: Wednesday, March 16, 2011 8:38 AM
To: Sheron, Brian
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

Thanks Brian. I know this is a fun time for all of us. I know you can imagine the ground swell of interest here in the Northeast

Bill

From: Sheron, Brian
Sent: Wednesday, March 16, 2011 8:37 AM
To: Dean, Bill; Uhle, Jennifer; Case, Michael; Richards, Stuart; Hogan, Rosemary; Kammerer, Annie; Ake, Jon; Murphy, Andrew
Cc: Weber, Michael; Virgilio, Martin; Leeds, Eric; Grobe, Jack; Lew, David
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

Yes, seismic folks have been working on Q&As. I need to check and see if they are working on any that will address the stuff in this article.

From: Dean, Bill
Sent: Wednesday, March 16, 2011 8:35 AM
To: Sheron, Brian; Uhle, Jennifer; Case, Michael; Richards, Stuart; Hogan, Rosemary; Kammerer, Annie; Ake, Jon; Murphy, Andrew
Cc: Weber, Michael; Virgilio, Martin; Leeds, Eric; Grobe, Jack; Lew, David
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

Brian,
I Assume that our team in HQ is working up proper communications for this that we can leverage. I know there is an existing comm. plan for GSI 199, but my guess it likely needs to be updated in light of current events.

Bill

From: Sheron, Brian
Sent: Wednesday, March 16, 2011 8:10 AM
To: Uhle, Jennifer; Case, Michael; Richards, Stuart; Hogan, Rosemary; Kammerer, Annie; Ake, Jon; Murphy, Andrew
Cc: Weber, Michael; Virgilio, Martin; Leeds, Eric; Grobe, Jack; Dean, Bill; Lew, David
Subject: FW: NBC deadline question for NRC on seismic hazard estimates

FYI. I imagine this should generate some new interest in IP.

From: Bill Dedman [mailto:Bill.Dedman@msnbc.com]
Sent: Wednesday, March 16, 2011 6:44 AM
To: Manoly, Kamal; Sheron, Brian; Hiland, Patrick; OPA Resource
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

This story is online now. If you see any error, please let me know right away.

Thanks,

Bill

95|AA

http://www.msnbc.msn.com/id/42103936/ns/world_news-asiapacific/

From: Bill Dedman
Sent: Tuesday, March 15, 2011 9:06 AM
To: 'Kamal.Manoly@nrc.gov'; 'brian.sheron@nrc.gov'; 'patrick.hiland@nrc.gov'; 'OPA.Resource@nrc.gov'
Subject: NBC deadline question for NRC on seismic hazard estimates

Good morning,

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

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

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

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

I have these questions:

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

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

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

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

Thank you for your help.

Regards,

Bill Dedman

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Manoly, Kamal

From: Ake, Jon
Sent: Wednesday, March 16, 2011 12:34 PM
To: Beasley, Benjamin; Burnell, Scott; Manoly, Kamal; Hiland, Patrick; Skeen, David; Stutzke, Martin
Cc: Ferrante, Fernando; Laur, Steven; Chokshi, Nilesh; Coyne, Kevin
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

Perhaps also some additional follow-up that core damage does not necessarily equate to release?

From: Beasley, Benjamin
Sent: Wednesday, March 16, 2011 10:31 AM
To: Burnell, Scott; Manoly, Kamal; Hiland, Patrick; Skeen, David; Stutzke, Martin
Cc: Ferrante, Fernando; Laur, Steven; Chokshi, Nilesh; Coyne, Kevin; Ake, Jon
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

Scott,

I have received no concerns or corrections regarding the MSNBC article. The only item potentially worth bothering over is a mischaracterization of why some plants did a PRA and others did a Seismic Margins analysis. An excerpt from the article and my observation are provided below.

Ben

> Article:
> "One problem is a lack of data about the nuclear reactors themselves. The NRC task force said the agency has detailed data on what it calls plant fragility — the probability that the expected earthquake would damage the reactor's core — for only one-third of the nation's nuclear plants. <u>That's because only the plants that had been thought to be in areas of higher seismic risk had done detailed studies</u>. For the rest, the scientists had to estimate from other information submitted by plant operators."
>
> Correction:
> The NRC task force had more information for some plants than for others. The difference is based on the type of analysis the plant operator chose to use. Two thirds of the plant operators used a bounding analysis while the other third performed a more detailed analysis. The choice of analysis method was not connected to an area of higher seismic risk.

From: Burnell, Scott
Sent: Wednesday, March 16, 2011 11:11 AM
To: Manoly, Kamal; Hiland, Patrick; Skeen, David; Stutzke, Martin; Beasley, Benjamin
Cc: Ferrante, Fernando; Laur, Steven; Chokshi, Nilesh
Subject: RE: NBC deadline question for NRC on seismic hazard estimates
Importance: High

Folks;

The expected calls are coming in – We need a better response ASAP! Thanks!

Scott

96/AA

Manoly, Kamal

From: Burnell, Scott
Sent: Wednesday, March 16, 2011 9:55 AM
To: Manoly, Kamal; Hiland, Patrick; Skeen, David; Stutzke, Martin; Beasley, Benjamin
Cc: Ferrante, Fernando; Laur, Steven; Chokshi, Nilesh
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

Very probably so – but we can only provide factual corrections. We need to point to specific documents whenever possible to avoid a "that's just your opinion" sort of response.

From: Manoly, Kamal
Sent: Wednesday, March 16, 2011 9:53 AM
To: Hiland, Patrick; Skeen, David; Stutzke, Martin; Beasley, Benjamin; Burnell, Scott
Cc: Ferrante, Fernando; Laur, Steven; Chokshi, Nilesh
Subject: FW: NBC deadline question for NRC on seismic hazard estimates

It seems that he spun the information provided to support a biased point of view he already has and to make the story sensational!

From: Bill Dedman [mailto:Bill.Dedman@msnbc.com]
Sent: Wednesday, March 16, 2011 6:44 AM
To: Manoly, Kamal; Sheron, Brian; Hiland, Patrick; OPA Resource
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

This story is online now. If you see any error, please let me know right away.

Thanks,

Bill

http://www.msnbc.msn.com/id/42103936/ns/world_news-asiapacific/

From: Bill Dedman
Sent: Tuesday, March 15, 2011 9:06 AM
To: 'Kamal.Manoly@nrc.gov'; 'brian.sheron@nrc.gov'; 'patrick.hiland@nrc.gov'; 'OPA.Resource@nrc.gov'
Subject: NBC deadline question for NRC on seismic hazard estimates

Good morning,

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

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

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

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

I have these questions:

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

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

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

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

Thank you for your help.

Regards,

Bill Dedman

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Dean, Bill

From: HRMSBulletin Resource
Sent: Wednesday, March 16, 2011 9:52 AM
To: HRMSBulletin Resource
Cc: HRMSBulletin Resource
Subject: New Agency Wide TAC Number

All Employees,

Due to the most current event in Japan, the Agency has decided to establish a new Agency wide Activity Code. It is: ZG0061 - Japan Earthquake and Tsunami. The PA will be: 111180 – Response Program-Event/Response - Operating RX. Please be reminded that if you charged hours to D92374 in PP6, you will need to submit a corrected time card and use the new TAC number ZG0061 under PA 111180. Also please contact your T & L Coordinator to have that TAC established in your profile.

Thank you for your cooperation.

Time, Labor and Payroll Services

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Aguilar, Santiago

From: Aguilar, Santiago
Sent: Wednesday, March 16, 2011 10:49 AM
To: Habighorst, Peter
Subject: RE: ACTION BRANCH CHIEFS: OIP REQUEST FOR ASSISTANCE

I know there are many volunteers.... So I will not be in any official list. However, if you/OIP need additional help, just let me know.

From: Habighorst, Peter
Sent: Tuesday, March 15, 2011 12:52 PM
To: Horn, Brian; Tuttle, Glenn; Grice, Thomas; Ward, Steven; Freeman, Eric; Ani, Suzanne; Aguilar, Santiago; Pham, Tom; Ditto, David
Subject: FW: ACTION BRANCH CHIEFS: OIP REQUEST FOR ASSISTANCE

Any interest in a rotation to OIP??? Please provide your desires by noon tomorrow...thanks

---

From: Tschiltz, Michael
Sent: Tuesday, March 15, 2011 12:44 PM
To: Smith, Brian; Hiltz, Thomas; Habighorst, Peter; Campbell, Larry; Silva, Patricia; Johnson, Robert
Cc: Bailey, Marissa; Kinneman, John
Subject: ACTION BRANCH CHIEFS: OIP REQUEST FOR ASSISTANCE

Please read highlighted text below and ask your people if anyone is interested in being put on the list...
Thanks, Mike

From: Smith, Shawn
Sent: Tuesday, March 15, 2011 11:45 AM
To: Kokajko, Lawrence; Ordaz, Vonna; Tschiltz, Michael
Cc: Haney, Catherine; Dorman, Dan
Subject: OIP REQUEST FOR ASSISTANCE

Activities involving the evolving situation in Japan are having, and are projected to continue to have, a significant impact upon OIP resources. With this, OIP would like to ask if each of the program offices could identify whether they have staff (preferably staff with international experience) that could be detailed to OIP for a period of, at least initially, 3 to 6 months. Any staff considered for possible rotation to OIP should be aware that they could potentially travel to Japan and be exposed to ionizing radiation. Please note that such identified staff may, or may not, actually be needed. Instead, OIP is hoping to have a list of individuals, with program office blessing, that could be utilized (including with very little or no notice).

Please provide me with names of candidates by COB Wednesday, March 16th. If you have any questions or need additional information, let me know.

Thanks.

Shawn Rochelle Smith
Senior International Program Coordinator
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Mail Stop: EBB1-D2M
Washington, DC 20555
Office Phone: (301) 492-3260

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Kuritzky, Alan

From: Kuritzky, Alan
Sent: Wednesday, March 16, 2011 7:09 AM
To: Uhle, Jennifer
Subject: FW: B5b

Jennifer,

I know that the Ops Center is already on top of the B5b work, but if for some reason they don't know the main POC, it is Eric Bowman. Note, all of the licensee and NRC plant-specific lists of potential mitigation strategies included strategies for mitigating release, in addition to preventing core damage.

For what it's worth,
Alan

From: Rosenberg, Stacey
Sent: Tuesday, March 15, 2011 5:23 PM
To: Kuritzky, Alan
Subject: RE: B5b

Hi Alan,

I believe my branch still has purview for that. Eric Bowman is the POC.

Stacey

From: Kuritzky, Alan
Sent: Tuesday, March 15, 2011 8:26 AM
To: Rosenberg, Stacey
Subject: B5b

Hi, Stacey.

Do you know who "owns" the B5b work now? Specifically, do you know who maintains the files that contain all of the individual plant B5b reports and other summary documentation that came out of the NRC's B5b program?

Thanks,
Alan

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Beasley, Benjamin

From: Beasley, Benjamin
Sent: Wednesday, March 16, 2011 7:50 AM
To: Kauffman, John
Subject: RE: SBO impact on Mark I's

Please keep a few notes as you and others think of possible issues that may come from this event. In a month or two, when we learn the true sequence of the event, we will pull out the notes and consider what may be reasonable issues to propose. I am putting a reminder in my task list for May to discuss possible issues.

From: Kauffman, John
Sent: Wednesday, March 16, 2011 7:26 AM
To: Beasley, Benjamin
Subject: RE: SBO impact on Mark I's

Probably a good idea...clearly, there was something wrong with the Rx. Building designs that allowed the three (?) RB explosions. Not sure if the Japanese had hardened vents, but I would assume so. My recollection is that as mods go, it was not an onerous one.

Regarding SBO, it may be appropriate to re-visit the idea of a "bunkered," air-cooled EDG (or multiple EDGs).

Certainly, the Japanese event highlights the importance of CCF....lots to think about. JVK

From: Beasley, Benjamin
Sent: Tuesday, March 15, 2011 5:02 PM
To: Kauffman, John
Subject: FW: SBO impact on Mark I's

I have been wondering if, after things settle down, you or I should propose a generic issue on extended station blackout.

BB

From: Lane, John
Sent: Tuesday, March 15, 2011 2:28 PM
To: Beasley, Benjamin
Subject: SBO impact on Mark I's

Ben, FYI--Here is a report from ORNL from the late '80s, a time when NRC was actively studying containment/secondary containment failure issues. It provides a little bit of background information about station blackout studies undertaken then and the impact of SBO on the secondary containment.

The NRC required Mark I's to add a hardened vent around 1990, when it was discovered (probably from NUREG 1150) that the containment was likely to fail (up to 90% likely) as a result of some core melt accidents. The fix was intended to allow for a gradual release of overpressure to maintain the containment integrity as much as possible. I don't know if the Japanese plants added the hardened wetwell vent but with GE/Hitachi right there, I'm sure they are well aware of it.

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Dean, Bill

From: Operations Center Bulletin
Sent: Wednesday, March 16, 2011 10:40 AM
To: Operations Center Bulletin
Subject: UPDATE: NRC IS RESPONDING TO JAPANESE EVENTS

THIS IS NOT A DRILL

The Office of Public Affairs is expecting a large volume of calls from media and the general public regarding the latest statements from the State Department and the NRC regarding the situation in Japan. ALL CALLS from media or the general public on this topic must be referred to the 301-415-8200 number.

The NRC is coordinating its actions with other Federal agencies as part of the U.S. government response to the events in Japan. The NRC is examining all available information as part of the effort to analyze the event and understand its implications both for Japan and the United States. The NRC's Headquarters Operations Center in Rockville, MD has been stood up since the beginning of the emergency in Japan and is operating on a 24-hour basis.

NRC Incident Responders at Headquarters have spoken with the agency's counterpart in Japan and offered the assistance of U.S. technical experts. NRC representatives with expertise on boiling water nuclear reactors have deployed to Japan as part of a U.S. International Agency for International Development (USAID) team. USAID is the Federal government agency primarily responsible for providing assistance to countries recovering from disasters.

U.S. nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety significant structures, systems, and components be designed to take in account the most severe natural phenomena historically estimated for the site and surrounding area.

The NRC will **not** provide information on the status of Japan's nuclear power plants. For the latest information on NRC actions see the NRC's web site at www.nrc.gov or blog at http://public-blog.nrc-gateway.gov.

Two important reminders:

It is possible that some of us will be requested by colleagues in another country to provide technical advice and assistance during this emergency. It is essential that all such communications be handled through the NRC Operations Center. Any assistance to a foreign government or entity must be coordinated through the NRC Operations Center and the U.S. Department of State (DOS). If you receive such a request, contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) immediately.

If you receive information regarding this or any emergency (foreign or domestic) and you are not certain that the NRC's Incident Response Operations Officer is already aware of that information, you should contact the NRC Operations Officer (301-816-5100 or via the NRC Operator) and provide that information.

Other Sources of Information:

USAID – www.usaid.gov
U.S. Department of State – www.state.gov
FEMA – www.fema.gov
White House – www.whitehouse.gov
Nuclear Energy Institute – www.nei.org

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International Atomic Energy Agency – www.iaea.org/press

No response to this message is required.

THIS IS NOT A DRILL

Matakas, Gina

From: LIA04 Hoc
Sent: Wednesday, March 16, 2011 1:08 PM
To: Jackson, Donald; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Satorius, Mark
Subject: FW: salient points from the USAID briefing this morning - action for PMT and PST highlighted and bolded below!

Not For Public Release; For information Only

From: LIA06 Hoc
Sent: Wednesday, March 16, 2011 1:04 PM
To: RST01 Hoc; Hoc, PMT12; Burnell, Scott; Brenner, Eliot; Harrington, Holly; ET01 Hoc
Cc: LIA06 Hoc; LIA08 Hoc; LIA03 Hoc; LIA04 Hoc; LIA02 Hoc; LIA11 Hoc; LIA07 Hoc
Subject: salient points from the USAID briefing this morning - action for PMT and PST highlighted and bolded below!

From the USAID call this morning:

- Weather – winds blowing offshore at 15 mph, 24 degrees, light snow
- FDA – working food safety issues relative to any food coming from Japan as well as impact on fishing or other industries
    - initiated Radiation Response Team, meeting today
    - supporting the FRMAC advisory team comprised of DOE, EPA and USDA
    - met with representatives from Alaska regarding safety of food chain
    - don't have plume or dose projections-**PMT may want to reach out to them to coordinate**
- CDC
    - Working to increase communications relative to KI and risk of exposure
    - Supporting media call at 1400 today
    - Holding call at 1700 today with State Health Departments
    - Working with DHS (TSA and CBP) on radiation screening of returning passengers to determine if necessary and how to do it if it is, FAA is obviously very interested in this if it is determined that it will occur and where
    - Japan has not requested any assets to support radiation screening of passengers in Japan before they board flights
    - CDC asked if spent fuel fire would/could impact the primary containment. Replied that it is unlikely that it would impact the heavy concrete and rebar containment structure but they want to discuss further with our PST. **PST please call Scott Deitchman at 770-488-7100 in the CDC emergency operations center to discuss further**
- The WHO website has information on exposure and health effects-LT checking to see quality of data and if current
- DHS
    - There will be a call with several media reps at 1400 today to discuss radiation 101, KI, health effects in the US
    - Holly Harrington and Scott Burnell of our OPA are aware of the media call today-NRC was apparently asked to support, not sure what plan is to provide support (OPA action)
    - It was asked if NRC knows if the reports are true that all personnel have been evacuated from the nuclear sites-replied that we have seen these reports in the media also but do not have any confirmation that this has occurred but that indications are that some measures continue to be taken at the sites which indicates plant personnel are there conducting the measures
- Red Cross
    - Committed to send $10M to Japan for disaster relief
    - 535,000 have been evacuated and are being housed in 2300 or so government facilities

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- Are not aware of any shortfall in provisions-no requests yet from Japanese government

- EPA
  - FAA and NOAA working to determine at what level of radiation airplanes and ships would be advised to avoid areas in or around Japan-they are working this issue with DOD (Ed Tupin is contact at 202-253-8206 if anyone needs it)
  - FAA working with DOE to determine what, if any, risks to aircraft exist
  - No US carriers have cancelled flights from Japan
  - Japan routinely provides daily air space restrictions and this has continued throughout this event
  - Europeans (Lufthansa airlines) have instituted radiation sweeps of aircraft from Japan

Please let me know if you have any questions.

Mark Lombard, LT Director

Matakas, Gina

From:	Jackson, Donald
Sent:	Wednesday, March 16, 2011 8:54 PM
To:	Dean, Bill; Lew, David; Wilson, Peter; Roberts, Darrell; Collins, Daniel; Lorson, Raymond; Baker, Pamela; Walker, Tracy; Clifford, James; Miller, Chris; Weerakkody, Sunil
Cc:	Screnci, Diane; Sheehan, Neil; Trapp, James; McNamara, Nancy; Tifft, Doug; Hansell, Samuel; Hinson, Felicia; McKinley, Raymond
Subject:	March 16, 2011- 2000- CA Briefing On Japan Reactor Accidents
Attachments:	USNRC Earthquake-Tsunami Update 031611 1900EDT.pdf
Importance:	High

The following is a synopsis of the briefing with changes or noteworthy items underlined:

Status of Fukushima Daiichi Units:

Unit 1-
Some Degree of Core Damage
Seawater Cooling Stable
Primary Containment Functional
Secondary Containment Breached
SFP Level and Status Unknown

Unit 2-
Core Damage
Seawater Cooling Stable
Primary Containment Intact- Status Questioned By Mike Franovich, Said It Conflicts With Other Federal Reporting- Being Confirmed
Secondary Containment Breached On Purpose To Relieve H2
SFP Level Unknown Although Thought To Have Some Level Due To Observed Steaming

Unit 3-
Some Degree of Core Damage
Seawater Cooling Stable
Primary Containment Functional
Secondary Containment Breached
SFP Level Believed To Be Near Drained- Small Amounts of Steam Seen

Unit 4-
No Real Change- SFP Believed Dry

Other Issues-
Unit 5 and Unit 6- Both have AC Power
Unit 5 SFP Believed To Be Heating Up

Contaminated Packages From Japan On Aircraft In Hawaii and JFK Airports Per Fed Ex

TEPCO Observed By Our Team To Be Overwhelmed, They Do Have A Workforce of Around 100 On Site

Wind Projected To Be From West Over Ocean Until Weekend

Big push to move equipment to pump water either into reactors or SFPs (Unclear On This) from US to site with NRC coordination, and help from Bechtel Engineering and Naval Reactors. 5 Pumps already in Japan, trying

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to get valves and other parts on site. Japan was requesting American assistance to install systems and operate the systems (BIG Questions raised on this piece)

Lots of external questions on NRC press release from this afternoon

Mike Franovich Was Questioning Much Of The Information As Being Not Up To Date As Compared To Other Sources....Ops Center Team To Work With Ground Team To Update.

Please find attached the latest update for detailed information.

VR
DON JACKSON

Dean, Bill

From: Operations Center Bulletin
Sent: Wednesday, March 16, 2011 12:51 PM
To: Operations Center Bulletin
Subject: UPDATE: NRC IS RESPONDING TO JAPANESE EVENTS

THIS IS NOT A DRILL

The Office of Public Affairs is expecting a large volume of calls from media and the general public regarding the latest statements from the State Department and the NRC regarding the situation in Japan. ALL CALLS from media or the general public on this topic must be referred to Regional Public Affairs or the 301-415-8200 number for HQ employees.

THIS IS NOT A DRILL

*****Event Information is Attached*****

The NRC is responding to an event.

Please contact the NRC Executive Support Team if necessary at 301-816-5100 or reply to this e-mail.

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Dean, Bill

From: Muessle, Mary
Sent: Wednesday, March 16, 2011 9:32 AM
To: Evans, Michele; Hackett, Edwin; Brenner, Eliot; Schmidt, Rebecca; Powell, Amy; Droggitis, Spiros; Doane, Margaret; Mamish, Nader; Dyer, Jim; Brown, Milton; Greene, Kathryn; Stewart, Sharon; Howard, Patrick; Miller, Charles; Moore, Scott; Cohen, Miriam; Tracy, Glenn; Haney, Catherine; Dorman, Dan; Johnson, Michael; Holahan, Gary; Leeds, Eric; Boger, Bruce; Grobe, Jack; Zimmerman, Roy; Campbell, Andy; Sheron, Brian; Uhle, Jennifer; Dean, Bill; Lew, David; McCree, Victor; Wert, Leonard; Casto, Chuck; Satorius, Mark; Pederson, Cynthia; Collins, Elmo; Howell, Art; Andersen, James; Akstulewicz, Brenda; Belmore, Nancy; Quesenberry, Jeannette; Kreuter, Jane; Armstrong, Janine; Hudson, Sharon; Ellis, Marv; Hasan, Nasreen; Ronewicz, Lynn; Schumann, Stacy; Daniels, Stanley; Casby, Marcia; Thomas, Loretta; Walker, Dwight; Sprogeris, Patricia; Schwarz, Sherry; Ross, Robin; Cohen, Shari; Riddick, Nicole; Flory, Shirley; Veltri, Debra; Matakas, Gina; ODaniell, Cynthia; Miles, Patricia; Lee, Pamela; Dubose, Sheila; Buckley, Patricia; Tomczak, Tammy; Owen, Lucy; Tannenbaum, Anita; Gusack, Barbara; Harrington, Holly; Ricketts, Paul; Howell, Linda; Higginbotham, Tina; Ross, Brenda; Boyce, Thomas (OIS); Schaeffer, James; Jackson, Donald
Cc: Williams, Shawn; Andersen, James; Ramsey, Jack
Subject: Additional Staff requirements outside Ops Center Long Term Staffing

Importance: High

OPA and OIP expect large call volumes today and in the next few weeks given expected news from Japan. OIP is looking for names of people who have desk officer or other OIP or international experience to assist them in the event that current staff cannot meet the work demands for call inquiries as well as ongoing international work. Please provide Shawn Williams and I a list of names that could serve to help OIP in this capacity and their general availability over the next week and month. It is difficult to determine the need level at this time, but as in the Op Center, it is anticipated OIP will have for an additional month. We would like the list of names by COB today.
Thanks
Mary

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

From: Evans, Michele
Sent: Tuesday, March 15, 2011 5:53 PM
To: Hackett, Edwin; Brenner, Eliot; Schmidt, Rebecca; Powell, Amy; Droggitis, Spiros; Doane, Margaret; Mamish, Nader; Dyer, Jim; Brown, Milton; Greene, Kathryn; Stewart, Sharon; Howard, Patrick; Miller, Charles; Moore, Scott; Cohen, Miriam; Tracy, Glenn; Haney, Catherine; Dorman, Dan; Johnson, Michael; Holahan, Gary; Leeds, Eric; Boger, Bruce; Grobe, Jack; Zimmerman, Roy; Campbell, Andy; Sheron, Brian; Uhle, Jennifer; Dean, Bill; Lew, David; McCree, Victor; Wert, Leonard; Casto, Chuck; Satorius, Mark; Pederson, Cynthia; Collins, Elmo; Howell, Art; Muessle, Mary; Andersen, James; Akstulewicz, Brenda; Belmore, Nancy; Quesenberry, Jeannette; Kreuter, Jane; Armstrong, Janine; Hudson, Sharon; Ellis, Marv; Hasan, Nasreen; Ronewicz, Lynn; Schumann, Stacy; Daniels, Stanley; Casby, Marcia; Thomas, Loretta; Walker, Dwight; Sprogeris, Patricia; Schwarz, Sherry; Ross, Robin; Cohen, Shari; Riddick, Nicole; Flory, Shirley; Veltri, Debra; Matakas, Gina; ODaniell, Cynthia; Miles, Patricia; Lee, Pamela; Dubose, Sheila; Buckley, Patricia; Tomczak, Tammy; Owen, Lucy; Tannenbaum, Anita; Gusack, Barbara; Harrington, Holly; Ricketts, Paul; Howell, Linda; Higginbotham, Tina; Ross, Brenda; Boyce, Thomas (OIS); Schaeffer, James; Jackson, Donald
Subject: Follow-up from 4 pm teleconference on Ops Center Long Term Staffing

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Everyone,

Please find attached 1) a list of current positions being staffed in the Ops Center and 2) the staff identified as available to support in Japan.

Regarding additional staff available to support in the ops center, the primary needs are for the specialized positions on the PMT and anyone with previous international experience in OIP.

Regarding support in Japan, please provide any updates/changes to the list by COB March 17. The target time frame for sending these staff members is March 27-April 9, so please consider that when considering staff to put on the list.

Thanks for your support.

Michele

Rini, Brett

From: Sheron, Brian
Sent: Wednesday, March 16, 2011 1:46 PM
To: Gibson, Kathy; Scott, Michael
Subject: FW: RASCAL Dose Assessment person for this evening and tomorrow

What about Sami?

From: Moore, Scott
Sent: Wednesday, March 16, 2011 1:35 PM
To: Evans, Michele; OST02 HOC
Cc: Tracy, Glenn; Cohen, Miriam; Uhle, Jennifer; Sheron, Brian; Deegan, George
Subject: RASCAL Dose Assessment person for this evening and tomorrow

Michelle:

You asked for additional people to support RASCAL in the Ops Center for the 11-7 shift this evening, and the 7-3 shift tomorrow. We are checking our staff that may have experience with RASCAL, but are finding that many are already working the Operations Center on the Protective Measures team, in assigned roles. FSME will continue looking.

In addition, you may want to look into the following:

OHR offers a course in RASCAL. I believe that the most recent one was offered in Region I, and all of the attendees may have been from the Region, so that may not help you for shifts this evening, but if OHR could provide you with a list of staff who have completed the RASCAL course who are here, at HQ, then that could give you a group from which to draw upon.

Finally, Dr. Sami Sherbini, who is assigned to RES and was formerly of FSME, is well versed in dose assessment and codes, and may have RASCAL experience. He came to mind. You would need to talk to RES about Sami's availability.

We will still get back to you with an answer from FSME, in follow up to the conference call yesterday, but I wanted you to be aware of the RASCAL course and Sherbini.

Scott
x7875

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Dean, Bill

From: EDO Update [nrc.announcement@nrc.gov]
Sent: Thursday, March 17, 2011 4:08 PM
To: Taylor, Renee
Subject: EDO Update

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

EDO Update

Thursday, March 17, 2011

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 U.S. ambassador and the embassy, 2) interface with the Japanese regulator and licensee, and 3) help to facilitate coordination of the U.S. Government response. The Chairman was on Capitol Hill yesterday to brief committees of 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 three reactor cores and two 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 U.S. 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, Technical Training Center, and headquarters satellite offices. Overflow seating will be available in the TWFN Exhibit Area as

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well as the Commission Hearing Room. (There will also be a bridge line: 888-820-8960; pass code: 8690842.) 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.

Bill

Bill Borchardt, EDO

Kolb, Timothy

From: Peko, Damian [Damian.Peko@Nuclear.Energy.gov]
Sent: Thursday, March 17, 2011 1:22 PM
To: Kolb, Timothy
Subject: FW: <Update-4> Information Sheet Regarding the Tohoku Earthquake (from FEPC Washington Office)
Attachments: 110317_Update to Information Sheet-04.doc

From: Peko, Damian
Sent: Thursday, March 17, 2011 1:21 PM
To: 'timothy.kolb@nuclear.NRC.gov'; 'john.manninger@nrc.gov'; Remick, Alan
Subject: FW: <Update-4> Information Sheet Regarding the Tohoku Earthquake (from FEPC Washington Office)

Tim, John, Alan

I have been getting FEPC (Federation of Electric Power Companies) reports on the stats at Fukushima. Don't know if you have seen these. If not, this one makes an interesting read.

" At 9:20AM (JST) on March 17, radiation level at elevation of 1,000ft above Fukushima Daiichi Nuclear Power Station: 4,130 micro sievert.

- At 9:20AM on March 17, radiation level at elevation of 300ft above Fukushima Daiichi Nuclear Power Station: 87,700 micro sievert.

.....

- Fukushima Daiichi Unit 5 reactor
  - At 2:00PM on March 16, the temperature of the spent fuel pool was measured at 145 degrees Fahrenheit.
- Fukushima Daiichi Unit 6 reactor
  - At 2:00PM on March 16, the temperature of the spent fuel pool was measured at 140 degrees Fahrenheit."

Please forward to other team members as you see fit.

Thanks

Damian

From: Buelt, James L
Sent: Thursday, March 17, 2011 11:00 AM
To: Walton, Terry L; Casazza, Lawrence O; Hanson, Mark S; Davis, Mike (ALD); Bruemmer, Stephen M; Peko, Damian; Ankrum, Alvin R; Johnson, Wayne L
Subject: FW: <Update-4> Information Sheet Regarding the Tohoku Earthquake (from FEPC Washington Office)

Just for reference, 10,000 microsieverts is 1 rem or 1000 mrem.

109 | AA

Nelson, Robert

From: Nelson, Robert
Sent: Thursday, March 17, 2011 10:17 AM
To: Boger, Bruce
Subject: RE: Japan Situation

As a Navy reservist, I was recalled to the Navy Casualty Assistance Office for Desert Storm and was XO of this unit. In this capacity, I became very sensitive to the concerns of Navy families with deployed family members. Communicating with a spouse of as KIA, MIA or WIA is a very sensitive manner.

NELSON

From: Boger, Bruce
Sent: Thursday, March 17, 2011 9:57 AM
To: Nelson, Robert
Subject: RE: Japan Situation

Thanks for raising the concern.

From: Nelson, Robert
Sent: Thursday, March 17, 2011 9:51 AM
To: Boger, Bruce
Subject: FYI: Japan Situation

NELSON

From: Linnerooth, Sarah
Sent: Thursday, March 17, 2011 9:30 AM
To: Nelson, Robert
Subject: RE: Japan Situation

Thanks! Yes, this email has been shared with me. We are getting ready to have an HR Management meeting to discuss further how we can continue to reach out to deployed employees and their families. Again, please let me know if I can be of any further assistance.

Thanks,
Sarah

Sarah Linnerooth
EAP and Fitness Program Manager
Office of Human Resources - Work Life & Benefits Branch
U.S. Nuclear Regulatory Commission
Mailstop: T3 C4
Phone - (301) 415-7113
Sarah.Linnerooth@nrc.gov

110/AA

From: Nelson, Robert
Sent: Thursday, March 17, 2011 9:27 AM
To: Linnerooth, Sarah
Subject: FW: Japan Situation

See below regarding our earlier conversation. Looks like HR is involved.

NELSON

From: Tracy, Glenn
Sent: Thursday, March 17, 2011 8:43 AM
To: Boger, Bruce
Cc: Leeds, Eric; Nelson, Robert; Wert, Leonard; Lew, David; Miller, Mark; Cohen, Miriam
Subject: RE: Japan Situation

Bruce, I am mulling with lead team and will get right back to you. My initial thoughts are:

1.) we should touch base with Chuck via email.
2.) We could contact each family and offer any support/information they may require
3.) I presume this could be done by HR or the member's manager.
4.) this is similar to how USN handles a reservist's mobilization to war zone

Will get back to you. Glenn

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

Nelson, Robert

From: Nelson, Robert
Sent: Thursday, March 17, 2011 3:19 PM
To: Markley, Michael
Subject: FYI Senator Boxer's press release on a letter sent to the Chairman
Attachments: Press Release from Senator Boxer on Mar 16, 2011.docx

Sean is scheduling a telecon with RIV for tomorrow on this topic.

NELSON

From: Hay, Michael
Sent: Thursday, March 17, 2011 2:56 PM
To: Markley, Michael; Nguyen, Quynh; Meighan, Sean
Cc: Hall, Randy; Miller, Geoffrey; Lantz, Ryan
Subject: FW: Senator Boxer's press release on a letter sent to the Chairman

Folks,
You may have already seen the attached letter from the Senators in California to the NRC. There are quite a few questions that are raised in the letter for our response.

Additionally, currently Elmo Collins and Commissioner Apostolakis will be meeting with these two Senators next Tuesday at San Onofre.

I'm currently putting together a briefing package for Elmo's trip. I would like to set up a conference call with so we can go through these questions one by one and assign who can answer what and by when.

Your thoughts?

Mike

111/AA

Nelson, Robert

From: Nelson, Robert
Sent: Thursday, March 17, 2011 3:24 PM
To: Landau, Mindy
Cc: Meighan, Sean; Markley, Michael
Subject: FYI: Senator Boxer's press release on a letter sent to the Chairman
Attachments: Press Release from Senator Boxer on Mar 16, 2011.docx

See below regarding planned visit to SONGS. Mike Hay, RIV, is coordinating communications with us, and we are expecting to develop responses to the questions sufficient to provide information for the RIV briefing package. On our end, SONGS PM, Randy Hall and Mike Markley are planning to fill any gaps needed from RIV.

NELSON

From: Hay, Michael
Sent: Thursday, March 17, 2011 2:56 PM
To: Markley, Michael; Nguyen, Quynh; Meighan, Sean
Cc: Hall, Randy; Miller, Geoffrey; Lantz, Ryan
Subject: FW: Senator Boxer's press release on a letter sent to the Chairman

Folks,
You may have already seen the attached letter from the Senators in California to the NRC. There are quite a few questions that are raised in the letter for our response.

Additionally, currently Elmo Collins and Commissioner Apostolakis will be meeting with these two Senators next Tuesday at San Onofre.

I'm currently putting together a briefing package for Elmo's trip. I would like to set up a conference call with so we can go through these questions one by one and assign who can answer what and by when.

Your thoughts?

Mike

112 AA

Dean, Bill

From: LIA04 Hoc
Sent: Thursday, March 17, 2011 6:47 PM
To: Piccone, Josephine; Jackson, Deborah; OST05 Hoc; LIA06 Hoc; LIA05 Hoc; LIA01 Hoc; LIA11 Hoc; Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Flannery, Cindy; LIA04 Hoc; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Pederson, Cynthia; Satorius, Mark
Subject: Tonight's call with DOE

We have learned that tonight's 19:00 call with DOE with the States is in fact:

A meeting organized by the White House (NSS - National Security Staff) for Western Governors and Territories.

The following agenda was communicated by a DOE individual (A.J. Gibson):

1st. Coordinated Strategic Call – 19:00 EDT (Governors are being contacted by the White House)

1) Introductions
2) Briefing Update – Intergovernmental Agencies
3) Reactor Situation in Japan – DOE
4) Humanitarian/Effects on U.S. Citizens – State Department
5) Discussion of Monitoring – U.S. EPA
6) Potential Health Effects - HHS
7) Open Discussion – Intergovernmental Agencies
8) Summary - All

NRC will be a party to this call, but we are not expected to speak.

Richard Turtil
State Liaison – Liaison Team
Incident Response Center

113|AA

Nelson, Robert

From: Nelson, Robert
Sent: Thursday, March 17, 2011 3:08 PM
To: Meighan, Sean
Subject: RE: ACTION Senator Boxer's press release on a letter sent to the Chairman

Importance: High

Schedule as a priority. I can't stay late tonite because I have a class I must attend.

NELSON

From: Meighan, Sean
Sent: Thursday, March 17, 2011 3:03 PM
To: Nelson, Robert; Nguyen, Quynh
Subject: ACTION Senator Boxer's press release on a letter sent to the Chairman

Nelson:

When would you like to set up a call with RIV (see below)?

V/R
s

From: Hay, Michael
Sent: Thursday, March 17, 2011 2:56 PM
To: Markley, Michael; Nguyen, Quynh; Meighan, Sean
Cc: Hall, Randy; Miller, Geoffrey; Lantz, Ryan
Subject: FW: Senator Boxer's press release on a letter sent to the Chairman

Folks,
You may have already seen the attached letter from the Senators in California to the NRC. There are quite a few questions that are raised in the letter for our response.

Additionally, currently Elmo Collins and Commissioner Apostolakis will be meeting with these two Senators next Tuesday at San Onofre.

I'm currently putting together a briefing package for Elmo's trip. I would like to set up a conference call with so we can go through these questions one by one and assign who can answer what and by when.

Your thoughts?

Mike

114/AA

Dean, Bill

From: Dean, Bill
Sent: Thursday, March 17, 2011 3:24 PM
To: Lew, David; McNamara, Nancy; Tifft, Doug; Lorson, Raymond; Collins, Daniel; Roberts, Darrell; Clifford, James; Wilson, Peter; Weerakkody, Sunil
Subject: Fw: WHITE HOUSE CALL SUMMARY WRT COMMUNICATIONS WITH STATES

Note the DOE lead for plume study and the call with states at 1900
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: LIA04 Hoc
To: Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena
Cc: LIA01 Hoc; LIA11 Hoc; OST05 Hoc; Piccone, Josephine; Jackson, Deborah; Turtil, Richard; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Pederson, Cynthia; Satorius, Mark; Flannery, Cindy; LIA04 Hoc; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Virgilio, Rosetta
Sent: Thu Mar 17 15:11:18 2011
Subject: WHITE HOUSE CALL SUMMARY WRT COMMUNICATIONS WITH STATES

Below are a few bullets FYI regarding Charlie Miller's participation in a White House call today relative to plume modeling data and communications with States.

The Federal family is working together to develop models to determine whether the plume from the Japanese event will reach the US. This will be run through DOE NARAC (National Atmospheric Release Advisory Center)

DOE is tasked as the **LEAD** agency to provide information to the States in this regard. There will be a **call at 1900 (7 pm Eastern) this evening with Governors** to inform them about DOE aerial monitoring activities.

Also note that NRC is working to hold a **public Commission briefing Monday 3/21 – time TBD**. NRC staff will provide the Commission on the status of the Japanese event, provide an overview of staff actions to date, and any early planned actions. The meeting will be **Web streamed** and will be a good opportunity to **invite/inform our State contacts - when we have all the details.**

Rosetta Virgilio
State Liaison
NRC Operations Center
301-816-5193
LIA04.HOC@nrc.gov

115 | AA

Dean, Bill

From: Dean, Bill
Sent: Thursday, March 17, 2011 10:08 PM
To: Lew, David; Wilson, Peter; Weerakkody, Sunil; Roberts, Darrell; Clifford, James
Cc: Barkley, Richard
Subject: Fw: 10 mile EPZ and 50 mile evacuation zone in Japan

Importance: High

This is workable.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: LIA04 Hoc
To: Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena
Cc: Piccone, Josephine; LIA06 Hoc; OST05 Hoc; Harrington, Holly; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Pederson, Cynthia; Satorius, Mark; Flannery, Cindy; LIA04 Hoc; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta
Sent: Thu Mar 17 20:49:09 2011
Subject: 10 mile EPZ and 50 mile evacuation zone in Japan

RSLOs:

Many of your states and others have inquired about the 10 mile EPZ and the 50 mile evacuation recommendation as stated in the NRC's press release of March 16 (No. 11-050), which states "the NRC believes it is appropriate for U.S. residents within 50 miles of the Fukushima reactors to evacuate."

The following has been provided by OPA on March 17 through its approved Talking Points.

- The 10-mile EPZ reflects the area where projected doses from design basis accidents at nuclear power plants would not exceed the EPA's protective action guidelines, and we are confident that it would be adequate even for severe accidents. However, the 10-mile zone was always considered a base for emergency response that could be expanded if the situation warranted. The situation in Japan, with four reactors experiencing exceptional difficulties simultaneously, creates the need to expand the EPZ beyond the normal 10-mile radius. We have said from the beginning of this crisis that the NRC would analyze this situation for any lessons that can be derived to improve our oversight of U.S. nuclear power plants. Emergency planning will be part of that review.

Richard Turtil
State Liaison – Liaison Team
Incident Response Center

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Dean, Bill

From: Dean, Bill
Sent: Thursday, March 17, 2011 10:03 PM
To: Lew, David
Subject: Re: 50 mile Q&A

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

From: Lew, David
To: Dean, Bill
Sent: Thu Mar 17 21:12:02 2011
Subject: Re: 50 mile Q&A

Scott and I talked after this. There is a common recognition that we need to develop a response. Separately, heard from Eric Leeds that the Chairman may have articulated the bases of the recommendation in a public forum today. That should feed into our response.
Sent from NRC BlackBerry

From: Dean, Bill
To: Lew, David
Sent: Thu Mar 17 20:29:08 2011
Subject: Re: 50 mile Q&A

Wow. I am surprised at this response. It should have been a well anticipated question and a pre thought out response.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: Lew, David
To: Moore, Scott; Evans, Michele; Nelson, Robert
Cc: Dean, Bill; Screnci, Diane; Roberts, Darrell; Wilson, Peter; Miller, Charles; Piccone, Josephine
Sent: Thu Mar 17 17:25:56 2011
Subject: RE: 50 mile Q&A

Scott, I admit that I am not privy to the decision-making and "context"; therefore, do not have an understanding of why we may not be able to communicate the bases for our decision publically. However, my intent was to ensure awareness the issue and that there is at least a shared view of its priority. While I mentioned the states, I do not see this as an issue of the states driving us or us managing the states. The question stands on its own merits. Let me know if I am missing the big picture. Dave

---

From: Moore, Scott
Sent: Thursday, March 17, 2011 4:28 PM
To: Lew, David; Evans, Michele; Nelson, Robert
Cc: Dean, Bill; Screnci, Diane; Roberts, Darrell; Wilson, Peter; Miller, Charles; Piccone, Josephine
Subject: RE: 50 mile Q&A

1171AA

I would suggest that Nelson's team take the lead on this, as it's being raised on a number of fronts (not just States .... also by the radiation protection community in online chats, I've heard).

That said, explaining the 50-mile evacuation recommendation will not just cover the PMT's work. One must understand the context, and I am not sure how much we can go into that, publicly (about WHY we issued a recommendation). In general, we need to try to manage the States' expectations about information that they will receive on this event .... or we will spend considerable effort to address States' rising requests.

Scott

From: Lew, David
Sent: Thursday, March 17, 2011 3:33 PM
To: Evans, Michele; Moore, Scott; Nelson, Robert
Cc: Dean, Bill; Screnci, Diane; Roberts, Darrell; Wilson, Peter
Subject: 50 mile Q&A
Importance: High

I just wanted you to be aware of an ongoing challenge to ensure appropriate attention and priority is being applied. Many of State stakeholders are pressing us on questions regarding the 50 mile press release, and implications relative to the 10 mile EPZ. I believe that it is very important for us to develop a response to the question in a timely manner to maintain credibility.

If I may suggest, can we articulate the Protective Measures Team thought process and then fully vet that through the appropriate levels within the agency. Not knowing what the PMT considerations were, I can see a number of unique elements which may have driven the decision, including:

- There is no direct correlation between the NRC 50 mile press release and the 10 mile EPZ.
- We are advising US citizens located in a sovereign country for which we have no authority and no ability to communicate with our citizens in a systematic method.
- As many countries do, we provide precautionary recommendations to our citizens.
- Because the NRC has no authority nor infrastructure in another country, the recommendation was highly conservative and factored in the lack of other information which would normally be available to decision-makers if the situation were here in the United States. We would have real time surveys and radiological and meteorological data, real time data on plant conditions and an infrastructure that includes communications with our citizens.
- Other reasons?

Dave

Nelson, Robert

From: Nelson, Robert
Sent: Thursday, March 17, 2011 10:27 AM
To: Meighan, Sean; Nguyen, Quynh
Cc: Leeds, Eric; Pannier, Stephen
Subject: Action: Potential Questions for EOC meetings

Please screen for Qs that have already been answered & work with Eric for Ops Center support.

NELSON

From: Croteau, Rick
Sent: Wednesday, March 16, 2011 4:03 PM
To: Nelson, Robert
Subject: FW: Potential questions for EOC meetings

Nelson,
These are the questions I fed up a few days ago through Vic as possible EOC questions. Not sure who is working on agency responses to these, or if they are being worked. Our first EOC meeting is 3/24 at Robinson and I will be there.
Rick

From: Croteau, Rick
Sent: Monday, March 14, 2011 4:35 PM
To: McCree, Victor
Cc: Wert, Leonard; Jones, William
Subject: Potential questions for EOC meetings

Vic,
Not sure how you wanted these, but here are some of the questions we could see being asked at EOCs:

Do US nuclear plants have better capabilities to respond to natural disasters than the plants in Japan?
Did the NRC share the post 9/11 enhancements to the U.S. facilities with the Japanese?
Could there be core damage and radiation release at a US plant if a natural disaster exceeding the plant design were to occur?
Could explosions like those that occurred in Japan happen at a U.S facility?
How would the U.S. have responded to the events of March 11?
How are US BWRs similar and/or different from the plants experience problems in Japan?
Why are US plants safe to operate considering the events in Japan?
How big an earthquake is plant X designed to handle (for each plant)?
Is plant X designed to withstand a tsunami (for each coastal plant)?
What is the NRC doing to ensure this (Japan event) doesn't happen at US plants?
How will the U.S. learn from the failures at the Japanese reactors?
Is the NRC relooking at seismic analysis for US plants?
Is the event in Japan worse than TMI and Chernobyl?
What is the longer term prognosis for keeping the reactors cooled at the Japanese facilities?
Does the NRC participate in inspection of the Japanese facilities?
Given low probability events do occur, how does the U.S . ensure that U.S. plant designs are not significantly degraded by risk-informed changes?
How does the NRC ensure people can escape if an accident occurs from a natural disaster when the infrastructure is also affected or destroyed in an area around a plant?

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Rick

Nelson, Robert

From: Nelson, Robert
Sent: Thursday, March 17, 2011 3:27 PM
To: Meighan, Sean; Nguyen, Quynh; Thomas, Eric
Subject: FYI: Japanese Earthquake-related Information Notice
Attachments: IN 11-xx B5b Earthquake.docx

Generic comm. Will be an IN. TI is mentioned therein.

NELSON

From: Bowman, Eric
Sent: Thursday, March 17, 2011 3:20 PM
To: Chernoff, Harold
Cc: Giitter, Joseph; Howe, Allen; Nelson, Robert; McGinty, Tim; Rosenberg, Stacey
Subject: FW: ACTION REQUESTED: Japanese Earthquake-related Information Notice

Harold,

I understand you were interested in seeing the information notice on the earthquake before putting it out on the list server. The latest copy is attached; we plan on completing concurrence on it this afternoon so that it will be ready for review by the Ops Center ET tonight.

Thanks for helping out on this!

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

From: McGinty, Tim
Sent: Thursday, March 17, 2011 2:06 PM
To: Bowman, Eric; Rosenberg, Stacey; Westreich, Barry
Subject: FW: ACTION REQUESTED: Japanese Earthquake-related Information Notice

See below and attached.

One Bruce Boger comment was to capture, in the discussion, that NRC "is considering" additional GC's, as opposed to "will issue". Tim

---

From: Correia, Richard
Sent: Thursday, March 17, 2011 2:04 PM
To: McGinty, Tim

1191AA

Cc: Westreich, Barry; Evans, Michele; Layton, Michael
Subject: RE: ACTION REQUESTED: Japanese Earthquake-related Information Notice

Tim,

Reviewed the IN. Well done. See attached. I highlighted my suggested changes at the beginning of the discussion section as well as a couple of questions at the end of the section. The suggested changes at the beginning are an attempt to make it appear NEI is not driving the industry to take actions. Rather, the industry has decided to take actions and the information is posted on the NEI web site. The questions are related to the TI. One could read that part as this is the first time we have ever looked at licensees' readiness to address beyond DB natural phenomena.

Thanks for the opportunity

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

Weaver, Tonna

From: Bloom, Steven
Sent: Thursday, March 17, 2011 11:35 AM
To: Casto, Chuck; Monninger, John; Nakanishi, Tony; Kolb, Timothy; Foster, Jack; Cook, William; Devercelly, Richard; Ulses, Anthony; Trapp, James; Smith, Brooke; Foggie, Kirk
Cc: Emche, Danielle
Subject: Long Term Items for Japan

All,

I am working with Jack Ramsey to come up with what would be needed to support an NRC staff for 3 -6 months over in Japan. I came up with some of my own brainstorming thoughts which are below. Please look at my list and think of other items which you may think are necessary to support having members of the NRC over in Japan for about 3 to 6 months. Please send me back your ideas as soon as you can.

Computers and Printers
Office Supplies
Blackberry
Phone Cards
Foreign Power converters
Extension Cords
Radiation Devices
Dosimeters
Anti Cs
Hard Hats

More Staff
Passport support
Contractors
Translators

Analysts to evaluate event
Severe Accident Analysts
Reactor Physics Staff
Research Staff

Money for effort

Easy way to convert dollars to Yen

Access to Medical Doctors
Medicines

Hotel/Apartment arrangements
Airlines

Thank you.

Steve

Steven Bloom, International Relations Specialist
International Cooperation and Assistance Branch (ICA)

120 | AA

301-415-2431
O-4F4
M/S O-4E21

Weaver, Tonna

From: Howe, Allen
Sent: Thursday, March 17, 2011 9:53 AM
To: Leeds, Eric; Grobe, Jack; Boger, Bruce
Cc: Meighan, Sean; Ruland, William; Boska, John; Nelson, Robert; Giitter, Joseph
Subject: FW: Japan Event Commission Meeting
Attachments: 110321 NRC Response to Events in Japan Scheduling Note.docx; 110321 Closed Events in Japan and Commission Agenda Scheduling Note.docx

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From: Merzke, Daniel
Sent: Thursday, March 17, 2011 7:50 AM
To: Howe, Allen
Subject: FW: Japan Event Commission Meeting

Allen, here are the scheduling notes that SECY sent to the Chairman's office.

From: Bavol, Rochelle
Sent: Thursday, March 17, 2011 7:43 AM
To: Andersen, James; Merzke, Daniel
Cc: Laufer, Richard
Subject: RE: Japan Event Commission Meeting

Good Morning,

Attached are the two scheduling notes for meetings regarding the events in Japan that were sent to the Chairman's office yesterday. Both say the meetings are on Monday, but there has not been a decision when the meetings will be held. They could be Monday, Tuesday or Wednesday. I'm hoping that we can at least get this decision today.

The closed meeting is about NRC's strategy to address significant issues and the Commission's agenda (what meetings should the Commission have based on the events in Japan-ones already scheduled and new meetings; what meetings should be postponed and be replaced by different meetings; what papers should the Commission focus on; what papers could be delayed), all based on the events in Japan and how we may need to refocus, at least for the next six months.

Let me know if there are questions.

I'll let you know as we get decisions on these meetings.

Rochelle

From: Andersen, James
Sent: Wednesday, March 16, 2011 12:07 PM
To: Bavol, Rochelle
Cc: Merzke, Daniel
Subject: Japan Event Commission Meeting

Rochelle,

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We are starting to get questions from the staff on this meeting. Can you please use Dan and myself as the OEDO contacts when you find out any information. I would like to try to keep this somewhat in process. Thanks.

Jim A.

Draft: 3/16/11

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 Topic: Overview of Japanese event and U.S. response	15 mins.*
Mike Weber, Deputy Executive Director Materials, Waste, Research, State, Tribal and Compliance Programs Topic: Potential Consequences; what will be seen in the U.S.	10 mins.*
Marty Virgilio, Deputy Executive Director for Reactor and Preparedness Programs Topic: Situation assessment for U.S. reactors and applicants	10 mins.*
Elliot Brenner, Director, Office of Public Affairs Topic: Communication challenges	5 mins.*
Eric Leeds, Director, Office of Nuclear Reactor Regulation Topic: Path forward; near term and longer term	10 mins.*
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.

Draft: 3/16/11

SCHEDULING NOTE

Title: **DISCUSSION OF MANAGEMENT ISSUES (Closed – Ex. 9)**

Purpose: To provide the Commission an opportunity to discuss strategy for addressing issues of most interest for inquiry based on the recent events in Japan and discuss the focus of the Commission's agenda.

Scheduled: **March 21, 2011**
11:00 am

Duration: Approx. 1.5 hours

Location: Commissioners' Conference Room, 1st fl OWFN

	Presentation
NRC Staff	**20 mins.***

Topics:

- Strategy for Addressing Issues of Most Interest for Inquiry Based on the Recent Events in Japan
- Focus of the Commission's Agenda over the Next Six Months

Commission Q & A and Discussion	**50 mins.**
Discussion – Wrap-up	**5 mins.**

*For presentation only and does not include time for Commission Q & A's

Documents:
Background materials due to SECY: prior to the briefing.
Slides due to SECY: prior to the briefing.

Weaver, Tonna

From:	Givvines, Mary
Sent:	Thursday, March 17, 2011 9:33 AM
To:	Bahadur, Sher; Blount, Tom; Brown, Frederick; Cheok, Michael; Evans, Michele; Galloway, Melanie; Giitter, Joseph; Givvines, Mary; Hiland, Patrick; Holian, Brian; Howe, Allen; Lee, Samson; Lubinski, John; McGinty, Tim; Nelson, Robert; Quay, Theodore; Ruland, William; Skeen, David; Westreich, Barry
Cc:	NRR_BRANCH_CHIEFS; Leeds, Eric; Grobe, Jack; Boger, Bruce; Gorham, Tajuan; Compton, Makeeka
Subject:	FW: WAIVER OF WORK SCHEDULE AND PAY CAP RULES FOR WORK IN RESPONSE TO THE EVENTS IN JAPAN
Attachments:	Memo re- Waiver of Work Schedule and Pay Cap Rules for Work in Response to the Events in Japan..pdf

LT,

If the attached memo still doesn't address all your staff's work schedule flexibilities while supporting the Japan situation – please let me know.

Mary

From: Khan, Charline
Sent: Thursday, March 17, 2011 7:29 AM
To: RidsAcrsAcnw_MailCTR Resource; RidsAslbpManagement Resource; RidsOgcMailCenter Resource; RidsOcaaMailCenter Resource; RidsOcfoMailCenter Resource; RidsOigMailCenter Resource; RidsOipMailCenter Resource; RidsOcaMailCenter Resource; RidsOpaMail Resource; RidsSecyMailCenter Resource; RidsSecyCorrespondenceMCTR Resource; RidsEdoMailCenter Resource; RidsAdmMailCenter Resource; RidsCsoMailCenter Resource; RidsOeMailCenter Resource; RidsFsmeOd Resource; RidsOiMailCenter Resource; RidsOIS Resource; RidsHrMailCenter Resource; RidsNroOd Resource; RidsNroMailCenter Resource; RidsNmssOd Resource; RidsNrrOd Resource; RidsNrrMailCenter Resource; RidsResOd Resource; RidsResPmdaMail Resource; RidsSbcrMailCenter Resource; RidsNsirOd Resource; RidsNsirMailCenter Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource
Cc: Davidson, Lawrence; Buchholz, Jeri; Johns, Nancy
Subject: WAIVER OF WORK SCHEDULE AND PAY CAP RULES FOR WORK IN RESPONSE TO THE EVENTS IN JAPAN

MEMORANDUM TO: Those on the Attached List

FROM: Miriam L. Cohen, Director/**RA by J. Buchholz for/**
Office of Human Resources

DATED: March 16, 2011

SUBJECT: WAIVER OF WORK SCHEDULE AND PAY CAP RULES FOR WORK IN RESPONSE TO THE EVENTS IN JAPAN

ADAMS Accession No. ML11075A003 refers

NOTE: Electronic distribution only

Charline Khan
Administrative Assistant (Rotation)
U.S. NUCLEAR REGULATORY COMMISSION

122/AA

Office of Human Resources
P:301-492-2318
Charline.Khan@nrc.gov

March 16, 2011

MEMORANDUM TO: Those on the Attached List

FROM: Miriam L. Cohen, Director/**RA by J. Buchholz for/**
Office of Human Resources

SUBJECT: WAIVER OF WORK SCHEDULE AND PAY CAP RULES FOR WORK IN RESPONSE TO THE EVENTS IN JAPAN

I have approved a waiver of the U.S. Nuclear Regulatory Commission (NRC) work schedule rules, as well as a waiver of the biweekly cap on combined salary plus premium pay, for NRC employees serving in and supporting the NRC Operations Center, as well as NRC employees working in Japan, in response to the current, serious nuclear power plant issues in that country.

Work Schedule Limitations

NRC permits a variety of types of work schedules, including 5-4/9 compressed work schedules (CWS) and NEWFlex flexible work schedules that include limitations on permissible workdays and working clock hours. Other types of work schedules, including Expanded-Compressed work schedules (E-CWS) in emergency situations, and First-40 work schedules in unusual situations, do not contain such limitations. A summary of work schedule options may be found on the intranet at http://www.internal.nrc.gov/HR/work-schedule.html.

I have approved a waiver of limitations on permissible workdays and working clock hours for NRC employees working in response to these events. As a result, employees on 5-4/9 CWS may work weekends, employees on NEWFlex may work Sundays, and employees on both types of work schedules may work any clock hours, as appropriate (an exception to the 11.25 hour maximum limitation on NEWFlex workdays is not possible).

Biweekly Cap

As a matter of Federal-wide law and regulations, employees who are exempt from the Fair Labor Standards Act (most NRC employees are exempt) normally are subject to a biweekly cap on combined salary plus premium pay. This year, the cap is equal to the salary for GG-15 step 10. Premium pay includes the following categories: night premium pay, Sunday premium pay, holiday premium pay, overtime premium pay, and "regular" compensatory time off (not religious compensatory time off or Special Compensatory Time Off for Travel).

For further details, please see the February 3, 2011, NRC Announcement entitled "Employee Resources: 2011 Cap on Combined Salary Plus Premium Pay," available on the intranet at http://www.internal.nrc.gov/announcements/items/7625.html.

Annual Cap

Federal law and regulations permit agencies to waive the biweekly cap and to adopt an annual cap on combined salary plus premium pay when, among other reasons, an employee receives premium pay for work directly related to resolving or coping with an emergency (or its immediate aftermath) that involves a direct threat to life or property.

I have approved a waiver of the biweekly cap and adoption of an annual cap for NRC employees working in response to these events.

Procedures

Note that employees who are responding to these events will be provided a document summarizing their work schedule options as well as their entitlements to premium pay.

Employees should consult with their time and attendance officials about any necessary changes to their Human Resources Management System workgroups.

Management should advise Jackie Jones, Financial Services Branch, Office of the Chief Financial Officer, of the names of employees who perform emergency-related premium work as well as the dates of such work. Please submit this information to Ms. Jones via a memorandum mailed to T-9 E2, or via e-mail to Jackie.Jones@nrc.gov. It is important to provide Ms. Jones this information as soon as practicable after the work begins to avoid difficulties processing the appropriate payments as the annual cap will be made effective at the beginning of the pay period in which the work was performed.

Should you have any questions on this matter, please contact me or have a member of your staff contact Larry Davidson at (301) 492-2286 or Lawrence.davidson@nrc.gov.

MEMORANDUM TO THOSE ON THE ATTACHED LIST DATED: March 16, 2011

SUBJECT: WAIVER OF WORK SCHEDULE AND PAY CAP RULES FOR WORK IN RESPONSE TO THE EVENTS IN JAPAN

Edwin M. Hackett, Executive Director, Advisory Committee on Reactor Safeguards	RidsAcrsAcnw_MailCTR Resource
E. Roy Hawkens, Chief Administrative Judge, Atomic Safety and Licensing Board Panel	RidsAslbpManagement Resource
Stephen G. Burns, General Counsel	RidsOgcMailCenter Resource
Brooke D. Poole, Director, Office of Commission Appellate Adjudication	RidsOcaaMailCenter Resource
James E. Dyer, Chief Financial Officer	RidsOcfoMailCenter Resource
Hubert T. Bell, Inspector General	RidsOigMailCenter Resource
Margaret M. Doane, Director, Office of International Programs	RidsOipMailCenter Resource
Rebecca L. Schmidt, Director, Office of Congressional Affairs	RidsOcaMailCenter Resource
Eliot B. Brenner, Director, Office of Public Affairs	RidsOpaMail Resource
Annette Vietti-Cook, Secretary of the Commission	RidsSecyMailCenter Resource RidsSecyCorrespondenceMCTR Resource
R. William Borchardt, Executive Director for Operations	RidsEdoMailCenter Resource
Michael F. Weber, Deputy Executive Director for Materials, Waste, Research, State, Tribal, and Compliance Programs, OEDO	RidsEdoMailCenter Resource
Darren B. Ash, Deputy Executive Director for Corporate Management, OEDO	RidsEdoMailCenter Resource
Martin J. Virgilio, Deputy Executive Director for Reactor and Preparedness Programs, OEDO	RidsEdoMailCenter Resource
Mary C. Muessle, Acting Assistant for Operations, OEDO	RidsEdoMailCenter Resource
Kathryn O. Greene, Director, Office of Administration	RidsAdmMailCenter Resource
Patrick D. Howard, Director, Computer Security Office	RidsCsoMailCenter Resource
Roy P. Zimmerman, Director, Office of Enforcement	RidsOeMailCenter Resource
Charles L. Miller, Director, Office of Federal and State Materials and Environmental Management Programs	RidsFsmeOd Resource
Cheryl L. McCrary, Director, Office of Investigations	RidsOiMailCenter Resource
Thomas M. Boyce, Director, Office of Information Services	RidsOis Resource
Miriam L. Cohen, Director, Office of Human Resources	RidsHRMailCenter Resource
Michael R. Johnson, Director, Office of New Reactors	RidsNroOd Resource RidsNroMailCenter Resource
Catherine Haney, Director, Office of Nuclear Material Safety and Safeguards	RidsNmssOd Resource
Eric J. Leeds, Director, Office of Nuclear Reactor Regulation	RidsNrrOd Resource RidsNrrMailCenter Resource
Brian W. Sheron, Director, Office of Nuclear Regulatory Research	RidsResOd Resource RidsResPmdaMail Resource
Corenthis B. Kelley, Director, Office of Small Business and Civil Rights	RidsSbcrMailCenter Resource
James T. Wiggins, Director, Office of Nuclear Security and Incident Response	RidsNsirOd Resource RidsNsirMailCenter Resource
William M. Dean, Regional Administrator, Region I	RidsRgn1MailCenter Resource
Victor M. McCree, Regional Administrator, Region II	RidsRgn2MailCenter Resource
Mark A. Satorius, Regional Administrator, Region III	RidsRgn3MailCenter Resource
Elmo E. Collins, Jr., Regional Administrator, Region IV	RidsRgn4MailCenter Resource

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DISTRIBUTION:
HR r/f
DIRECTORY/SUBDIRECTORY: G:\HRPP\PAY
DOCUMENT NAME: Waiver of Biweekly Cap for Japan Response.docx
WITS/EDO/HR TICKET NO. :
SUBJECT FILE FOLDER NAME:
ADAMS ACCESSION NUMBER: ML11075A003
☐ Publicly Available X Non-Publicly Available ☐ Sensitive X Non-Sensitive

OFFICE	HR/HRPP	HR/HRPP	HR/HROP	HR/ODD	HR/OD
NAME	LDavidson	NJohns LDavidson for	JBuchholz	GTracy JBuchholz for	MCohen JBuchholz for
DATE	3/16/2011	3/16/2011	3/16/2011	3/16/2011	3/16/2011

OFFICIAL RECORD COPY

Weaver, Tonna

From: Ruland, William
Sent: Thursday, March 17, 2011 12:52 PM
To: Clifford, Paul
Cc: Attard, Anthony; Bahadur, Sher; Mendiola, Anthony
Subject: FW: Proposal to handle dried Spent fuel pool.docx
Attachments: Proposal to handle dried Spent fuel pool.docx

A realistic proposal given the current situation?

Bill

From: Ordaz, Vonna
Sent: Thursday, March 17, 2011 12:39 PM
To: Dudes, Laura; Ruland, William; McIntyre, David
Cc: Dorman, Dan; Haney, Catherine; Einziger, Robert; Rahimi, Meraj
Subject: Proposal to handle dried Spent fuel pool.docx

Laura,

I understand that you are on duty as the RST Director today. From our shift last night, Bill Ruland and the RST staff were discussing various approaches to address the potentially dry SFP. One of our Senior Materials Experts, Bob Einziger has prepared the attached proposal to offer support on how to handle a dry SFP. He is available, if needed, and can be reached at 301-492-3283.

Thanks,
Vonna

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Weaver, Tonna

To: Dudes, Laura
Subject: RE: Proposal to handle dried Spent fuel pool.docx

Given the magnitude of the problem, multiple pools, extremely high dose rates, and difficulty getting liquefied gases in the amount that would be required, this doesn't appear to be a practical solution. However, it may be worth exploring.

Bill

From: Ordaz, Vonna
Sent: Thursday, March 17, 2011 12:39 PM
To: Dudes, Laura; Ruland, William; McIntyre, David
Cc: Dorman, Dan; Haney, Catherine; Einziger, Robert; Rahimi, Meraj
Subject: Proposal to handle dried Spent fuel pool.docx

Laura,

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Thanks,
Vonna

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Dean, Bill

From: Dean, Bill
Sent: Thursday, March 17, 2011 8:24 PM
To: Lew, David
Subject: Fw: Tonight's call with DOE

Guess you knew this by now.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: LIA04 Hoc
To: Piccone, Josephine; Jackson, Deborah; OST05 Hoc; LIA06 Hoc; LIA05 Hoc; LIA01 Hoc; LIA11 Hoc; Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Flannery, Cindy; LIA04 Hoc; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Pederson, Cynthia; Satorius, Mark
Sent: Thu Mar 17 18:46:57 2011
Subject: Tonight's call with DOE

We have learned that tonight's 19:00 call with DOE with the States is in fact:

A meeting organized by the White House (NSS - National Security Staff) for Western Governors and Territories.

The following agenda was communicated by a DOE individual (A.J. Gibson):

1st. Coordinated Strategic Call – 19:00 EDT (Governors are being contacted by the White House)

1) Introductions
2) Briefing Update – Intergovernmental Agencies
3) Reactor Situation in Japan – DOE
4) Humanitarian/Effects on U.S. Citizens – State Department
5) Discussion of Monitoring – U.S. EPA
6) Potential Health Effects - HHS
7) Open Discussion – Intergovernmental Agencies
8) Summary - All

NRC will be a party to this call, but we are not expected to speak.

Richard Turtil
State Liaison – Liaison Team
Incident Response Center

125/AA

Matakas, Gina

From: Jackson, Donald
Sent: Thursday, March 17, 2011 8:56 AM
To: Dean, Bill; Lew, David; Wilson, Peter; Roberts, Darrell; Collins, Daniel; Lorson, Raymond; Baker, Pamela; Walker, Tracy; Clifford, James; Miller, Chris; Weerakkody, Sunil
Cc: Screnci, Diane; Sheehan, Neil; Trapp, James; McNamara, Nancy; Tifft, Doug; Hansell, Samuel; Hinson, Felicia; McKinley, Raymond
Subject: March 17, 2011- 0730- CA Briefing On Japan Reactor Accidents
Attachments: NRC Status Update 3-17 11--07 00am.pdf

Importance: High

The following is a synopsis of the briefing with changes or noteworthy items underlined:

Status of Fukushima Daiichi Units:

Unit 1-
No Significant Change, although it was mentioned that vessel level believed to be ½ fuel height (half covered)

Unit 2-
No Significant Change, although it was mentioned that vessel level believed to be ½ fuel height (half covered)

Unit 3-
No Significant Change, although it was mentioned that vessel level believed to be ½ fuel height (half covered)

Unit 4-
Japanese have said that pool is not empty, but we do not see evidence that it has water in it. We are sticking with it as being empty.

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

TEPCO working to restore offsite power to Units 2,5,6 today and Units 1,3,4 tomorrow

Getting water cannons on site soon to try to put water in SFPs

New Dose Rates:
Site Boundary- 150mr/hr to 1R/hr
West of Units 3 and 4- 10 R/hr
Between Units 2 and 3- 30 R/hr
Between Units 3 and 4- 40 R/hr
300 ft above Unit 3- 375R/hr

Please find attached the latest update for detailed information.

VR
DON JACKSON

Don Jackson

126|AA

Chief- Region I DRP PB5
(610) 337-5306

Matakas, Gina

From: Cerino, John [JCerino@westchestergov.com]
Sent: Friday, March 18, 2011 4:22 PM
To: Dean, Bill
Cc: Lew, David; McNamara, Nancy
Subject: Letter from Westchester County Executive Rob Astorino
Attachments: CE Letter to NRC Administrator Bill Dean.PDF

Importance: High

Dear Administrator Dean:

Please see the attached correspondence from Westchester County Executive Rob Astorino, which was also mailed today.

Thank you, and feel free to contact me if you have any questions.

John Cerino
Confidential Scheduler to the County Executive
Office of County Executive Rob Astorino
148 Martine Avenue, Room 936
White Plains, New York 10601
Office: 914-995-2952
Fax: 914-813-4350
jcerino@westchestergov.com

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Westchester gov.com

Robert P. Astorino
County Executive

March 18, 2011

Regional Administrator Bill Dean
Region I, U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Dear Administrator Dean:

As County Executive of Westchester, the home of the Indian Point Energy Center, my number one concern is protecting the public health and safety of our citizens.

While I support the continued safe operation of Indian Point – and the 2,000 megawatts of electricity it supplies to the region – it is critical for the Nuclear Regulatory Commission to keep the county informed of its latest thinking, the lessons it is learning from the Fukushima Daiichi plant and the formulation of any policy changes or new strategic plans with respect to the safety and emergency preparedness at U.S. nuclear sites, including Indian Point.

Going forward communication and coordination will be key. My Emergency Services team regularly meets with Entergy's senior site management team to collaborate on safety issues. It is vitally important that I, along with the county executives of Putnam, Rockland and Orange counties, continue to receive regular updates from the NRC, as we did on the conference call yesterday, throughout this crisis in Japan. One point that needs quick clarification are the comments from Chairman Jaczko to Congress recommending the evacuation of Americans within 50 miles of the Fukushima plant and what implications, if any, that has for nuclear power plants in the United States. My hope and expectation is to receive clarification on our Monday conference call.

Thank you for your prompt consideration.

Respectfully,

Robert P. Astorino

Robert P. Astorino
County Executive

Office of the County Executive

Michaelian Office Building
White Plains, New York 10601 Telephone: (914) 995-2900 E-mail: ceo@westchestergov.com

Dean, Bill

From: HRMSBulletin Resource
Sent: Thursday, March 17, 2011 9:25 AM
To: HRMSBulletin Resource
Cc: HRMSBulletin Resource
Subject: Clarification for use of the Tac ZG0061

Clarification for use of the TAC (ZG0061) that was established for the events in JAPAN

This TAC (ZG0061) was established to track activity related to staff that are supporting the recent events in Japan. Managers that are performing managerial functions relating to the events in Japan should continue to use the TAC (ZM0000). In the situation where a manager is required to perform duties which would be considered different than managerial responsibilities should record their time under the new TAC ZG0061. Support staff that are performing Japan events should use TAC's that relate to their normal responsibilities. In the situation where administrative support staff is required to perform duties that would be considered different than routine administrative support responsibilities should record their time under the new TAC ZG0061.

If you have any additional questions please e-mail Jackie Jones Jackie.Jones@NRC.GOV or Mary Matheson at Mary.Matheson@NRC.GOV.

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Dean, Bill

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; 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: *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

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

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Matakas, Gina

From: OPA Resource
Sent: Friday, March 18, 2011 5:13 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: NRC Informs U.S. Nuclear Power Plants on Japan Earthquake's Effects
Attachments: 11-052.pdf

Attached for immediate release.

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

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NRC NEWS

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

No. 11-051 March 18, 2011

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.

###

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.

King, Mark

From: Roth(OGC), David
Sent: Friday, March 18, 2011 1:10 PM
Subject: Japan Earthquake Update (18 March 2011, 12:25 UTC)

http://www.iaea.org/newscenter/news/tsunamiupdate01.html

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Nelson, Robert

From: Nelson, Robert
Sent: Friday, March 18, 2011 1:18 PM
To: Roberts, Darrell; Lara, Julio; Kennedy, Kriss; Croteau, Rick
Cc: Hay, Michael; West, Steven; Shear, Gary
Subject: FYI: Heads up!!!! 50 mile EPZ
Attachments: QUAKE_TP_3_17.docx

From: Leeds, Eric
Sent: Friday, March 18, 2011 1:12 PM
To: Collins, Elmo; Dean, Bill; Satorius, Mark; McCree, Victor
Cc: Howell, Art; Pederson, Cynthia; Lew, David; Wert, Leonard; Nelson, Robert
Subject: Heads up!!!! 50 mile EPZ

FYI – We're working on a Q&A on the 50 mile EPZ issue. See below for details. We will keep checking to get it to you for your people as best we can.

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

From: Nelson, Robert
Sent: Friday, March 18, 2011 1:04 PM
To: Leeds, Eric
Subject: FYI: Talking Points (3-17 (7:30 p.m. EDT))

Attached is the latest that I have. See the status below from the Liaison Team. I'll share status with my regional contacts.

NELSON

From: LIA06 Hoc
Sent: Friday, March 18, 2011 12:43 PM
To: Nelson, Robert
Subject: RE: Talking Points (3-17 (7:30 p.m. EDT))

Yes Bob, we are engaged. The decision is not to share details on the basis for the EPZ outside of the federal family yet. I asked Rich Turtil to put together a proposal of what information should be shared with the states by NRC, even thought DOE has the lead for communications with the states, and he and I will take it to the ET for consideration. That will probably happen later on today.

Mark Lombard
Liaison Team Director
U.S. Nuclear Regulatory Commission
Operations Center

From: Nelson, Robert
Sent: Friday, March 18, 2011 12:41 PM

132/AA

To: LIA06 Hoc
Subject: FYI: Talking Points (3-17 (7:30 p.m. EDT))

Mark Lombard:

There is a get deal of angst about getting the Q re: the 50 mike EPZ finalized & releasable. Is the Liaison Team involved? If so, what's the status. If not, who should I talk to?

NELSON

From: Markley, Michael
Sent: Friday, March 18, 2011 11:35 AM
To: Nelson, Robert
Subject: FW: Talking Points (3-17 (7:30 p.m. EDT))

Attached are the draft OPA talking points.

From: LIA05 Hoc
Sent: Friday, March 18, 2011 9:44 AM
To: Markley, Michael
Subject: FW: Talking Points (3-17 (7:30 p.m. EDT))

Per your request.

FEMA REP Liaison
NRC Operations Center
(301) 816-5187

******~~FOR OFFICIAL USE ONLY~~******
DO NOT RELEASE OUTSIDE OF THE FEDERAL FAMILY

From: OST05 Hoc
Sent: Friday, March 18, 2011 9:43 AM
To: LIA05 Hoc
Subject: FW: Talking Points (3-17 (7:30 p.m. EDT))

From: OST05 Hoc
Sent: Friday, March 18, 2011 7:55 AM
To: Nguyen, Quynh; Meighan, Sean
Cc: LIA04 Hoc; Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Collins, Elmo; Dean, Bill; 'Heck, Jared'; McCree, Victor; Pederson, Cynthia; Satorius, Mark; Easson, Stuart; Flannery, Cindy; Lukes, Kim; Maupin, Cardelia; Noonan, Amanda; OST05 Hoc; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta
Subject: Talking Points (3-17 (7:30 p.m. EDT))

Sean and Quynh –

Please update the file on the Sharepoint site with the attached Talking Points.

Kim Lukes
State Liaison – Liaison Team

Nelson, Robert

From: Nelson, Robert
Sent: Friday, March 18, 2011 3:36 PM
To: LIA06 Hoc
Subject: RE: Talking Points (3-17 (7:30 p.m. EDT))

OK. I understand that the Liaison Team is not involved with this.

NELSON

From: LIA06 Hoc
Sent: Friday, March 18, 2011 3:33 PM
To: Nelson, Robert
Cc: LIA06 Hoc; Anderson, Joseph; Kahler, Robert
Subject: RE: Talking Points (3-17 (7:30 p.m. EDT))

You should probably work with the EP staff (Robert Kahler or Joe Anderson) in developing an appropriate response. The LT role is coordinating with our Federal partners.

Mark Thaggard
Liaison Team Director
U.S. Nuclear Regulatory Commission
Operations Center

From: Nelson, Robert
Sent: Friday, March 18, 2011 12:41 PM
To: LIA06 Hoc
Subject: FYI: Talking Points (3-17 (7:30 p.m. EDT))

Mark Lombard:

There is a get deal of angst about getting the Q re: the 50 mike EPZ finalized & releasable. Is the Liaison Team involved? If so, what's the status. If not, who should I talk to?

NELSON

From: Markley, Michael
Sent: Friday, March 18, 2011 11:35 AM
To: Nelson, Robert
Subject: FW: Talking Points (3-17 (7:30 p.m. EDT))

Attached are the draft OPA talking points.

From: LIA05 Hoc
Sent: Friday, March 18, 2011 9:44 AM
To: Markley, Michael
Subject: FW: Talking Points (3-17 (7:30 p.m. EDT))

Per your request.

FEMA REP Liaison

133/AA

NRC Operations Center
(301) 816-5187

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To: Nguyen, Quynh; Meighan, Sean
Cc: LIA04 Hoc; Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Collins, Elmo; Dean, Bill; 'Heck, Jared'; McCree, Victor; Pederson, Cynthia; Satorius, Mark; Easson, Stuart; Flannery, Cindy; Lukes, Kim; Maupin, Cardelia; Noonan, Amanda; OST05 Hoc; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta
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Kim Lukes
State Liaison – Liaison Team
Incident Response Center

Weaver, Tonna

From: Nelson, Robert
Sent: Friday, March 18, 2011 9:33 AM
To: Leeds, Eric; Boger, Bruce; Giitter, Joseph; Ruland, William
Cc: Howe, Allen; Markley, Michael
Subject: FYI: Comm Team SitRep

Got it. Right now RI is my biggest concern. We also have a number of Qs from RII to support their first EOC meeting on 3/24 @ Robinson.

Annie Kammerer has agreed to scrub her rather extensive draft seismic Q&A package to make it ready for OPA review. Annie works 3 - 11 so this effort probably won't conclude until Monday.

I only got my comm. team finalized late yesterday. We have a large number of Qs, not many As. We're still "learning the ropes" in many areas including leveraging and coordinating support from the Ops Center. I'm meeting with the comm. team later this AM to accelerate progress.

The Ops Center Liaison Team is already working on the response to the 50 mile Q. Markley is checking on status as I type this.

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Licensing action screening process is up and running thanks to the efforts of Harold Chernoff & his staff. Expect to process the first few today. Will keep you advised.

Received one FOIA request from the Associated Press seeking copies of all internal communications within the NRC (including the Chairman, four Commissioners and their staff members) pertaining to the Japanese Nuclear incidents caused by the March 11 earthquake and tsunami. This will impact many staff.

NELSON

-----Original Message-----
From: Leeds, Eric
Sent: Thursday, March 17, 2011 6:06 PM
To: Nelson, Robert
Subject: FYI: EOC MEETINGS

See below for situational awareness.

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

-----Original Message-----
From: Pederson, Cynthia
Sent: Thursday, March 17, 2011 10:13 AM
To: Dean, Bill; McCree, Victor; Leeds, Eric; Collins, Elmo; Satorius, Mark
Cc: Lew, David; Wert, Leonard; Howell, Art; West, Steven; Shear, Gary

134 | AA

Subject: RE: EOC MEETINGS

We are fortunate that we have a little more time than some of you in that our first "meetings" are April 5th and they are open houses. These locations (Monticello and Quad Cities) have had next to no local interest in the past though we expect some this year based on media questions coming in currently. We are planning to invite FEMA to at least some of our events. At this stage we are planning for PA support but are not planning on escalating management level of attendance. (Of course this could change as events unfold.)

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From: Dean, Bill
Sent: Thursday, March 17, 2011 9:08 AM
To: McCree, Victor; Leeds, Eric; Collins, Elmo; Satorius, Mark
Cc: Lew, David; Wert, Leonard; Pederson, Cynthia; Howell, Art
Subject: Re: EOC MEETINGS

Sounds like we are considering similar augmentation tactics. Of course Dave and I have already divvied up VY and Ind pt sites and we are looking to up the participation level elsewhere. Agree that we are making progress in getting a solidified agency message together.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

----- Original Message -----
From: McCree, Victor
To: Dean, Bill; Leeds, Eric; Collins, Elmo; Satorius, Mark
Cc: Lew, David; Wert, Leonard; Pederson, Cynthia; Howell, Art
Sent: Thu Mar 17 05:28:20 2011
Subject: Re: EOC MEETINGS

Thanks Bill - I understand your concerns, particularly regarding TMI. In fact, during one of my meetings with staff on yesterday, there was a collective groan when I mentioned that TMI would be your first EOC plant.

As you know, I strongly encouraged the creation of Q&As to better prepare our folks for the meetings. Given the Q&As and the Chairman's testimony yesterday, I feel like we're in a sufficient position in Region II (where we have a couple of facilities that will attract passionate and engaging stakeholders) to move forward with our meetings, as currently scheduled. FYI, we plan to have the Director or Deputy Director DRP participate in all of our EOC meetings. Also, either I or Len will participate in our 3 BWR site EOC meetings.

Vic

This email is being sent from an NRC Blackberry device.

----- Original Message -----
From: Dean, Bill
To: McCree, Victor; Leeds, Eric; Collins, Elmo; Satorius, Mark
Cc: Lew, David
Sent: Wed Mar 16 23:01:50 2011
Subject: RE: EOC MEETINGS

the downside is putting a branch chief, or even an SES manager in a position that they may not be comfortable being in, without adequate guidance/direction/information to provide a consistent and approved message. Until the chairman's testimony today, there has not been a single NRC representative interviewed in a televised media, and do we really want a branch chief to be that person. There is definitely a dichotomy between sites with high interest and what could be expected in terms of protests, media, intervenors, etc. and those that typically receive very little attention. I am suggesting that we ALL have a comfortable feeling that we

are appropriately prepared for this evolution. My Branch CHiefs at this point do not feel prepared. Perhaps the recent release of information associated with today;s testimony will help. I asked my team to make a decision by the end of week whether to postpone next thursday;s TMI meeting. I think we can all appreciate the significance that site holds relative to the history of nuclear power and its clear juxtaposition to the events of the past few days.

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i included dave lew in the email as he is acting for me the next few days.

From: McCree, Victor
Sent: Wednesday, March 16, 2011 10:33 PM
To: Leeds, Eric; Dean, Bill; Collins, Elmo; Satorius, Mark
Subject: EOC MEETINGS

Gents,

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Your thoughts?

Vic

This email is being sent from an NRC Blackberry device.

Nelson, Robert

From: Nelson, Robert
Sent: Friday, March 18, 2011 8:05 AM
To: Lewis, Robert
Subject: RE: Japanese Earthquake-related Information Notice

I've forwarded your request to cognizant staff in NRR/DPR.

NELSON

From: Lewis, Robert
Sent: Thursday, March 17, 2011 7:17 PM
To: Nelson, Robert; Piccone, Josephine; McIntosh, Angela
Subject: Fw: Japanese Earthquake-related Information Notice

Nelson

Not sure but nrc perhaps should include in the addressees, the state liaison officers. That will pull fsme (Josie Piccone's division) into the review/approval process

---

From: Caniano, Roy
To: Lewis, Robert
Sent: Thu Mar 17 17:52:04 2011
Subject: Fw: Japanese Earthquake-related Information Notice

From: Kennedy, Kriss
To: Collins, Elmo; Howell, Art; Caniano, Roy; Vegel, Anton; Pruett, Troy; Walker, Wayne; Miller, Geoffrey; Gaddy, Vincent; Lantz, Ryan; Clark, Jeff; Hay, Michael; Howell, Linda; Uselding, Lara
Sent: Thu Mar 17 17:37:24 2011
Subject: FW: Japanese Earthquake-related Information Notice

FYI –Draft of IN.

From: Nelson, Robert
Sent: Thursday, March 17, 2011 2:31 PM
To: Roberts, Darrell; Lara, Julio; Croteau, Rick; Kennedy, Kriss
Cc: West, Steven; Shear, Gary
Subject: FYI: Japanese Earthquake-related Information Notice

For info only. Trying to keep you up to date. We plan on completing concurrence on it this afternoon so that it will be ready for review by the Ops Center ET tonight.

NELSON

135/AA

Nelson, Robert

From: Nelson, Robert
Sent: Friday, March 18, 2011 9:33 AM
To: Leeds, Eric; Boger, Bruce; Giitter, Joseph; Ruland, William
Cc: Howe, Allen; Markley, Michael
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Eric J. Leeds, Director
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U.S. Nuclear Regulatory Commission
301-415-1270

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To: Dean, Bill; McCree, Victor; Leeds, Eric; Collins, Elmo; Satorius, Mark
Cc: Lew, David; Wert, Leonard; Howell, Art; West, Steven; Shear, Gary

136 | AA

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Dean, Bill

From: McNamara, Nancy
Sent: Friday, March 18, 2011 10:03 AM
To: LIA04 Hoc; OST05 Hoc; Maier, Bill; Logaras, Harral; Allard, David; Trojanowski, Robert
Cc: Dean, Bill; Lew, David
Subject: State of CT Requesting Input Parameters for Dose Projections

Please see the question below from the State of CT. Additionally, we were asked to pass along sentiments expressed yesterday to Region I on our SLO counterpart call with our States. There was a unison request for the input parameters that was used in RASCAL for us deriving the data information released to the public. Due to the significant role our States play in making protective action decisions, they have the technical background for interpreting data and are proficient on RASCAL or a similar type of dose projection model. They strongly expressed that they are not capable of explaining to their Governor's office the data that was released because they don't know what assumptions were used in our dose assessment model.

We used our talking point and it appeared to be unsatisfactory. Until otherwise directed, Region I will continue to work with the States to help them understand the NRC's position on not releasing the assumptions.

-----Original Message-----
From: Wilds, Edward [mailto:Edward.Wilds@ct.gov]
Sent: Thursday, March 17, 2011 8:07 PM
To: McNamara, Nancy; Tifft, Doug
Subject: Input Parameters for

I am watching a C-Span briefing of the Japanese Natural Disasters & Nuclear Plant Crisis that involved NRC Chairman Jaczko and a DOE official. One of the members of the press asked Chairman Jaczko if the NRC would release the data that was used to base the decision for evacuation of 50 miles in Japan. Chairman Jaczko stated that all the data was released. I request all input parameters used in the RASCAL runs attached to the yesterdays NRC press release. Since Chairman Jaczko has stated that the data used to base the decision was released to the public, it should be released to the states. If this information is not available, why is the Chairman stating to the press that all data has been released?

Dr. Wilds

Edward L. Wilds, Jr.; Ph.D.
Director, Radiation Division
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106
Ph.: 860-424-3029
Fax: 860-424-4065

137/AA

Dean, Bill

From: Dean, Bill
Sent: Friday, March 18, 2011 11:23 PM
To: Roberts, Darrell; Lew, David
Subject: Re: Region I comments on TI

Comprehensive but I think the comments reflect trying to make the TI more than it should be. For example, the comments on assessment of changes in seismic characteristics are premature. And we are adding things to address many of the questions that are being asked but are months if not years away from considering as the events in japan are digested methodically and systematically. I do agree that we ought to be taking a look at licensees' efforts in progress and use this to develop some data that will help answer other questions, but the ultimate goal of this TI is the assessment of INPO efforts and our ability to provide independent assessment of the quality and completeness of these efforts.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: Roberts, Darrell
To: Lew, David
Cc: Dean, Bill
Sent: Fri Mar 18 17:29:31 2011
Subject: FW: Region I comments on TI

FYI,

What we've sent to NRR as comments for the TI. I gave Ray my blessing and thought they were outstanding comments.

DJR

From: Powell, Raymond
Sent: Friday, March 18, 2011 5:19 PM
To: Kobetz, Timothy
Cc: Roberts, Darrell; Clifford, James; Weerakkody, Sunil; Wilson, Peter
Subject: Region I comments on TI
Importance: High

Tim:

Please see attached. I tried to limit redundant comments and apply some QA to it, but a one day turnaround kind of limits that.

The have OGC review is my comment - think we are on (or over) the line on treating an INPO document as proprietary.

I recieved (and agree with) numerous comments that say the guidance on documenting is not adequate. Also, I personally question the direction to include in a quarterly report. We can't be being told one day that MC&A inspections that touch on nothing sensitive (per regional council review) are to be withheld and treated as security-OUO and then on anther day be told to document essentially b.5.b type stuff in a quarterly report.

I'll check email periodically over weekend if you have any questions.

Take care.

Ray

138 | AA

Dean, Bill

From: Dean, Bill
Sent: Friday, March 18, 2011 12:02 PM
To: Lew, David
Subject: Re: Relief staffing for the Team in Japan

Ok. Assume we are in line with other regions.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: Lew, David
To: Dean, Bill
Sent: Fri Mar 18 11:58:45 2011
Subject: RE: Relief staffing for the Team in Japan

No, but there was a call requesting all offices and regions to respond by noon.

From: Dean, Bill
Sent: Friday, March 18, 2011 11:54 AM
To: Lew, David
Subject: Re: Relief staffing for the Team in Japan

They pushing us for more people??
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: Lew, David
To: Evans, Michele
Cc: Dean, Bill; Lorson, Raymond
Sent: Fri Mar 18 11:50:26 2011
Subject: Relief staffing for the Team in Japan

Michele,

We are still trying to get in touch with Todd Jackson to see if he is available to start on March 24th (the original timeframe was March 27th at the earliest). We will get back with you as soon as we hear back from him.

We have no other candidates to offer given the added communications/stakeholder challenges in Region I due to the Japan event, and having provided folks on the current team and likely Todd for the relief team. That said, we will revisit and shift priorities and workload if a gap exists after other offices have weighed in. For example, we would try to break Ray Lorson free, but then it would be only for two weeks and at a significant impact to the region.

Dave

139 | AA

Dean, Bill

From: Dean, Bill
Sent: Friday, March 18, 2011 11:38 PM
To: Barkley, Richard; McNamara, Nancy; Tifft, Doug
Cc: Lew, David; Wilson, Peter; Weerakkody, Sunil; Clifford, James; Roberts, Darrell
Subject: Fw: FEMA EPZ Fact Sheet
Attachments: Emergency Planning Zones.pdf

Will be useful in helping us reply to Mr. Astarino's letter.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: OST05 Hoc
To: McIntyre, David; Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Pederson, Cynthia; Satorius, Mark; Easson, Stuart; Flannery, Cindy; LIA04 Hoc; Lukes, Kim; Maupin, Cardelia; Noonan, Amanda; OST05 Hoc; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta
Sent: Fri Mar 18 10:19:51 2011
Subject: FEMA EPZ Fact Sheet

FYI –

Attached is a FEMA-generated fact sheet on EPZs that can be used for immediate use.

Kim Lukes
State Liaison – Liaison Team
Incident Response Center

140 | AA

EMERGENCY PLANNING ZONES

EPZs in Brief

Federal Emergency Management Agency (FEMA) and Nuclear Regulatory Commission (NRC) emergency preparedness planning guidance provides for two emergency planning zones (EPZs) for U.S. commercial nuclear power plants (NPPs):

- **Plume** Exposure Pathway (apx. 10 Miles in radius)
    - Designed to safeguard the population most at risk from **direct exposure** to radiation levels in excess of Environmental Protection Agency Protective Action Guidelines (PAGs)
- **Ingestion** Exposure Pathway (apx. 50 Miles in radius)
    - **Designed to pr**otect the public from **secondary exposure** to radiation through the food chain or public water supplies

The planning zones are intended to be scalable over time to account for changing conditions that could possibly extend outside the initial EPZ.

Specifically, NUREG-0654/FEMA-REP-1 states: "In a particular emergency, protective actions might well be restricted to a small part of the planning zone. On the other hand, for the worst possible accidents, protective actions would need to be taken outside the planning zones" (I.D., p.11) **i.e., the EPZs are the base areas requiring emergency planning – they are designed to be expanded (beyond the base of 10, 50 miles), as necessary, during emergencies**.

Note: The 10 & 50 mile EPZs are the Federally required minimum. FEMA and NRC regulations state that the exact size and shape of the EPZs shall be determined by the State and local governments – in consultation with FEMA and the NRC, taking into account such local conditions as demography, topography, land characteristics, access routes and local jurisdiction boundaries.(44 CFR § 350.7).

EPZ Evacuations

FEMA affirms that evacuation of the public is the preferred initial protective action in the event of a severe (core damage) emergency occurring (or likely to occur) at NPPs. Federal requirements for NPPs include the establishment of EPZs at 10 and 50-mile distances surrounding the site that detail evacuation routes. Evacuation planning includes the development and incorporation of periodic evacuation time estimate studies to inform evacuation strategies such that prompt and effective actions can be taken by offsite response organizations to protect the public in the event of a radiological emergency. This includes accounting for both permanent and transient populations, persons with disabilities and access/functional needs, those whose mobility may be impaired because of institutional or other confinement as well as provisions for the monitoring, decontamination and congregate care of evacuees, as necessary.

Where immediate evacuation of an affected population within the EPZ is not practical due to impediments (e.g., debris blocking evacuation routes, severe weather, etc.) or where evacuation could pose a greater potential health risk, temporary sheltering-in-place of the public is the preferred protective action. State, Tribal and local evacuation plans and

procedures for NPP communities are reviewed and approved by FEMA. While actual evacuations of the public are not required in biennial FEMA evaluations, appropriate demonstrations by State, Tribal and local response agencies to direct and control a public evacuation is assessed.

EPZs in Detail

The Emergency Planning Zone (EPZ) is the area surrounding an commercial nuclear power plant (NPP) for which plans/procedures have been made to ensure that prompt and effective actions are taken to protect the health and safety of the public in case of an incident at the NPP. The Federal Emergency Management Agency (FEMA) recognizes two types of EPZs for planning purposes: the plume exposure pathway EPZ and the ingestion exposure pathway EPZ. The characteristics of these two types of EPZs are summarized in Exhibit I. Each EPZ is a roughly circular area, with the NPP at the center.

The EPZs sizes represent a technical judgment based on the type and quantity of hazardous materials present (source term) and the potential risks where detailed planning is needed to ensure adequate response to an emergency. An EPZ may include more than one State. "Split" jurisdictions (i.e., part of the jurisdiction is included in the EPZ and part is not) also exist. In these cases, EPZ boundaries are determined based on consultation with all parties involved, including OROs, FEMA, and the NRC. In some cases, a conservative option is taken and the entire jurisdiction is included in the EPZ.

Exhibit I: Plume and Ingestion EPZ Characteristics

Type of EPZ	Exposure Sources	Size
Plume Exposure Pathway	• Whole-body external exposure to gamma radiation from the passing plume and from deposited material • Thyroid exposure through inhalation from the passing plume • Committed effective dose equivalent exposure to other critical organs through inhalation	Approximately 10-mile radius
Ingestion Exposure Pathway	• Ingestion of contaminated water or foods, such as milk, fresh vegetables, and aquatic foodstuffs, may result in increased risk of radiation-induced cancer to the thyroid, bone marrow, and other organs	Approximately 50-mile radius

The size of the **plume exposure pathway** EPZ, about 10 miles in radius, is based on the following considerations from NUREG-0654/FEMA-REP-1:

- Projected doses from traditional design-basis accidents/incidents would not exceed the Environmental Protection Agency Protective Action Guidline (PAG) levels outside the zone;
- Projected doses from most core damage sequences would not exceed PAG levels outside the zone;
- For the worst-case core damage sequences, immediate life-threatening doses would generally not occur outside the zone; and

- **Detailed planning within approximately 10 miles would provide a substantial base for expansion of response efforts to a larger area, if necessary.**

The size of the **ingestion exposure pathway** EPZ, about 50 miles in radius, including the 10-mile radius plume exposure pathway EPZ, is based on the following considerations:

- The downwind range within which contamination may potentially exceed the PAGs is limited to about 50 miles from an NPP because of wind shifts during the release and travel periods;
- Atmospheric iodine (i.e., iodine suspended in the atmosphere for long periods) may be converted to chemical forms that do not readily enter the ingestion pathway; and
- Much of the particulate material in a radioactive plume would have been deposited on the ground within about 50 miles from the NPP.

The likelihood of exceeding ingestion exposure pathway PAG levels at 50 miles is comparable to the likelihood of exceeding plume exposure pathway PAG levels at 10 miles.

Dean, Bill

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
Attachments: MA_03-18-2011_JapanBriefing.docx

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 Listserve. It was not posted to the live web.

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

141/AA

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.

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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.

Kolb, Timothy

From: JapanEmbassy, TaskForce [JapanEmbassyTaskForce@state.gov]
Sent: Friday, March 18, 2011 6:42 AM
To: Cherry, Ronald C; JapanEmbassy, TaskForce; Young, Joseph M; Alan Remick; Aleshia Duncan; Cook, William; Smith, Brooke; Casto, Chuck; Damian Peko; Duncan, Aleshia D; Howard, E. Bruce; Foster, Jack; Trapp, James; James Trapp (BB); Joe Hughart; Joe Hughart (DART); Monninger, John; Johnstone, Gregg M; Foggie, Kirk; Mears, Jeremy M; Morales, Russell A; Devercelly, Richard; Kolb, Timothy; Nakanishi, Tony; Ulses, Anthony
Subject: RE: MOD contact on nuclear issue: Yoshihisa Sato

satouyosh@mod.go.jp

Tim Hefner, U.S. Emb Pol-Mil
03-3224-5541
hefnertb@state.gov

This email is UNCLASSIFIED.

From: Cherry, Ronald C
Sent: Friday, March 18, 2011 5:44 PM
To: JapanEmbassy, TaskForce; Young, Joseph M; Alan Remick; Aleshia Duncan; Bill Cook; Brooke Smith; Chuck Casto; Damian Peko; Duncan, Aleshia D; Howard, E. Bruce; Jack Foster; James Trapp; James Trapp (BB); Joe Hughart; Joe Hughart (DART); John Monninger; Johnstone, Gregg M; Kirk Foggie; Mears, Jeremy M; Morales, Russell A; Rick Devercelly; Tim Kolb; Tony Nakanishi; Tony Ulses
Subject: MOD contact on nuclear issue: Yoshihisa Sato

All:

I've been informed that **Mr. Yoshihisa Sato, Major, Policy Division, MOD** will be in charge coordinating the flow of information between TEPCO and the Kantei.

This is Mr. Sato's contact info:

Mr. Yoshihisa Sato
Major, Policy Division, The Ministry of Defense
TEL: 03-3268-3111 (extension 21251)

This email is UNCLASSIFIED.

This email is UNCLASSIFIED.

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Matakas, Gina

From: McNamara, Nancy
Sent: Friday, March 18, 2011 3:55 PM
To: Lew, David; Dean, Bill; Schmidt, Wayne; Roberts, Darrell; Wilson, Peter; Weerakkody, Sunil; Gray, Mel
Subject: NRC's Blog Posting Re: MSNBC Article

I forwarded to our Stakeholders, particularly, NY, the following NRC blog posting:

"Many news reports during this chaotic week have questioned the safety of U.S. nuclear power plants in the wake of the terrible events in Japan. These reports raise questions about the design of reactor containments and spent fuel pools, and of course whether our plants would be able to withstand an earthquake and tsunami like the ones that devastated Japan.

Nuclear power is a complicated, technical subject, and we naturally try to simplify it to make it understandable to the general public. Sometimes, however, simplification leads to misunderstanding, and misunderstanding causes fear.

One example was a so-called "investigative report" on MSNBC.com that ranked nuclear power plants according to their "vulnerability" to major earthquakes. The reporter concluded that the Indian Point plant, 24 miles north of New York City, was "the most vulnerable" in the nation. Instant headlines. You may have heard a local news report that your neighborhood nuclear plant ranked "on the NRC's Top Ten List" of the plants most likely to tumble in a temblor.

Let's be clear: The NRC does not rank nuclear power plants according to their vulnerability to earthquakes. This "ranking" was developed by the MSNBC.com reporter using partial information and we believe an even more partial understanding of how we evaluate plants for seismic risk. Each plant is evaluated individually according to the geology of its site, not by a "one-size-fits-all" model – therefore such rankings or comparisons are highly misleading.

We are also frequently asked whether Plant A can withstand a quake of magnitude X. The reporters always want a yes-or-no answer, but again, it's not that simple. Nuclear plants are designed to withstand a certain level of "ground shaking," to use a technical term. But the way the ground shakes in an earthquake is a factor of the magnitude and the distance from the epicenter, among other things. So we can't give a simple answer to such a simple question.

Each plant is built to the circumstances that exist at its location – including earthquakes, floods and tsunamis. For example, at nuclear plants along the Atlantic and Gulf Coasts, the greatest water threat is hurricane storm surge, not a tsunami. Moreover, there is only one fault, near the northwest U.S. coast, that is similar to the fault in Japan, and there are no nuclear plants nearby. The closest coastal plant to that fault is well-protected against tsunami.

Over the last few years, the NRC has reassessed nuclear plants in the central and eastern United States for their vulnerability to earthquakes, using new seismic data developed by geologists. The study's preliminary work has shown that a few plants might have stronger ground motions than originally thought, although still within the plants' safety margins. These plants will do more research once more detailed analytical models are available later this year.

This is a complex issue that does not always lend itself to simple yes and no answers. Bottom line: the NRC does not rank plants on seismic risk. Plants in this country continue to operate safely and securely."

Eliot Brenner
Public Affairs Director

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Matakas, Gina

From: Jackson, Donald
Sent: Friday, March 18, 2011 8:46 PM
To: Dean, Bill; Lew, David; Wilson, Peter; Roberts, Darrell; Collins, Daniel; Lorson, Raymond; Baker, Pamela; Walker, Tracy; Clifford, James; Miller, Chris; Weerakkody, Sunil
Cc: Screnci, Diane; Sheehan, Neil; Trapp, James; McNamara, Nancy; Tifft, Doug; Hansell, Samuel; Hinson, Felicia; McKinley, Raymond; Rogge, John; Jackson, Donald
Subject: March 18, 2011- 2000- CA Briefing On Japan Reactor Accidents
Attachments: USNRC Earthquake-Tsunami Update 031811 1800EDT.pdf

Importance: High

The following is a synopsis of the briefing with changes or noteworthy items underlined:

Status of Fukushima Daiichi Units:

Unit 1-
No Significant Change

Unit 2-
No Significant Change

Unit 3-
No Significant Change, new photos of Unit 3 from west to east provided to in country team by TEPCO show massive structural and system damage to multiple levels of the reactor building. The photos are being analyzed by the team and General Electric to determine potential for extreme SFP damage, and whether or not the drywell head is intact.

Unit 4-
No Significant Change

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

Chairman on a conference call this evening with Naval Reactors and INPO, purpose of call unknown

Water sprays to Unit 3 having little or no impact

AMS flyovers have shown most deposition now north and west of plant with a narrow band where 13 miles from the site, the 4 day integrated dose to a member of the public would be 1 REM.....the 50 mile evacuation was a good call

NARAC has some calculations that may should meaningful I-131 uptake is possible in the Aleutian Islands, more work being done

San Onofre and Diablo Canyon may have detected small amounts of I-131....being confirmed

Large press contingent has confirmed plans to be at Monday Commission meeting.

VR
Don Jackson
Chief- Region I DRP PB5

144/AA

(610) 337-5306

Matakas, Gina

From: McNamara, Nancy
Sent: Friday, March 18, 2011 8:05 AM
To: Schmidt, Wayne; Gray, Mel; Wilson, Peter; Roberts, Darrell
Cc: Lew, David; Dean, Bill
Subject: Just Released: OPA's Talking Point on the MSNBC Article

- In response to MSNBC report ranking US NPPs according to vulnerability to earthquakes: The NRC does not rank nuclear power plants according to their vulnerability to earthquakes. This "ranking" was developed by an MSNBC reporter using partial information and an even more partial understanding of how we evaluate plants for seismic risk. Each plant is evaluated individually according to the geology of its site, not by a "one-size-fits-all" model - therefore such rankings or comparisons are highly misleading.

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Matakas, Gina

From: OST05 Hoc
Sent: Friday, March 18, 2011 7:55 AM
To: Nguyen, Quynh; Meighan, Sean
Cc: LIA04 Hoc; Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Pederson, Cynthia; Satorius, Mark; Easson, Stuart; Flannery, Cindy; Lukes, Kim; Maupin, Cardelia; Noonan, Amanda; OST05 Hoc; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta
Subject: Talking Points (3-17 (7:30 p.m. EDT))
Attachments: QUAKE_TP_3_17.docx

Sean and Quynh –

Please update the file on the Sharepoint site with the attached Talking Points.

Kim Lukes
State Liaison – Liaison Team
Incident Response Center

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Quake_TP_3_17.docx

OPA

TALKING POINTS

JAPAN NUCLEAR SITUATION

As of 3/17/2011 7:30 p.m. EDT

Update: Addition of bullets on expanding EPZ to 50 miles, and response to news report ranking plants by vulnerability to earthquakes.

- Based on calculations performed by NRC experts, 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.

- The 10-mile EPZ reflects the area where projected doses from design basis accidents at nuclear power plants would not exceed the EPA's protective action guidelines, and we are confident that it would be adequate even for severe accidents. However, the 10-mile zone was always considered a base for emergency response that could be expanded if the situation warranted. The situation in Japan, with four reactors experiencing exceptional difficulties simultaneously, creates the need to expand the EPZ beyond the normal 10-mile radius.

  We have said from the beginning of this crisis that the NRC would analyze this situation for any lessons that can be derived to improve our oversight of U.S. nuclear power plants. Emergency planning will be part of that review.

- Given the results of the monitoring and distance between Japan and Hawaii, Alaska, U.S. Pacific Territories and the U.S. West Coast, the NRC expects the U.S. to avoid any harmful levels of radioactivity. The NRC is aware of various internet postings depicting modeled radiation plumes for the ongoing events at the nuclear power plants in Japan. All of the models the NRC has seen are based on generic assumptions regarding the potential radiation release from the plants and as such are unable to predict actual radiation levels away from the site. The NRC is working closely with our federal partners to monitor radiation releases from the Japanese nuclear power plants.

- The NRC is working with other U.S. agencies to monitor radioactive releases from Japan and to predict their path.

- The NRC continues to believe, based on all available information, that the type and design of the Japanese reactors, combined with how events have unfolded, will prevent radiation at harmful levels from reaching U.S. territory.

- The Department of Energy has been designated the lead agency for communicating information to the States regarding monitoring of radiation heading toward or over the United States. The DOE's Lawrence Livermore National Laboratory (National Atmospheric Release Assessment Center) is monitoring weather patterns over the Pacific Ocean. The Environmental Protection Agency maintains air monitoring stations throughout the country and has reinforced its monitoring effort. DOE will provide aerial monitoring. Questions about this effort should be directed to DOE at 202 586 4940.

- [Status as of 9:35pm on 3/16] The NRC is closely monitoring information about the spent fuel pools as well as radiation levels at the Japanese nuclear power plants. Given the totality of the situation, the NRC's recommendation for U.S. residents within 50 miles of the Fukushima reactors to evacuate remains unchanged. That recommendation was based on actual radiation levels in the nuclear complex.

- In accordance with established protocols, U.S. Customs and Border Protection (CBP) employs several types of radiation detection equipment in its operations at both air and sea ports, and uses this equipment, along with specific operational protocols, to resolve any security or safety risks that are identified with inbound travelers and cargo. Out of an abundance of caution, CBP has issued field guidance reiterating its operational protocols and directing field personnel to specifically monitor maritime and air traffic from Japan. CBP will continue to evaluate the potential risks posed by radiation contamination on inbound travelers and cargo and will adjust its detection and response protocols, in coordination with its interagency partners, as developments warrant.

- The Japanese government has formally asked for U.S. assistance in responding to nuclear power plant cooling issues triggered by an earthquake and tsunami on March 11. The NRC has eleven staff on the ground in Japan as part of the USAID team.

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

- The NRC is always looking to learn information that can be applied to U.S. reactors and we will analyze the information that comes from this incident. President Obama has directed the agency to conduct a comprehensive review of the safety of U.S. nuclear plants; the agency will do so.

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

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

- In response to MSNBC report ranking US NPPs according to vulnerability to earthquakes: The NRC does not rank nuclear power plants according to their vulnerability to earthquakes. This "ranking" was developed by an MSNBC reporter using partial information and an even more partial understanding of how we evaluate plants for seismic risk. Each plant is evaluated individually according to the geology of its site, not by a "one-size-fits-all" model - therefore such rankings or comparisons are highly misleading.

Dean, Bill

From: Dean, Bill
Sent: Friday, March 18, 2011 1:51 PM
To: Leeds, Eric
Cc: Lew, David
Subject: Re: Heads up!!!! 50 mile EPZ

Thanks Eric. As an ex-director of EP I am sure you can relate strongly to this issue.
Bill Dean
Regional Administrator
Region I, USNRC
Sent from NRC BlackBerry

From: Leeds, Eric
To: Collins, Elmo; Dean, Bill; Satorius, Mark; McCree, Victor
Cc: Howell, Art; Pederson, Cynthia; Lew, David; Wert, Leonard; Nelson, Robert
Sent: Fri Mar 18 13:11:42 2011
Subject: Heads up!!!! 50 mile EPZ

FYI – We're working on a Q&A on the 50 mile EPZ issue. See below for details. We will keep checking to get it to you for your people as best we can.

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

From: Nelson, Robert
Sent: Friday, March 18, 2011 1:04 PM
To: Leeds, Eric
Subject: FYI: Talking Points (3-17 (7:30 p.m. EDT))

Attached is the latest that I have. See the status below from the Liaison Team. I'll share status with my regional contacts.

NELSON

From: LIA06 Hoc
Sent: Friday, March 18, 2011 12:43 PM
To: Nelson, Robert
Subject: RE: Talking Points (3-17 (7:30 p.m. EDT))

Yes Bob, we are engaged. The decision is not to share details on the basis for the EPZ outside of the federal family yet. I asked Rich Turtil to put together a proposal of what information should be shared with the states by NRC, even thought DOE has the lead for communications with the states, and he and I will take it to the ET for consideration. That will probably happen later on today.

Mark Lombard
Liaison Team Director
U.S. Nuclear Regulatory Commission
Operations Center

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From: Nelson, Robert
Sent: Friday, March 18, 2011 12:41 PM
To: LIA06 Hoc
Subject: FYI: Talking Points (3-17 (7:30 p.m. EDT))

Mark Lombard:

There is a get deal of angst about getting the Q re: the 50 mike EPZ finalized & releasable. Is the Liaison Team involved? If so, what's the status. If not, who should I talk to?

NELSON

From: Markley, Michael
Sent: Friday, March 18, 2011 11:35 AM
To: Nelson, Robert
Subject: FW: Talking Points (3-17 (7:30 p.m. EDT))

Attached are the draft OPA talking points.

From: LIA05 Hoc
Sent: Friday, March 18, 2011 9:44 AM
To: Markley, Michael
Subject: FW: Talking Points (3-17 (7:30 p.m. EDT))

Per your request.

FEMA REP Liaison
NRC Operations Center
(301) 816-5187

******~~FOR OFFICIAL USE ONLY~~******
DO NOT RELEASE OUTSIDE OF THE FEDERAL FAMILY

From: OST05 Hoc
Sent: Friday, March 18, 2011 9:43 AM
To: LIA05 Hoc
Subject: FW: Talking Points (3-17 (7:30 p.m. EDT))

From: OST05 Hoc
Sent: Friday, March 18, 2011 7:55 AM
To: Nguyen, Quynh; Meighan, Sean
Cc: LIA04 Hoc; Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Collins, Elmo; Dean, Bill; 'Heck, Jared'; McCree, Victor; Pederson, Cynthia; Satorius, Mark; Easson, Stuart; Flannery, Cindy; Lukes, Kim; Maupin, Cardelia; Noonan, Amanda; OST05 Hoc; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtil, Richard; Virgilio, Rosetta
Subject: Talking Points (3-17 (7:30 p.m. EDT))

Sean and Quynh –

Please update the file on the Sharepoint site with the attached Talking Points.

Kim Lukes
State Liaison – Liaison Team
Incident Response Center

Raione, Richard

From: Bagchi, Goutam
Sent: Monday, April 18, 2011 11:55 AM
To: Cook, Christopher; Raione, Richard
Cc: Jones, Henry; Ahn, Hosung
Subject: Tsunami Article: Web Link

FYI, web link,

http://www.oregonlive.com/today/index.ssf/2011/04/surveying_what_survived_the_quake_and_tsunami_--_and_what_didnt_oregonian_in_japan.html

Thank you,
Goutam

Raione, Richard

From: Chokshi, Nilesh
Sent: Tuesday, April 19, 2011 1:43 PM
To: Raione, Richard
Subject: RE: Task Force 4/13 Mtg - Draft summary

Thanks, Richard. This is useful.

From: Raione, Richard
Sent: Tuesday, April 19, 2011 1:42 PM
To: Chokshi, Nilesh
Subject: FW: Task Force 4/13 Mtg - Draft summary

I asked Peter and Ken to provide a summary.

From: Chaput, Peter
Sent: Thursday, April 14, 2011 1:22 PM
To: NRO_DSER_RHEB Distribution
Cc: Clayton, Brent
Subject: Task Force 4/13 Mtg - Draft summary

Ken and I were present at a Task Force meeting as support for the Balance of Plant branch and at the request of George Wilson (NRC Dam Safety Officer). There were two major flooding sources discussed – external or natural phenomena and internal or equipment failure (e.g. fire protection piping failure). See attached scanned copy of the handout.

Several issues arose that relate to the "more frequent and planned inter-branch communications" branch goal. These included:

1) Temporary flood protection measures: sand bags or other similar systems being used as a more permanent solution and analysis of survivability of such temporary systems under varying conditions (e.g. sand bags protecting the fuel pits in STP when the DBF is a high energy dam failure that may directly impact the sand bags).
2) External flood protection barriers versus internal flood protection barriers: It was apparent that external flood doors may sometimes "slip through the cracks" of reviews, specifically since it may not be conveyed to the appropriate technical lead that a site is dry or wet. Internal flooding reviewers are not responsible for verifying the door operation; structural reviewers will if told to, but it is not clear if that is always the case.
3) There have been operating instances where building penetration seals were not watertight and allowed flooding. This may be checked when it is a below ground penetration, but if groundwater exceeds the 1' below requirement or if an above ground penetration is exposed to water, this may be missed.
4) Some non-safety related systems may not be protected per 2.4.10, however, could have paths to safety related systems (may not be likely in new reactor designs).

Pete(r) Chaput, PE
Hydrologist
U.S. Nuclear Regulatory Commission
11545 Rockville Pike, MS: T7 E18
Rockville, MD 20852
T: 301-415-6894

Brown, Frederick

From: Kammerer, Annie
Sent: Saturday, March 19, 2011 5:25 PM
To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc
Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Giitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Nilesh; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffry; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Eliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan, Vincent; Bergman, Thomas; Webb, Michael; Manoly, Kamal; Khanna, Meena; Screnci, Diane; Thomas, Eric; Nguyen, Quynh; Meighan, Sean; 'FOIAResource.hoc@nrc.gov'
Subject: FAQ questions posted

All,

For your reading enjoyment, and in anticipation of the end of cycle meetings in the regions next week, the NRC has issued a press release announcing a publically available set of FAQs on the earthquake and tsunami.

I hope people find it helpful!

Cheers,
Annie

PS special thanks to Jennifer Uhle who stayed after her overnight shift in the Ops Center to review and provide outstanding comments that really improved the document.

From: Kammerer, Annie
Sent: Saturday, March 19, 2011 9:00 AM
To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc
Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Giitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Nilesh; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffry; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Eliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan, Vincent; Bergman, Thomas; Webb, Michael; Manoly, Kamal; Khanna, Meena; Screnci, Diane; Thomas, Eric; Nguyen, Quynh; Meighan, Sean; FOIAResource.hoc@nrc.gov
Subject: Seismic Q&As March 19th 8am update

All,

Here is today's updated version. Lot of new fact sheets have been prepared for various briefings and for Monday's public meeting!

However, the big news of the day is that we just sent off a 6 page, 22 question, much better edited version for a public Q&A set. It's all in OPA's capable hands now. I think it's pretty good...but then I'm biased.

150/AA

Roche, Kevin

From: Joe Colvin [president@ans.org]
Sent: Saturday, March 19, 2011 7:52 AM
To: Roche, Kevin
Subject: Arranging In-State Meetings With Your Senators/Members of Congress
Attachments: Mar 18_Info sources2.pdf

Dear ANS Members,

We are all saddened by the catastrophic earthquake and tsunami in Japan and the resulting damage to the Fukushima Daiichi Nuclear Station. As we move forward, it is critically important that we work together to ensure that our federal policy makers have accurate information about nuclear technology and radiation.

Your Senators and Members of Congress are returning to their States and Districts next week, and I encourage you to schedule a meeting with them while they are back home. They need to know they have constituents with nuclear related technical expertise who can help them make sense of this very complex and dynamic situation in Japan.

I suggest you take these steps:

1. Find the phone numbers of your Senators' state offices by accessing their website here <http://www.senate.gov/general/contact_information/senators_cfm.cfm>. You can find your Member of Congress' district office by clicking here <http://www.house.gov/zip/ZIP2Rep.html>.

2. Call their scheduler and ask for an appointment. Let them know you are a constituent and a member of the American Nuclear Society with knowledge relevant to technical aspects of the situation in Japan. If you are offered a meeting with staff, accept.

3. Once you have an appointment, arm yourself with information. Unfortunately, we cannot provide you with up-to-date talking points since the situation itself is so fluid. Instead, your role is to help the member understand some of the many technical issues, learn about their concerns and share your expertise. Below are some reliable sources of information, which are being updated regularly:

* American Nuclear Society Japan Page ansnuclearcafe.org

* Nuclear Energy Institute www.nei.org

* World Nuclear News www.world-nuclear-news.org

* ANS Radiation Dose Chart www.new.ans.org/pi/resources/dosechart/

* NHK Television www3.nhk.or.jp/nhkworld/index.html

* Japan Times www.japantimes.co.jp

4. On the day of the meeting,

1511 AA

* Be prompt and patient. It is not uncommon for a member of Congress to be late or to have a meeting interrupted due to a crowded schedule.

* Be grateful. Make sure you open the conversation by thanking the members/staff for his/her time, and send a handwritten thank you note afterwards.

* Be honest. The situation in Japan is a difficult one. Don't feel the need to provide "spin." Stick to the facts as you know them and don't be afraid to say that you do not know the answer to a question. The goal is to be a technical resource for them to contact in the future and let them know your support for NS&T in general.

* Be responsive. Make sure you follow up promptly if the member/staff has asked you to provide any additional information or analysis. Contact us at japanfacts@ans.org if you need help.

Again, your goal is to be a technical resource to your Senators/Representative and their staffs, providing perspective and correcting misperceptions without sugarcoating the situation.

Finally, we encourage you to send ANS a message to let us know how your meeting went. Send an e-mail to japanfacts@ans.org with the subject line "MEETING."

Any help you can give would be greatly appreciated.

Joe Colvin
ANS President

Attachment: Information About Conditions in Japan, March 18, 2011

AMERICAN NUCLEAR SOCIETY

555 North Kensington Avenue
La Grange Park, Illinois
60526-5592 USA

Tel: 708/ 352-6611
E-Mail: NUCLEUS@ans.org
http://www.ans.org
Fax: 708/ 352-0499

Information about Conditions in Japan

March 18, 2011

Humanitarian Assistance

- American Nuclear Society Japan Relief Fund www.ans.org/relief
- U.S. Agency for International Development www.usaid.gov
- U.S. State Department www.state.gov
- U.S. Red Cross www.redcross.org

News Updates on Japan's Nuclear Crisis

- American Nuclear Society www.ans.org
- Nuclear Energy Institute www.nei.org
- World Nuclear News www.world-nuclear-news.org

Understanding Radiation Measurements

- ANS Radiation Dose Chart (interactive) www.ans.org/pi/resources/dosechart/
- ANS Radiation Dose Chart (in print form) www.ans.org/pi/resources/dosechart/docs/dosechart.pdf

English Language News in Japan

- NHK Television www3.nhk.or.jp/nhkworld/index.html
- Japan Times www.japantimes.co.jp

About the American Nuclear Society

The American Nuclear Society is a not-for-profit, international, scientific and educational organization. It was established by a group of individuals who recognized the need to unify the professional activities within the diverse fields of nuclear science and technology. December 11, 1954, marks the Society's historic beginning at the National Academy of Sciences in Washington, D.C. ANS has since developed a multifarious membership composed of approximately 11,000 engineers, scientists, administrators, and educators representing 1,600 plus corporations, educational institutions, and government agencies. It is governed by four officers and a board of directors elected by the membership.

Howe, Allen

From: Howe, Allen
Sent: Saturday, March 19, 2011 9:11 PM
To: Andersen, James; Borchardt, Bill
Cc: Weber, Michael; Virgilio, Martin; Leeds, Eric
Subject: RE: Meeting with Chairman's Staff

Jim - I think that you captured the essence. The thought on the industry meeting was to have them tell their story on what they plan is response to the event in Japan.

Allen

From: Andersen, James
Sent: Saturday, March 19, 2011 8:30 PM
To: Borchardt, Bill
Cc: Weber, Michael; Virgilio, Martin; Leeds, Eric; Howe, Allen
Subject: Meeting with Chairman's Staff

Bill,

Allan and I met with the Chairman's staff this afternoon, Eric was there until 2:00pm. The subject was the slides and agenda planning meeting (11:00am meeting). I already passed on the latest version of the slides, regarding agenda planning, Angela went over all the upcoming Commission meetings and papers. They are going to recommend to the Chairman that the 50.46, ITAAC, and Cumulative Effects meeting be canceled. The Commission would still review and vote on the 50.46 and ITAAC papers, since the CER paper was for information, no vote is needed.

They wanted the staff opinion on whether to delay the future EP rule and GEIS papers, I will follow up with NRR. They wanted to limit burden on the staff and Commission offices.

They also discussed setting up additional meetings on some of the topics Marty discussed in his e-mail. The initial thought was to have multiple papers and/or Commission meetings in the near-term. After some discussions, and a little pushback from Allen and I, where we ended up was a Commission meeting in approximately 45 days on the 30 day quick look report that you proposed, a Commission meeting in approximately 90+ days on the 90 day report, and an external panel only Commission meeting in approximately 60 days (INPO, NEI, UCS, indiustry), no NRC panel. We also discussed a series of TA briefings on Marty's proposed topics, depending on what the Commission wanted to hear about. Angela was going to talk with the Chairman on this proposal, not sure where he will end up.

Just wanted to make you aware.

Allen and Eric, please add in if I have missed something.

Jim A.

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From:	Kenagy, W David
To:	Kenagy, W David; McClelland, Vince; Rodriguez, Veronica; Heinrich, Ann; HOO Hoc; HOO2 Hoc; Huffman, William; DeCair.Sara@epamail.epa.gov; timothy.greten@dhs.gov; Maria.Marinissen@hhs.gov; OPSSOO@js.pentagon.mil; doehqeoc@oem.doe.gov; hhs.soc@hhs.gov; James.Kish@dhs.gov; HOO Hoc; Smith, Brooke; Zubarev, Jill E; Shaffer, Mark R; NITOPS@nnsa.doe.gov; Skypek, Thomas M; John J. Szymanski@ostp.eop.gov
Subject:	RE: IAEA distributed documents
Date:	Sunday, March 20, 2011 10:35:48 AM
Attachments:	J36 pictures (Japanese) of plant parameters related to NISA 36 news release.pdf J36 Plant Parameters (Japanese) related to NISA 36 news release.pdf J36 Monitoring data (Japanese) related to NISA 36 news release.pdf J36 NISA METI Press Release 36 (Japanese).pdf Meteo Products 2011-03-20 1240 - RSMC Beijing.pdf Meteo Products 2011-03-20 1240 - RSMC Obninsk.pdf Meteo Products 2011-03-20 1240 - RSMC Tokyo.pdf Meteo Products 2011-03-20 1240 - Joint Statement.pdf

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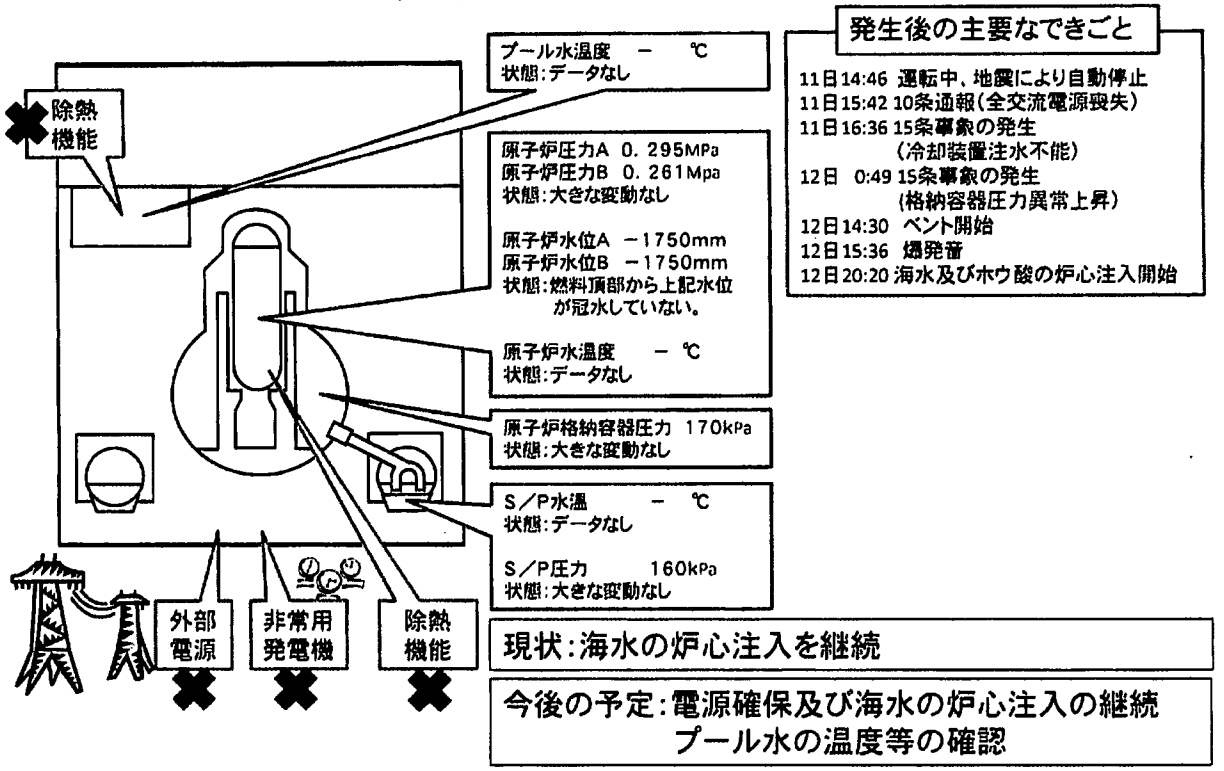
福島第一原子力発電所1号機の状況
（3月20日　14:00現在）

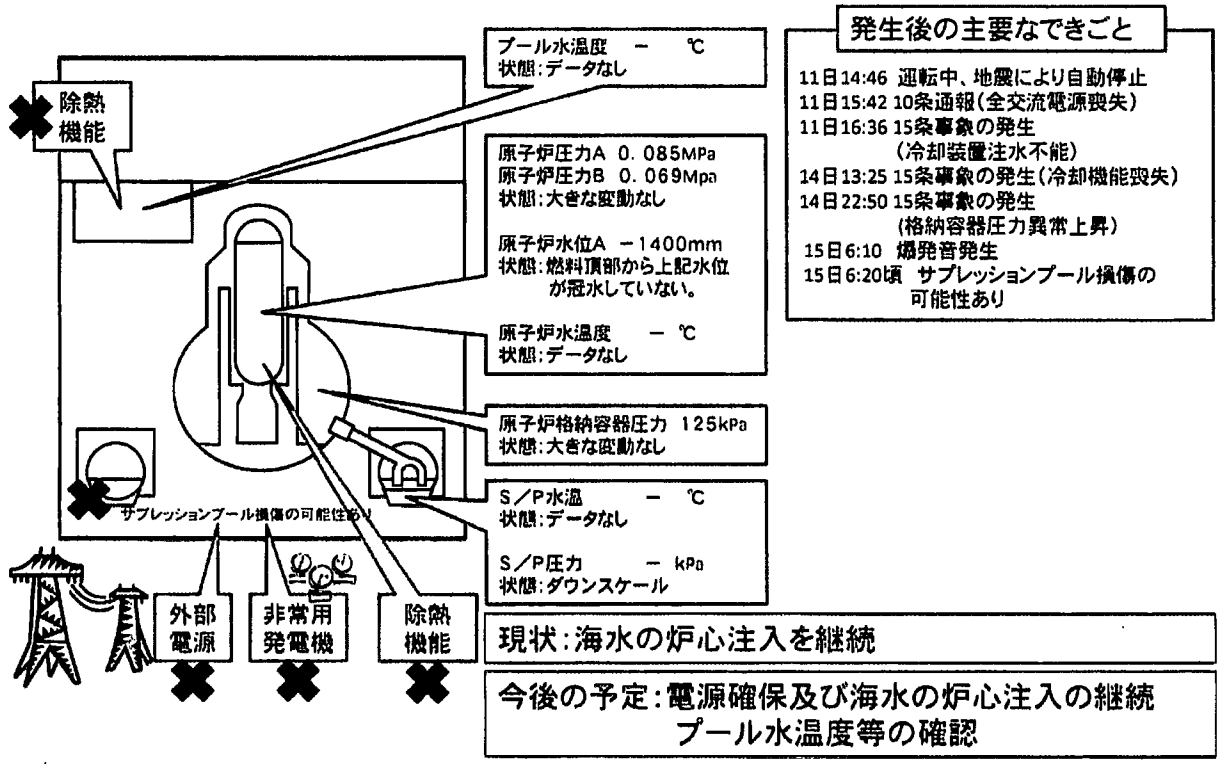


発生後の主要なできごと

11日14:46　運転中、地震により自動停止
11日15:42 10条通報(全交流電源喪失)
11日16:36 15条事象の発生
(冷却装置注水不能)
12日　0:49 15条事象の発生
(格納容器圧力異常上昇)
12日14:30　ベント開始
12日15:36　爆発音
12日20:20 海水及びホウ酸の炉心注入開始

原子力ハンドブック編集委員会,原子力ハンドブック

福島第一原子力発電所2号機の状況
（3月20日14:00現在）

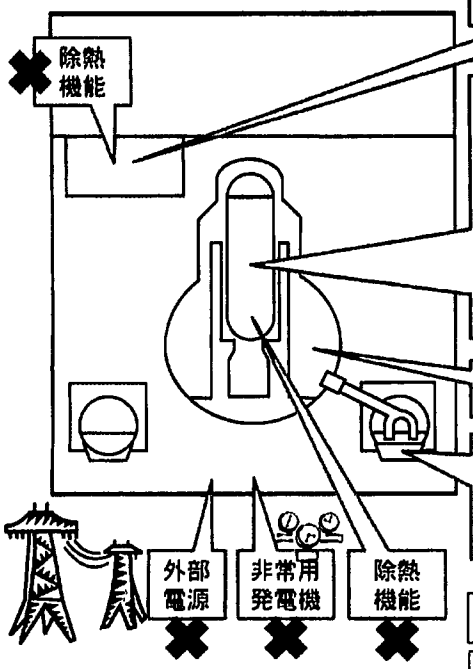


発生後の主要なできごと

11日14:46　運転中、地震により自動停止
11日15:42 10条通報(全交流電源喪失)
11日16:36 15条事象の発生
(冷却装置注水不能)
14日13:25 15条事象の発生(冷却機能喪失)
14日22:50 15条事象の発生
(格納容器圧力異常上昇)
15日6:10　爆発音発生
15日6:20頃　サプレッションプール損傷の
可能性あり

原子力ハンドブック編集委員会,原子力ハンドブック

福島第一原子力発電所3号機の状況
（3月20日　14:00現在）



プール水温度　－　℃
状態：データなし

原子炉圧力C　0．250MPa
原子炉圧力B　0．290Mpa
状態：上昇傾向

原子炉水位A　－1950mm
原子炉水位B　－2350mm
状態：燃料頂部から上記水位が冠水していない。

原子炉水温度　－　℃
状態：データなし

原子炉格納容器圧力　310kPa
状態：上昇傾向

S／P水温　－　℃
状態：データなし

S／P圧力　400kPa
～オーバースケール

発生後の主要なできごと

11日14:46 運転中、地震により自動停止
11日15:42 10条通報（全交流電源喪失）
13日5:10 15条事象の発生
（冷却装置注水不能）
13日8:41 ベント開始
14日7:44 15条事象の発生
（格納容器圧力異常上昇）
11:01 爆発音
16日8:30頃 白煙が発生
17日9:48～10:01 自衛隊ヘリによる放水
（計4回）を実施
19:05～20:07 高圧放水車による散水
（警察1回、自衛隊5回）
18日14時前～14:38 自衛隊消防車6台による
地上放水
～14:45米軍消防車1台による地上放水
19日0:00～01:00 消防庁ハイパーレスキュー
による放水
14:10 放水2回目開始
20日03:40 放水作業終了

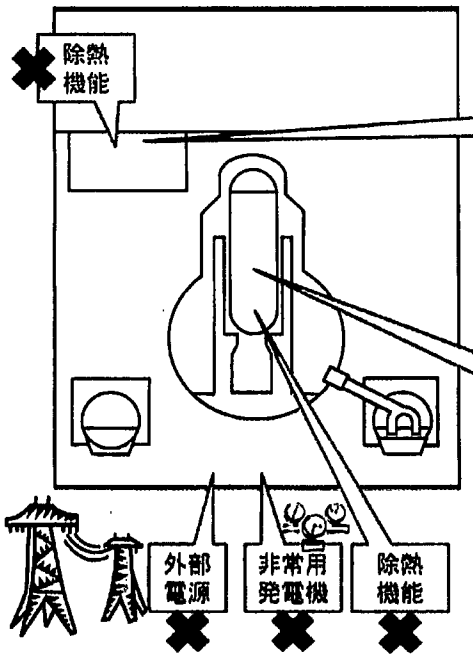
現状：プールへの放水作業及び海水の炉心注入を継続。

今後の予定：電源確保及び海水の炉心注入の継続。

原子力ハンドブック編集委員会,原子力ハンドブック

福島第一原子力発電所4号機の状況
（3月20日　14:00現在）

定検停止中



プール水温度は不明

原子炉内に燃料体なし

発生後の主要なできごと

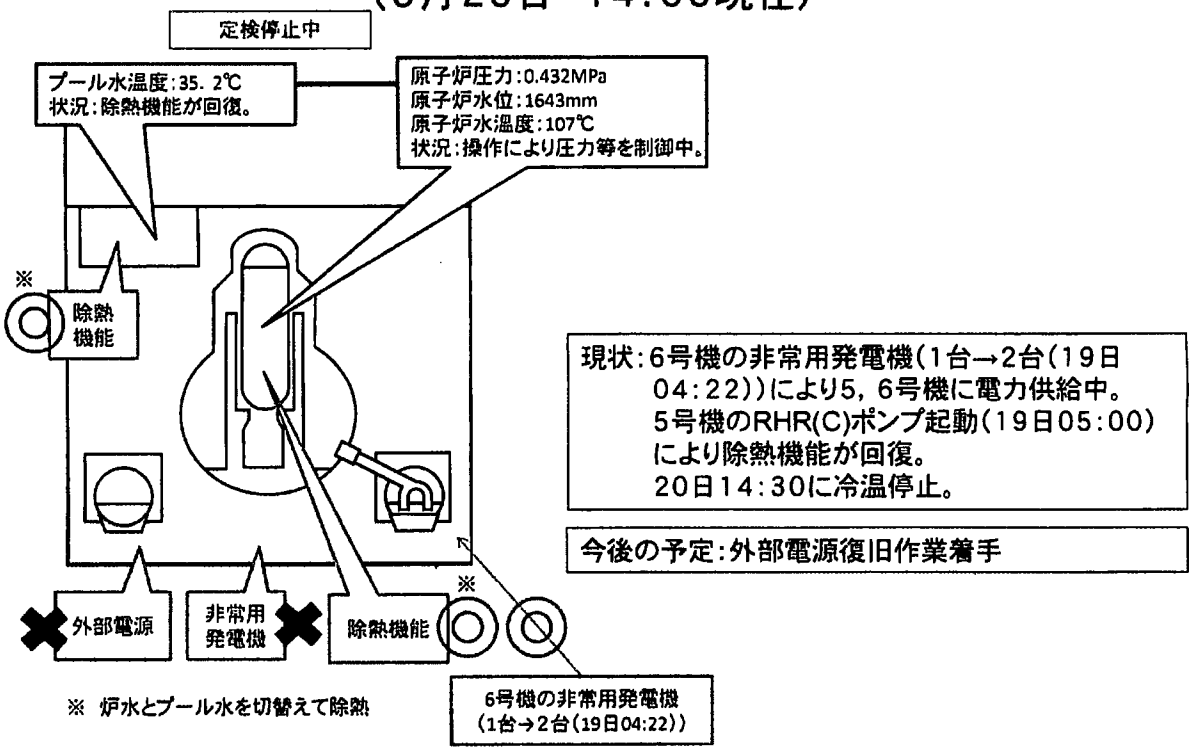
地震発生時、定期検査により停止中
11日 15:42　第10条通報（全交流電源喪失）
14日 4:08 使用済燃料プール温度84℃
15日 6:14　4Fの壁が一部破損の確認
15日 9:38 3階部分で火災(12:25鎮火)
16日 5:45 4号機で火災。事業者によると現場
での火は確認できず(6:15)

現状：原子炉圧力容器に燃料体が存在しない
プールには水が残っていると評価（東電）

今後の予定：電源の復旧

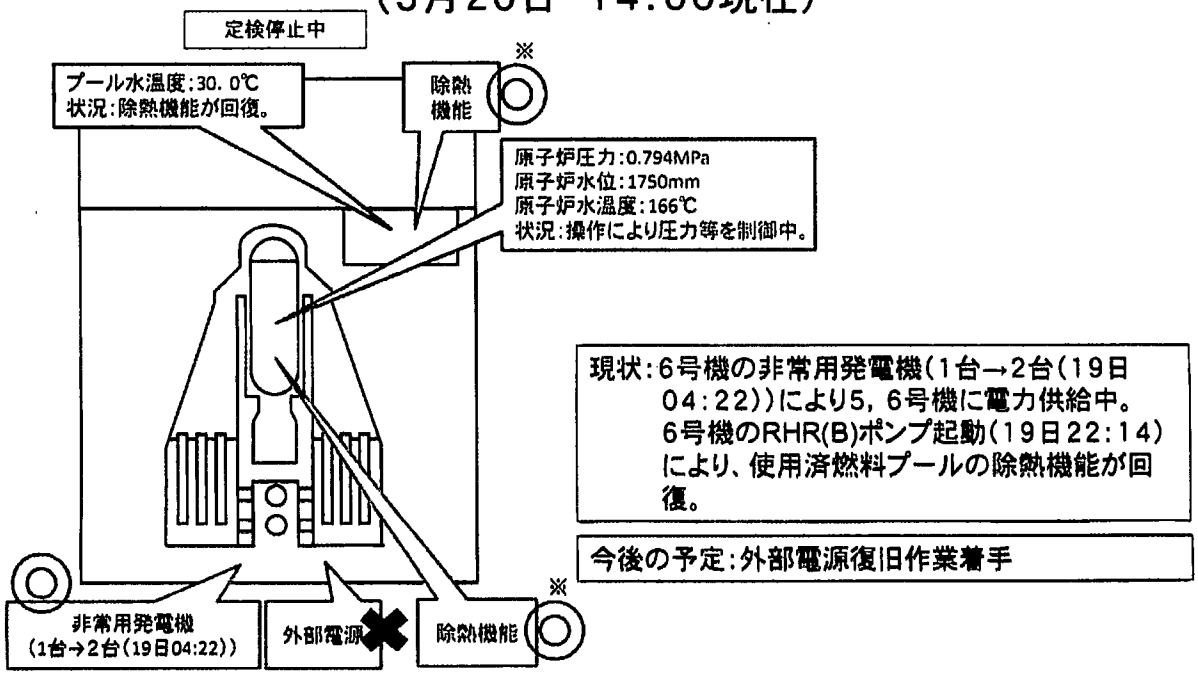
原子力ハンドブック編集委員会,原子力ハンドブック

福島第一原子力発電所5号機の状況
（3月20日　14:00現在）



原子力ハンドブック編集委員会,原子力ハンドブック

福島第一原子力発電所6号機の状況
（3月20日　14:00現在）



原子力ハンドブック編集委員会,原子力ハンドブック

福島第一原子力発電所　プラント関連パラメータ

3月20日　16:00現在

号機	1u	2u	3u	4u	5u	6u
注水状況	消火系ラインを用いた海水注入中。 流量 2m³/hr (本設計器)(3/20 15:00)	消火系ラインを用いた海水注入中。 流量 20m³/hr (本設計器)(3/20 15:00)	消火系ラインを用いた海水注入中。 流量 36m³/hr (本設計器)(3/20 16:00)	停止中	停止中	停止中
原子炉水位	燃料域A：−1700mm 燃料域B：−1750mm (3/20 15:00 現在)	燃料域A：−1400mm (3/20 15:00 現在)	燃料域A：−1650mm 燃料域B：−2000mm (3/20 16:00 現在)	−	停止域 2501mm (3/20 16:00 現在)	停止域 2376mm (3/20 16:00 現在)
原子炉圧力	0.187MPag (A) 0.158MPag (B) (3/20 16:00 現在)	−0.016MPag (A) −0.020MPag (B) (3/20 15:00 現在)	0.119MPag (C) 0.162MPag (B) (3/20 16:00 現在)	−	0.147MPag (3/20 16:00 現在)	0.690Mpag (3/20 16:00 現在)
原子炉水温度	−			−	76.5℃ (3/20 16:00 現在)	167.2℃ (3/20 16:00 現在)
D/W・S/C圧力	D/W 0.17 MPaabs S/C 0.16 MPaabs (3/20 15:00 現在)	D/W 0.125MPaabs S/C ダウンスケール (3/20 15:00 現在)	D/W 0.290MPaabs S/C ダウンスケール ~0.800MPaabs (3/20 16:00 現在)	−		
CAMS	D/W 1.20×10¹Sv/h S/C 4.00×10¹Sv/h (3/20 15:00 現在)	D/W 6.25×10⁻¹Sv/h S/C 2.13×10⁰Sv/h (3/20 15:00 現在)	D/W 7.17×10¹Sv/h S/C 2.00×10⁰Sv/h (3/20 16:00 現在)	−		
D/W設計使用圧力	384kPag	384kPag	384kPag	−		
D/W最高使用圧力	427kPag	427kPag	427kPag			
使用済燃料プール水温度	−	−	−	84℃ (3/14 4:08)	35.1℃ (3/20 16:00 現在)	28.0℃ (3/20 16:00 現在)
電源	1Aトリップ 1Bトリップ	2Aトリップ 2Bトリップ	3Aトリップ 3Bトリップ	4A 地絡時点検中 につき使用不可 4Bトリップ	5Aトリップ 5Bトリップ	6A 動作中 6B 動作中 HPCS トリップ
その他情報						

3月20日　福島第一(1F)　測定場所　①事務本館北(2号機より北西約0．5キロ)　②体育館付近(MP－5東側)(2号機より西北西約0．9キロ)
③西門付近 (MP-5付近)(2号機より西約1．1キロ)　④正門付近前(MP-6付近)(2号機より西南西約1．0キロ)

測定場所	①																						
モニタリングカー	7:20	7:30	7:40	7:50	8:00	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50	11:00
測定値(μSv/h)	2659.0	2652.0	2653.0	2637.0	2630.0	2629.0	2627.0	2625.0	2619.0	2617.0	2614.0	2614.0	2608.0	2623.0	2661.0	2742.0	2726.0	2608.0	2605.0	2596.0	2589.0	2583.0	2579.0
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	南南東	北東	北東	北	北東	北東	北東	東	北北東	東北東	東	東北東	南東	東南東	南南東	北東	南南東	東	東	北東	東	北東	東北東
風速(m/s)	0.6	0.6	0.8	0.9	1.3	1.3	1.5	1.3	1.5	1.4	1.2	1.2	1.0	1.0	1.5	1.2	1.2	1.1	1.2	1.3	0.7	1.3	1.4

測定場所	①																						
モニタリングカー	11:10	11:20	11:30	11:40	11:50	12:00	12:10	12:20	12:30	12:40	12:50	13:00	13:10	13:20	13:30	13:40	13:50	14:00	14:10	14:20	14:30	14:40	14:50
測定値(μSv/h)	2578.0	2569.0	2571.0	2562.0	2564.0	2559.0	2558.0	2552.0	2551.0	2551.0	2550.0	2567.0	2588.0	2660.0	2593.0	2654.0	2741.0	2768.0	2999.0	2923.0	3056.0	3202.0	3346.0
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	東北東	北東	東北東	北東	北東	東	南	南東	南東	北東	南東	東	南東	南東	南東	南東	南東	南東	南	南東	南東	南南東	南
風速(m/s)	1.8	1.5	1.4	1.2	1.3	1.3	1.1	1.2	1.0	1.1	1.3	1.5	1.4	1.6	1.7	1.8	2.0	1.6	1.7	1.8	1.9	2.3	2.1

測定場所	①									
モニタリングカー	15:00	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:30
測定値(μSv/h)	3054.0	3071.0	3342.0	3337.0	3003.0	3046.0	3171.0	2940.0	2851.0	2830.0
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	南南東	南	南	南	南	南南東	南	南	南	南南西
風速(m/s)	2.0	1.9	1.9	1.7	1.9	2.1	1.8	2.0	1.9	2.2

3月19日

福島第一(1F)　測定場所　①事務本館北(2号機より北西約0．5キロ)　②体育館付近(MP－5東側)(2号機より西北西約0．9キロ)
③西門付近 (MP-5付近)(2号機より西約1．1キロ)　④正門付近前(MP-6付近)(2号機より西南西約1．0キロ)

測定場所	①																						
モニタリングカー	18:50	19:00	19:10	19:20	19:30	19:40	19:50	20:00	20:10	20:20	20:30	20:40	20:50	21:00	21:10	21:20	21:30	21:40	21:50	22:00	22:10	22:20	22:30
測定値(μSv/h)	2978.0	2972.0	2965.0	2961.0	2957.0	2946.0	2941.0	2937.0	2931.0	2924.0	2917.0	2912.0	2909.0	2906.0	2906.0	2895.0	2891.0	2883.0	2880.0	2880.0	2876.0	2855.0	2854.0
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	西	西南西	西南西	西南西	西	西	西	西	西	西	西	西	西	西	西	西	西	西	西北西	東北東	西南西	西	西
風速(m/s)	4.4	4.1	3.2	2.7	2.8	2.7	2.2	2.6	3.1	2.6	2.5	2.6	3.1	3.4	3.4	2.3	1.8	2.0	2.2	1.2	0.8	1.0	2.0

測定場所	①							
モニタリングカー	22:40	22:50	23:00	23:10	23:20	23:30	23:40	23:50
測定値(μSv/h)	2847.0	2844.0	2841.0	2836.0	2828.0	2828.0	2826.0	2823.0
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	西北西	西	西	西北西	西	西北西	西北西	西
風速(m/s)	1.4	1.8	2.5	2.4	2.4	2.9	2.5	2.8

3月20日

福島第一(1F)　測定場所　①事務本館北(2号機より北西約0．5キロ)　②体育館付近(MP－5東側)(2号機より西北西約0．9キロ)
③西門付近 (MP-5付近)(2号機より西約1．1キロ)　④正門付近前(MP-6付近)(2号機より西南西約1．0キロ)

測定場所	①																						
モニタリングカー	0:00	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50	2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30	3:40
測定値(μSv/h)	2821.0	2814.0	2808.0	2805.0	2803.0	2791.0	2797.0	2794.0	2793.0	2788.0	2785.0	2781.0	2778.0	2773.0	2771.0	2767.0	2764.0	2761.0	2759.0	2745.0	2745.0	2741.0	2758.0
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	南西	南西	西	南西	西南西	西南西	北西	北西	西	北東	南西	西	南西	西北西	西	西	北西	北西	西北西	西南西	南東	北北東	西
風速(m/s)	4.5	3.7	2.8	3.5	3.0	3.4	4.6	3.2	3.0	2.9	2.1	2.5	1.8	2.1	1.6	1.8	1.5	2.3	2.1	1.0	1.1	1.0	1.1

測定場所	①					測定位置※14	③							測定位置※15	①								
モニタリングカー	3:50	4:00	4:10	4:20	4:30		4:40	4:50	5:00	5:10	5:20	5:30	5:40		5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10
測定値(μSv/h)	3185.0	2939.0	2771.0	2743.0	2739.0		273.2	271.8	271.2	270.9	270.4	269.8	269.5		2683.1	2679.0	2679.0	2677.0	2670.0	2654.0	2664.0	2661.0	2661.0
中性子	N.D	N.D	N.D	N.D	N.D		N.D	N.D	N.D	N.D	N.D	N.D	N.D		N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	南	西	北西	南	南西		北北西	北	北北西	西北西	北	北北東	北東		北	北東	北東	東北東	東北東	東北東	東	東北東	東南東
風速(m/s)	1.0	0.9	0.5	0.8	0.8		3.5	1.6	1.5	1.5	0.7	0.6	0.6		2.2	0.6	0.7	0.9	0.8	0.6	0.9	1.1	0.6

※14　西門付近 (MP-5付近)(2号機より西約1．1キロ)　※定点で測定するため移動
※15　事務本館北(2号機より北西約0．5キロ)　※放水活動による効果を測定するためにより近傍へ移動

3月19日　福島第一(1F)　測定場所　①事務本館北(2号機より北西約0．5キロ)　②体育館付近(MP－5東側)(2号機より西北西約0．9キロ)
③西門付近 (MP-5付近)(2号機より西約1．1キロ)　④正門付近前(MP-6付近)(2号機より西南西約1．0キロ)

測定場所	③																						
モニタリングカー	3:40	3:50	4:00	4:10	4:20	4:30	4:40	4:50	5:00	5:10	5:20	5:30	5:40	5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10	7:20
測定値(μSv/h)	303.6	303.1	301.7	301.3	300.5	299.2	299.2	298.5	297.5	296.4	295.8	295.1	295.4	294.3	293.8	293.6	292.6	292.3	291.5	290.9	290.6	289.8	289.1
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	南南東	西北西	東	西	西北西	南東	西	南	南	南	東	北西	東	南東	西	南東	東北東	東南東	南南東	東	北西	西	西
風速(m/s)	0.9	0.6	0.6	0.5	0.4	0.6	0.6	0.4	0.5	0.5	0.9	0.9	0.9	0.6	0.9	0.7	0.5	0.4	0.3	0.4	0.7	0.3	0.7

測定場所	③																						
モニタリングカー	7:30	7:40	7:50	8:00	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50	11:00	11:10
測定値(μSv/h)	288.9	288.6	287.2	399.0	830.8	670.6	431.9	390.5	522.5	364.5	336.5	323.8	425.2	657.3	358.3	346.1	341.2	338.4	334.3	330.2	327.1	322.6	319.8
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	西南西	南西	南東	北北東	西北西	西北西	東	東北東	東北東	北東	東	東	東	東	南東	南東	南	南東	東	南南東	南南東	南西	西
風速(m/s)	0.8	0.6	0.6	0.3	0.5	0.3	0.4	0.6	0.6	0.9	1.6	2.1	2.0	1.5	1.8	1.8	1.9	1.9	1.7	1.5	1.5	1.6	2.2

測定場所	③		測定位置変更※13	①																			
モニタリングカー	11:20	11:30		11:40	11:50	12:00	12:10	12:20	12:30	12:40	12:50	13:00	13:10	13:20	13:30	13:40	13:50	14:00	14:10	14:20	14:30	14:40	14:50
測定値(μSv/h)	315.1	313.1		3954.0	3901.0	3882.0	3828.0	3802.0	3749.0	3704.0	3655.0	3629.0	3594.0	3565.0	3529.0	3491.0	3473.0	3443.0	3417.0	3396.0	3375.0	3348.0	3340.0
中性子	N.D	N.D		N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	西北西	南西		西北西	西	西	西	西北西	西	西南西	西南西	北西	西	北西	西	西	南南西	西	北東	西	北	南南西	南東
風速(m/s)	2.9	3.4		4.0	4.7	6.8	5.7	5.6	5.7	5.9	6.1	4.2	3.7	5.3	4.3	5.1	4.9	5.8	3.4	4.6	4.9	3.1	2.6

測定場所	①																						
モニタリングカー	15:00	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:30	16:40	16:50	17:00	17:10	17:20	17:30	17:40	17:50	18:00	18:10	18:20	18:30	18:40
測定値(μSv/h)	3279.0	3281.0	3229.0	3194.0	3474.0	3167.0	3165.0	3137.0	3135.0	3126.0	3111.0	3089.0	3078.0	3071.0	3058.0	3051.0	3033.0	3024.0	3020.0	3007.0	3002.0	2998.0	2992.0
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	西	西	西	南西	南西	南	北西	西	西	西南西	西南西	西	西	西	北西	西	西	西	西	西	西	西	西
風速(m/s)	4.9	4.6	3.4	3.8	4.6	3.9	2.4	4.8	5.0	4.5	6.1	5.1	5.7	4.5	4.1	3.3	3.8	3.5	3.6	2.7	2.8	4.1	3.5

※13　事務本館北(2号機より北西約0．5キロ)　※放水活動による効果を測定するためにより近傍へ移動

3月18日　　福島第一(1F)　測定場所　①事務本館北(2号機より北西約0．5キロ)　②体育館付近(MP－5東側)(2号機より西北西約0．9キロ)
③西門付近 (MP-5付近)(2号機より西約1．1キロ)　④正門付近前(MP-6付近)(2号機より西南西約1．0キロ)

測定場所	①																						
モニタリングカー	14:45	14:50	14:55	15:00	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:30	16:40	16:50	17:00	17:10	17:20	17:30	17:40	17:50	18:00	18:10
測定値(μSv/h)	3357.0	3339.0	3346.0	3345.0	3368.0	3582.0	4075.0	3823.0	4396.0	4485.0	4352.0	4535.0	4419.0	4277.0	4735.0	5055.0	5033.0	4952.0	4251.0	4182.0	4090.0	4084.0	4069.0
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	南南東	東南東	南	南東	南	南南東	南南東	南南東	南南東	南南東	東南東	南	南南東	東	南南東	南	南南東	南南東	南	南	南南西	南南西	南
風速(m/s)	1.6	1.5	1.5	1.4	1.7	1.9	2.3	2.1	2.2	2.4	2.0	2.1	1.8	2.1	2.1	2.0	2.1	3.1	2.3	1.8	1.8	1.2	1.2

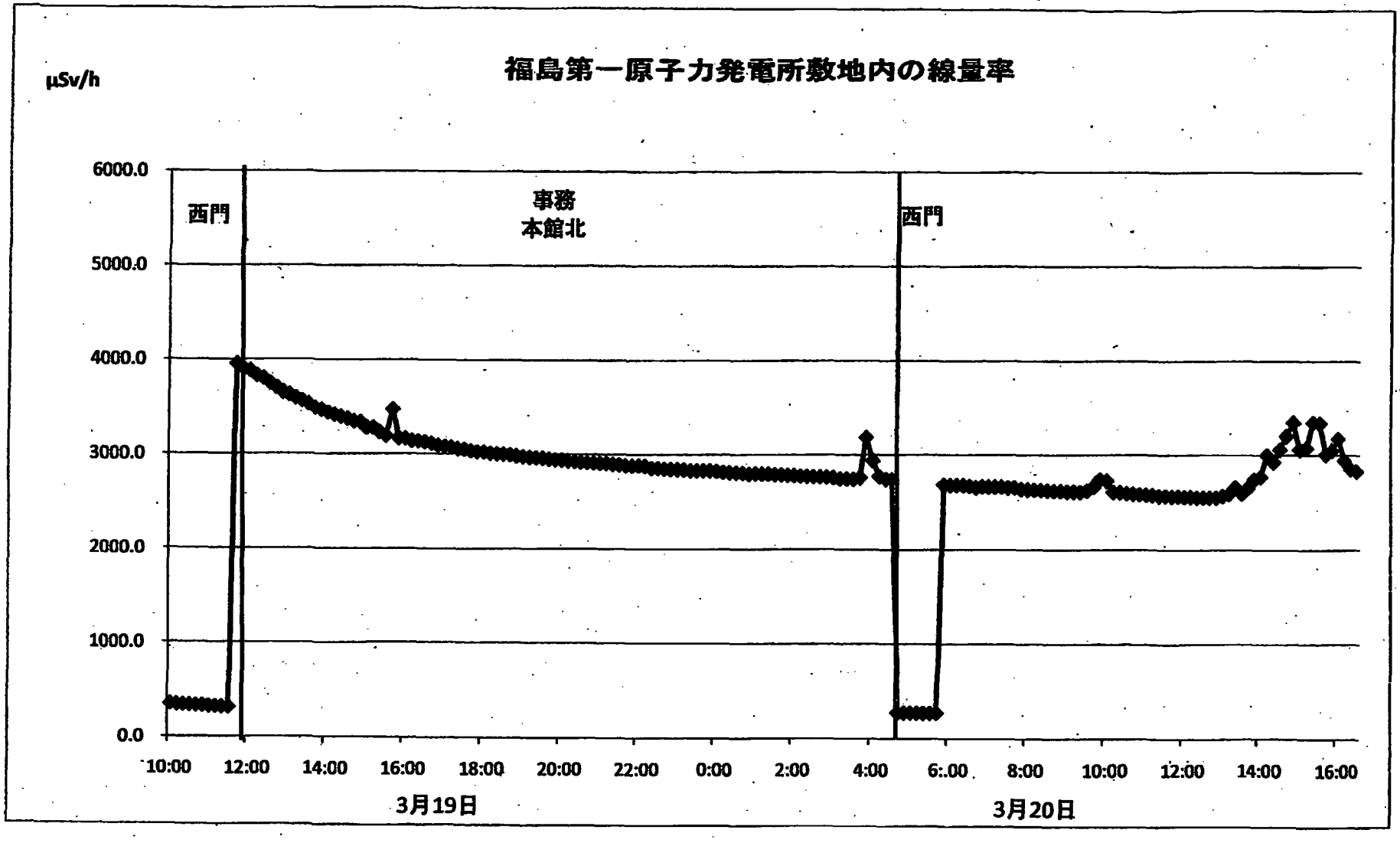
測定場所	①												③										
モニタリングカー	18:20	18:30	18:40	18:50	19:00	19:10	19:20	19:30	19:40	19:50	20:00	測定位置変更	20:10	20:20	20:30	20:40	20:50	21:00	21:10	21:20	21:30	21:40	21:50
測定値(μSv/h)	4069.0	3922.0	3885.0	3832.0	3788.0	3745.0	3728.0	3699.0	3669.0	3634.0	3611.0		447.6	441.2	434.5	429.2	423.9	419.1	414.2	409.4	405.2	401.6	397.8
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D		N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	南	南南西	南南西	南南西	西	南西	南西	南南西	南	西南西	西南西	※10	南	西	西北西	南西	西南西	南南西	西	西	西	北北西	西
風速(m/s)	1.2	1.5	1.5	1.4	1.5	1.3	1.4	1.4	1.3	1.5	1.3		3.0	0.5	0.7	0.8	0.6	0.5	0.6	0.3	0.3	0.4	0.5

測定場所	③									測定位置変更※11	①		
モニタリングカー	22:00	22:10	22:20	22:30	22:40	22:50	23:00	23:10	23:20		23:30	23:40	23:50
測定値(μSv/h)	393.9	389.2	385.9	382.9	379.6	375.9	373.6	371.2	368.9		3254.0	3256.0	3244.0
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D		N.D	N.D	N.D
風向	南西	南西	西	西	南西	西	北	北西	西南西		西南西	南西	西南西
風速(m/s)	0.5	0.7	0.5	0.5	0.4	0.4	0.3	0.4	0.3		2.8	1.2	1.2

3月19日

測定場所	①												測定位置変更※12	③									
モニタリングカー	0:00	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50		2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30
測定値(μSv/h)	3229.0	3224.0	3219.0	3231.0	3342.0	3284.0	3248.0	3279.0	3247.0	3195.0	3188.0	3181.0		313.7	312.2	311.1	310.0	309.1	308.6	306.9	306.0	305.1	304.3
中性子	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D		N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D	N.D
風向	西南西	西南西	南西	南西	西南西	西	西南西	西南西	西南西	西南西	南西	西南西		北	北	南	西南西	西南西	北北東	西北西	南西	南南東	東
風速(m/s)	1.4	1.4	1.2	1.1	0.9	1.4	1.3	1.3	1.3	1.4	1.6	1.3		3.0	0.3	0.3	0.6	0.3	0.4	0.6	0.7	0.7	0.7

※10　西門付近 (MP-5付近)(2号機より西約1．1キロ)　※定点で測定するため移動
※11　事務本館北(2号機より北西約0．5キロ)　※放水活動による効果を測定するためにより近傍へ移動
※12　西門付近 (MP-5付近)(2号機より西約1．1キロ)　※定点で測定するため移動


福島第一原子力発電所敷地内の線量率
μSv/h
6000.0
5000.0
4000.0
3000.0
2000.0
1000.0
0.0
西門
事務
本館北
西門
10:00
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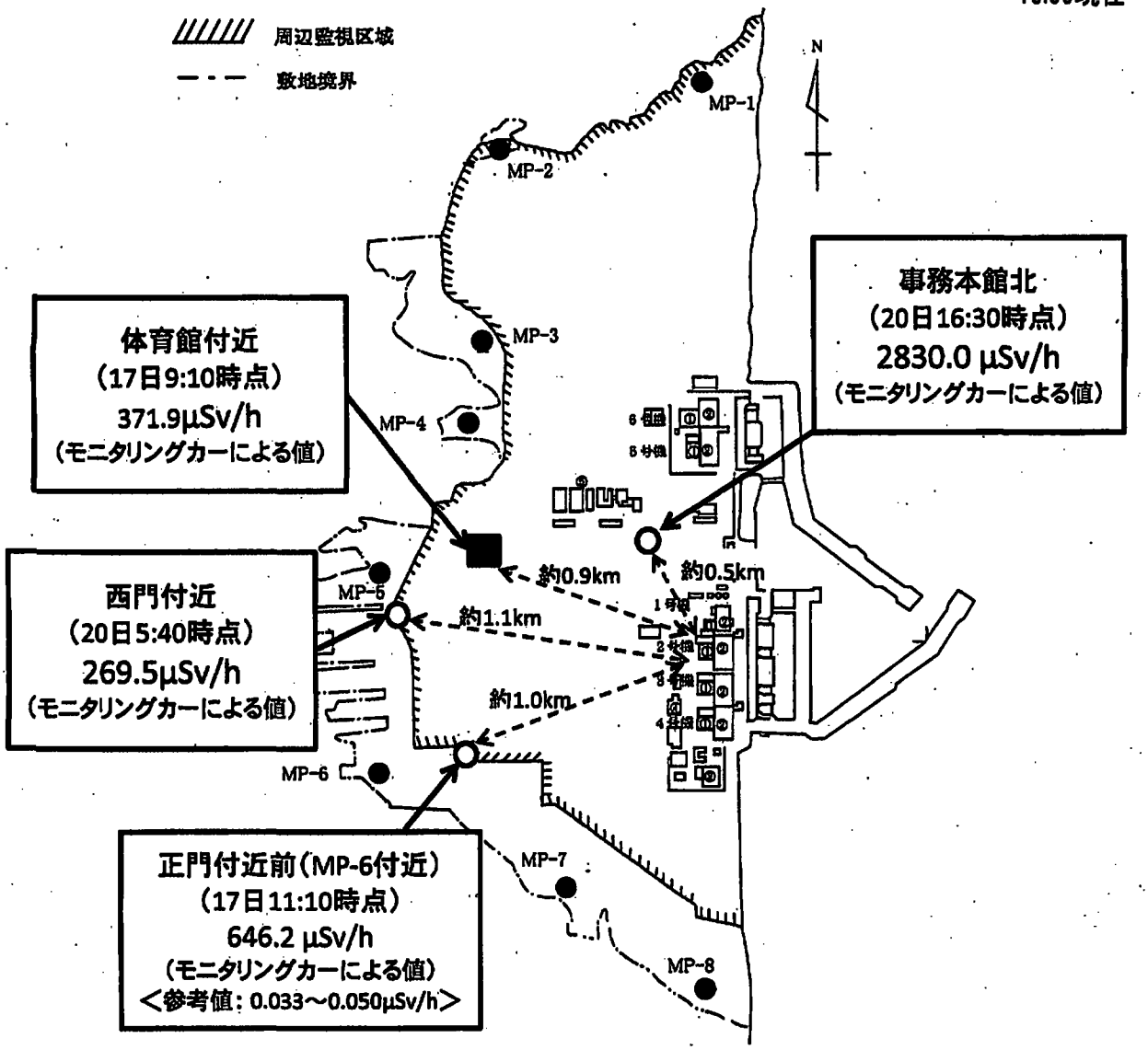
16:00
3月19日
3月20日

福島第一原子力発電所

2011/3/20
16:30現在



※「事務本館北」の測定ポイントは、実際よりやや西寄りに表示していたが、今回より正しい位置に修正

福島第二(2F)(事業者のモニタリングポスト)

3月20日												
モニタリングポスト	14:40	14:50	15:00	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:30
MP1(μSv/h)	15.553	15.543	15.560	15.507	15.453	15.470	15.457	15.473	15.453	15.477	15.423	15.390
MP2(μSv/h)	9.330	9.333	9.340	9.367	9.283	9.300	9.270	9.280	9.293	9.280	9.283	9.233
MP3(μSv/h)	15.743	15.777	15.730	15.723	15.693	15.693	15.663	15.610	15.663	15.583	15.557	15.593
MP4(μSv/h)	10.997	10.970	10.940	10.923	10.967	10.920	10.883	10.843	10.880	10.883	10.870	10.827
MP5(μSv/h)	10.707	10.687	10.680	10.680	10.680	10.627	10.680	10.587	10.633	10.587	10.587	10.580
MP6(μSv/h)	12.033	12.077	12.020	11.960	12.000	11.963	11.937	11.943	11.930	11.900	11.900	11.890
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	南東	南南東	南南東	南南東	南	南	南南西	南	南	北西	北北西	西
風速(m/s)	1.9	2.2	3.2	3.6	2.9	2.9	0.7	0.4	1.2	0.6	0.8	0.7

福島第二(2F)(事業者のモニタリングポスト)

3月20日																						
モニタリングポスト	3:40	3:50	4:00	4:10	4:20	4:30	4:40	4:50	5:00	5:10	5:20	5:30	5:40	5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10
MP1(μSv/h)	16.073	15.957	15.970	16.007	16.010	15.953	15.973	15.940	15.937	15.910	15.900	15.910	18.700	20.417	17.670	20.740	17.830	17.177	16.870	19.260	21.310	20.917
MP2(μSv/h)	9.687	9.720	9.697	9.667	9.663	9.693	9.660	9.673	9.647	9.653	9.643	9.647	10.020	16.447	10.903	14.283	11.443	10.787	10.640	12.560	14.973	15.303
MP3(μSv/h)	16.153	16.100	16.117	16.130	16.050	16.073	16.083	16.087	16.033	16.017	16.043	16.037	16.040	24.170	17.930	19.593	18.590	17.777	17.330	20.087	21.017	23.634
MP4(μSv/h)	11.093	11.130	11.130	11.083	11.110	11.107	11.080	11.087	11.057	11.060	11.060	11.043	11.133	19.093	12.487	15.200	12.433	13.427	12.733	16.243	16.413	21.604
MP5(μSv/h)	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	10.973	11.387	20.974	12.533	12.533	15.500	14.153	13.013	15.927	17.160	25.774
MP6(μSv/h)	12.447	12.453	12.387	12.360	12.333	12.370	12.400	12.360	12.353	12.313	12.333	12.343	16.200	18.430	13.497	14.823	15.540	14.193	13.573	14.993	15.853	21.450
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西北西	西北西	西北西	西北西	西北西	西北西	北西	北西	北西	北西	北北西	北北西	北	北東	北東	北東	北東	北東	北北東	北北東	北東	北北東
風速(m/s)	8.8	9.0	6.9	6.1	4.0	3.8	3.8	4.4	5.5	5.2	4.7	3.9	1.2	3.3	6.0	6.3	6.0	4.7	4.4	5.0	4.1	4.1

3月20日																						
モニタリングポスト	7:20	7:30	7:40	7:50	8:00	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50
MP1(μSv/h)	20.984	19.613	19.030	19.127	18.153	17.680	17.250	17.170	17.063	16.980	16.900	16.830	16.760	16.647	16.553	16.603	16.467	16.430	16.413	16.333	16.263	16.257
MP2(μSv/h)	14.313	13.543	12.443	12.077	11.403	10.913	10.303	10.227	10.173	10.153	10.077	10.053	10.013	9.973	9.893	9.887	9.863	9.830	9.770	9.780	9.757	9.730
MP3(μSv/h)	20.984	20.460	19.863	19.963	19.510	18.550	17.657	17.553	17.470	17.360	17.267	17.117	17.030	17.010	16.913	16.800	16.770	16.753	16.683	16.560	16.517	16.523
MP4(μSv/h)	16.437	15.540	15.287	16.093	14.427	13.650	12.923	12.693	12.573	12.470	12.390	12.297	12.217	12.110	12.023	11.983	11.907	11.870	11.800	11.773	11.697	11.720
MP5(μSv/h)	17.227	15.687	16.147	16.393	14.200	13.193	12.240	12.053	11.953	11.920	11.807	11.760	11.707	11.587	11.567	11.480	11.467	11.420	11.367	11.320	11.267	11.267
MP6(μSv/h)	15.593	15.467	17.017	15.437	14.340	13.860	13.240	13.187	13.117	13.050	13.003	12.937	12.897	12.820	12.810	12.767	12.713	12.670	12.640	12.587	12.527	12.537
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	北北東	北北東	北	南	東	東北東	東北東	北東	東北東	東北東	東	南東	南東	東南東	南東	南東	東南東	東北東	東	北東	北東	北東
風速(m/s)	3.7	3.3	1.8	0.8	0.9	1.6	2.5	3.3	4.3	3.0	3.2	1.5	1.8	2.7	2.6	2.2	1.9	1.3	1.1	3.3	2.7	2.5

3月20日																						
モニタリングポスト	11:00	11:10	11:20	11:30	11:40	11:50	12:00	12:10	12:20	12:30	12:40	12:50	13:00	13:10	13:20	13:30	13:40	13:50	14:00	14:10	14:20	14:30
MP1(μSv/h)	16.230	16.143	16.027	16.070	16.027	15.923	15.937	15.967	15.917	15.880	15.850	15.790	15.787	15.797	15.710	15.717	15.713	15.687	15.697	15.667	15.643	15.587
MP2(μSv/h)	9.683	9.693	9.657	9.617	9.603	9.570	9.563	9.567	9.527	9.527	9.507	9.513	9.487	9.487	9.463	9.423	9.420	9.403	9.400	9.377	9.340	9.353
MP3(μSv/h)	16.510	16.403	16.390	16.360	16.220	16.270	16.163	16.060	16.163	16.117	16.103	16.050	15.987	15.987	15.933	15.947	15.863	15.900	15.850	15.803	15.803	15.780
MP4(μSv/h)	11.630	11.570	11.520	11.497	11.480	11.427	11.420	11.403	11.343	11.320	11.270	11.263	11.257	11.190	11.180	11.127	11.133	11.097	11.067	11.057	11.057	11.030
MP5(μSv/h)	11.220	11.167	11.167	11.073	11.073	11.073	11.067	10.973	10.973	10.973	10.880	10.873	10.873	10.873	10.873	10.847	10.780	10.780	10.813	10.780	10.773	10.733
MP6(μSv/h)	12.460	12.500	12.453	12.460	12.400	12.383	12.337	12.347	12.277	12.307	12.263	12.210	12.193	12.147	12.160	12.130	12.123	12.123	12.063	12.063	12.063	12.043
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	北東	北東	東	北東	北東	北東	北東	北東	東	東北東	東	東	東	東南東	南南東	東南東	東南東	南南東	南南東	南東	南東	南南東
風速(m/s)	2.2	1.9	1.6	2.2	2.9	2.4	1.2	2.0	1.3	1.7	2.6	2.5	2.5	2.2	1.9	1.5	1.4	1.9	2.4	1.8	2.7	2.5

福島第二(2F)(事業者のモニタリングポスト)

3月19日																						
モニタリングポスト	18:20	18:30	18:40	18:50	19:00	19:10	19:20	19:30	19:40	19:50	20:00	20:10	20:20	20:30	20:40	20:50	21:00	21:10	21:20	21:30	21:40	21:50
MP1(μSv/h)	16.723	16.720	16.743	16.803	16.773	16.747	16.740	16.730	16.707	16.710	16.657	16.710	16.623	16.613	16.610	16.590	16.583	16.550	16.547	16.583	16.510	16.557
MP2(μSv/h)	10.193	10.157	10.167	10.163	10.167	10.153	10.143	10.133	10.107	10.090	10.083	10.103	10.083	10.097	10.077	10.077	10.080	10.037	10.000	10.730	9.990	10.027
MP3(μSv/h)	16.963	16.890	16.860	16.890	16.980	16.853	16.887	16.797	16.797	16.807	16.820	16.800	16.817	16.763	16.760	16.727	16.737	16.703	16.707	16.710	16.713	16.650
MP4(μSv/h)	11.643	11.650	11.637	11.593	11.617	11.620	11.607	11.590	11.547	11.557	11.550	11.560	11.503	11.523	11.513	11.497	11.480	11.497	11.477	11.440	11.493	11.507
MP5(μSv/h)	11.527	11.567	11.560	11.507	11.553	11.513	11.507	11.467	11.467	11.467	11.467	11.467	11.373	11.467	11.387	11.467	11.467	11.367	11.380	11.367	11.367	11.367
MP6(μSv/h)	12.960	12.967	12.937	12.930	12.887	12.917	12.863	12.933	12.883	12.920	12.887	12.867	12.867	12.810	12.837	12.827	12.787	12.807	12.800	12.770	12.793	12.787
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西	西北西	北西	西北西	西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	北北西	北北西	北	南	南	南南西	西南西	西南西	西南西	西
風速(m/s)	2.6	3.5	1.8	2.5	3.7	2.7	5.3	6.5	5.5	4.7	2.6	1.4	1.6	1.8	0.9	3.2	1.9	1.8	3.4	5.1	8.8	10.8

3月19日												
モニタリングポスト	22:00	22:10	22:20	22:30	22:40	22:50	23:00	23:10	23:20	23:30	23:40	23:50
MP1(μSv/h)	16.517	16.483	16.470	16.470	16.420	16.453	16.423	16.420	16.433	16.443	16.367	16.400
MP2(μSv/h)	10.017	10.003	9.997	9.973	9.967	9.990	9.950	9.933	9.970	9.923	9.910	9.953
MP3(μSv/h)	16.657	16.657	16.603	16.663	16.620	16.627	16.560	16.533	16.493	16.537	16.480	16.553
MP4(μSv/h)	11.457	11.457	11.447	11.443	11.470	11.440	11.387	11.423	11.420	11.387	11.410	11.400
MP5(μSv/h)	11.367	11.373	11.367	11.313	11.360	11.313	11.273	11.280	11.267	11.267	11.287	11.267
MP6(μSv/h)	12.747	12.730	12.743	12.730	12.703	12.717	12.710	12.703	12.663	12.673	12.650	12.643
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西北西	西	西南西	西	西南西	西南西	西	西	西	西	西南西	西
風速(m/s)	11.9	10.8	5.7	4.8	6.8	7.1	8.4	9.0	8.3	6.8	6.0	7.1

3月20日																						
モニタリングポスト	0:00	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50	2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30
MP1(μSv/h)	16.353	16.340	16.333	16.300	16.927	16.267	16.327	16.243	16.243	16.257	16.200	16.227	16.160	16.153	16.133	16.090	16.117	16.147	16.123	16.087	16.027	16.020
MP2(μSv/h)	9.903	9.920	9.863	9.917	9.887	9.863	9.880	9.867	9.840	9.890	9.813	9.820	9.783	9.770	9.757	9.787	9.750	9.733	9.743	9.710	9.727	9.710
MP3(μSv/h)	16.503	16.483	16.460	16.407	16.410	16.427	16.363	16.327	16.377	16.343	16.333	16.297	16.263	16.253	16.293	16.233	16.207	16.093	16.173	16.130	16.147	16.080
MP4(μSv/h)	11.367	11.323	11.323	11.303	11.320	11.303	11.300	11.303	11.290	11.233	11.310	11.277	11.267	11.247	11.190	11.187	11.197	11.210	11.150	11.177	11.170	11.157
MP5(μSv/h)	11.267	11.267	11.260	11.213	11.207	11.300	11.167	11.167	11.173	11.167	11.167	11.140	11.133	11.067	11.120	11.073	11.113	11.073	11.073	11.073	11.067	11.073
MP6(μSv/h)	12.590	12.613	12.647	12.603	12.600	11.167	12.597	12.563	12.557	12.587	12.533	12.503	12.513	12.527	12.523	12.527	12.490	12.470	12.460	12.487	12.443	12.423
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西	西	西南西	西	西	西	西南西	西北西	西	西北西	北西	北西	北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西	西北西
風速(m/s)	6.3	6.8	7.7	10.2	9.6	6.4	7.9	9.1	8.9	9.0	10.8	9.4	9.4	10.3	9.0	11.2	8.8	10.5	9.7	8.8	9.8	8.6

福島第二(2F)(事業者のモニタリングポスト)

3月19日																						
モニタリングポスト	7:20	7:30	7:40	7:50	8:00	8:10	8:20	8:30	8:40	8:50	9:00	9:10	9:20	9:30	9:40	9:50	10:00	10:10	10:20	10:30	10:40	10:50
MP1(μSv/h)	17.4	17.4	17.3	17.3	17.3	17.3	17.3	17.3	17.2	17.2	17.2	17.1	17.0	17.1	17.1	17.1	17.0	16.9	17.0	16.9	16.9	16.9
MP2(μSv/h)	10.6	10.5	10.5	10.5	10.5	10.5	10.5	10.4	10.4	10.4	10.3	10.3	10.3	10.2	10.3	10.2	10.2	10.2	10.2	10.2	10.1	16.1
MP3(μSv/h)	17.7	17.7	17.7	17.7	17.7	17.6	17.7	17.6	17.7	17.6	17.6	17.5	17.4	17.4	17.5	17.4	17.4	17.4	17.4	17.3	17.3	17.3
MP4(μSv/h)	12.4	12.4	12.3	12.3	12.3	12.3	12.3	12.3	12.2	12.2	12.2	12.2	12.2	12.2	12.1	12.1	12.1	12.1	12.1	12.0	12.0	12.0
MP5(μSv/h)	11.0	11.0	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	南南西	南	南南西	南南西	南	南西	西	南西	南	南	南南東	南	南	南	南	南	南	南	南	南南東	南東	南東
風速(m/s)	4.2	4.0	3.9	4.4	5.5	5.8	1.7	2.9	2.5	1.7	3.5	4.1	4.3	6.3	6.4	7.7	6.8	7.1	7.8	8.1	4.6	5.0

3月19日																						
モニタリングポスト	11:00	11:10	11:20	11:30	11:40	11:50	12:00	12:10	12:20	12:30	12:40	12:50	13:00	13:10	13:20	13:30	13:40	13:50	14:00	14:10	14:20	14:30
MP1(μSv/h)	16.9	16.9	16.9	16.9	16.8	16.9	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.7	16.8	16.7	16.7
MP2(μSv/h)	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.5	10.5	10.5	10.4	10.5	10.5	10.4	10.4	10.4	10.4	10.4	10.2	10.3	10.3
MP3(μSv/h)	17.3	17.2	17.2	17.1	17.1	17.1	17.1	17.0	17.0	17.1	17.0	17.0	17.0	17.0	17.0	17.0	16.9	16.9	17.0	17.0	16.9	16.9
MP4(μSv/h)	12.0	12.0	12.0	11.9	11.9	11.9	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.7	11.8	11.7	11.7	11.7	11.7	11.7
MP5(μSv/h)	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.7	10.7	10.8	10.7	10.7	10.7	10.6
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	南南東	南南東	南南東	南東	南南東	南南東	南南東	南南東	南南東	南南東	南南西	西	西	西	西	西北西	西北西	西	西	西	西	西
風速(m/s)	7.5	8.0	8.3	6.3	7.4	8.3	8.2	9.4	6.3	5.6	5.0	8.9	11.2	10.2	11.9	11.0	7.2	6.0	7.1	5.8	8.6	5.4

3月19日																						
モニタリングポスト	14:40	14:50	15:00	15:10	15:20	15:30	15:40	15:50	16:00	16:10	16:20	16:30	16:40	16:50	17:00	17:10	17:20	17:30	17:40	17:50	18:00	18:10
MP1(μSv/h)	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.6	16.6	16.5	16.5	16.5	16.5	16.5	16.4	16.913	16.867	16.840	16.890	16.820	16.800	16.827
MP2(μSv/h)	10.3	10.2	10.3	10.3	10.3	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.220	10.190	10.220	10.180	10.210	10.207	10.160
MP3(μSv/h)	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.9	16.8	16.8	16.9	16.8	16.8	17.027	17.067	17.003	17.040	17.027	17.007	16.997
MP4(μSv/h)	11.7	11.7	11.7	11.7	11.6	11.6	11.6	11.6	11.5	11.6	11.6	11.5	11.6	11.5	11.5	11.633	11.640	11.683	11.680	11.647	11.660	11.663
MP5(μSv/h)	10.6	10.6	10.5	10.5	10.5	10.6	10.5	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.3	11.567	11.560	11.567	11.567	11.567	11.567	11.567
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	13.020	12.997	13.003	12.970	12.960	12.980	12.967
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西	西	西北西	西	西北西	西	西	西	西	西	西	西	西	西	西	西	西	西	西	西	西	西北西
風速(m/s)	8.6	10.6	8.3	8.1	4.1	6.9	5.0	2.8	3.3	6.2	7.7	9.7	10.7	7.7	7.9	8.0	5.5	6.8	2.7	5.4	6.1	3.0

福島第二(2F)(事業者のモニタリングポスト)

3月18日												
モニタリングポスト	22:00	22:10	22:20	22:30	22:40	22:50	23:00	23:10	23:20	23:30	23:40	23:50
MP1(μSv/h)	18.5	18.5	18.5	18.4	18.4	18.4	18.3	18.3	18.3	18.3	18.2	18.2
MP2(μSv/h)	11.2	11.2	11.1	11.2	11.1	11.1	11.2	11.1	11.1	11.1	11.1	11.1
MP3(μSv/h)	18.8	18.8	18.8	18.8	18.7	18.7	18.7	18.7	18.7	18.7	18.7	18.6
MP4(μSv/h)	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	12.9	13.0	12.9	12.9
MP5(μSv/h)	11.8	11.9	11.6	11.6	11.8	11.9	11.9	11.7	11.7	11.7	11.7	11.7
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	西	西	西	西	西南西	南西	西南西	南西	南西	南西	南西	南
風速(m/s)	5.0	5.0	3.9	4.5	3.9	2.5	2.6	2.3	2.0	2.5	1.7	1.4

3月19日																						
モニタリングポスト	0:00	0:10	0:20	0:30	0:40	0:50	1:00	1:10	1:20	1:30	1:40	1:50	2:00	2:10	2:20	2:30	2:40	2:50	3:00	3:10	3:20	3:30
MP1(μSv/h)	18.2	18.2	18.2	18.2	18.1	18.1	18.1	18.1	18.1	18.1	18.0	18.0	17.9	18.0	18.0	17.9	17.8	17.9	17.8	17.8	17.9	17.8
MP2(μSv/h)	11.1	10.9	11.0	11.0	11.0	10.8	10.9	10.9	10.9	10.8	10.9	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
MP3(μSv/h)	18.7	18.7	18.6	18.6	18.5	18.5	18.5	18.5	18.5	18.4	18.4	18.4	18.4	18.4	18.3	18.4	18.3	18.3	18.3	18.2	18.3	18.2
MP4(μSv/h)	12.9	12.9	12.9	12.9	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.7	12.8	12.7	12.7	12.7	12.7	12.7	12.7	12.7
MP5(μSv/h)	11.7	11.7	11.7	11.6	11.7	11.7	11.7	11.7	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.5	11.6	11.6	11.5	11.5	11.5	11.5
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	南西	南西	南西	南	南	南	南	南	南南西	南	南南西	南南西	南	南	南	南	南	南	南	南	南	南
風速(m/s)	0.3	1.6	1.4	0.6	0.6	1.2	1.5	3.5	3.6	3.6	5.4	5.1	5.8	6.5	6.6	5.8	5.6	4.9	4.4	3.6	4.1	5.8

3月19日																						
モニタリングポスト	3:40	3:50	4:00	4:10	4:20	4:30	4:40	4:50	5:00	5:10	5:20	5:30	5:40	5:50	6:00	6:10	6:20	6:30	6:40	6:50	7:00	7:10
MP1(μSv/h)	17.8	17.7	17.7	17.7	17.6	17.0	17.7	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.5	17.5	17.5	17.5	17.5	17.5	17.4	17.4
MP2(μSv/h)	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.6	10.7	10.6	10.6	10.7	10.6	10.6
MP3(μSv/h)	18.2	18.2	18.2	18.1	18.0	18.0	18.0	17.9	18.0	17.9	17.9	17.9	17.8	17.9	17.9	17.8	17.8	17.8	17.8	17.7	17.7	17.8
MP4(μSv/h)	12.7	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.5	12.6	12.6	12.5	12.5	12.5	12.5	12.5	12.4	12.4	12.4	12.4	12.4	12.4
MP5(μSv/h)	11.4	11.5	11.4	11.4	11.5	11.4	11.4	11.4	11.4	11.3	11.3	11.3	11.2	11.2	11.2	11.1	11.1	11.1	11.2	11.1	11.0	11.0
MP6(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
MP7(μSv/h)	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測	欠測
風向	南南西	南	南	南	南南西	南	南	南	南	南南西	南南西	南西	南西	南南西	南	南南西	南	南	南	南	南南西	南南西
風速(m/s)	4.9	3.3	3.8	4.0	5.9	5.6	3.6	5.1	5.2	5.9	5.0	7.2	8.3	6.6	6.1	6.1	6.2	7.7	6.4	6.5	6.0	5.7

平成２３年３月２０日
原子力安全・保安院

地震被害情報（第３６報）

（３月２０日１６時３０分現在）

原子力安全・保安院が現時点で把握している東京電力(株)福島第一原子力発電所、福島第二原子力発電所、東北電力㈱女川原子力発電所、日本原子力発電（株）東海第二、電気、ガス、熱供給、コンビナート被害の状況は、以下のとおりです。

前回からの変更点は以下のとおり。

１．原子力発電所関係

○福島第一原子力発電所

・２号機使用済燃料プールに海水を４０ｔ注入開始（20 日 15:00）
・２号機のパワーセンター受電（20 日 15:46）
・５号機、２０日１４：３０冷温停止

【放水関係】

・３号機の格納容器内圧力が上昇（20 日 11:00 現在 320kPa）。圧力下げるための準備を進めていたが、直ちに放出を必要とする状況ではないと判断し、圧力監視を継続。
・東京消防庁ハイパーレスキュー隊が３号機の使用済燃料プールに向け２０日１９：３０放水予定。
・自衛隊が４号機の使用済燃料プールに向け２０日１８：００放水予定。

【電源復旧関係】

・３号機及び４号機のケーブル引き込みについて現地調査（20 日予定）

２．産業保安関係

別紙参照

３．原子力安全・保安院等の対応

【3 月 19 日】

８：５８　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信

＜従業員等の被ばく＞

・福島第一原発３号機の爆発の際に近くで作業していて負傷した従業員のうち、６名については福島第二の産業医で除染処置を施し、問題ないことを確認。１名については病院で除染し、治療中。

（別紙）

１　発電所の運転状況【自動停止号機数：１０基】

○東京電力(株)福島第一原子力発電所（福島県双葉郡大熊町及び双葉町）

（１）運転状況

１号機（46 万 kW）（自動停止）

２号機（78 万 4 千 kW）（自動停止）

３号機（78 万 4 千 kW）（自動停止）

４号機（78 万 4 千 kW）（定検により停止中）

５号機（78 万 4 千 kW）（定検により停止中、20 日 14:30 冷温停止）

６号機（110 万 kW）（定検により停止中）

（２）モニタリングの状況

別添参照

（３）主なプラントパラメーター（20 日 14:00 現在）

	１号機	２号機	３号機	４号機	５号機	６号機
原子炉圧力*1［MPa］	0.295(A) 0.261(B)	0.085(A) 0.069(B)	0.250(C) 0.290(B)	－	0.432	0.794
原子炉格納容器圧力（D/W）［kPa］	170	125	310	－	－	－
原子炉水位*2［mm］	-1750(A) -1750 (B)	-1400(A) 不明（B）	-1950(A) -2350(B)	－	1643	1750
原子炉格納容器内 S/C 水温［℃］	－	－	－	－	－	－
原子炉格納容器内 S/C 圧力［kPa］	160	D/S	400 ～O/S	－	－	－
使用済燃料プール水温度［℃］	－	－	－	不明*3	35.2	30.0
備　考	3/20 11:00 現在の値	3/20 11:00 現在の値	3/20 11:00 現在の値		3/20 14:00 現在の値	3/20 14:00 現在の値

＊１：絶対圧に換算

＊２：燃料頂部からの数値

＊３：3 月 14 日 4:08 現在、84℃

（４）その他異常に関する報告

・原子力災害対策特別措置法第１０条通報（11 日 15:42）

・同第１５条（非常用炉心冷却装置注水不能）通報（１、２号機）（11 日 16:36）

・東北電力の送電線から受電するケーブルを敷設。放水作業後に２号機へ接続予定（17 日 17:30）。１～４号外部電源の復旧等に係る作業内容（東北電力(株)送電系統からの受電、自社変電所よりルート変更を介しての受電）を確認中（18 日 06:30 現在）

＜１号機関係＞

・１号機の原子炉圧力容器内に消火系ラインを用いて海水注入開始(13 日 11:55)→14 日 01:10 一時中断

・１号機で爆発音。(12 日 15:36)

・原子炉圧力容器へ海水注入中。(19 日 12:00 現在)

＜２号機関係＞

・２号機は注水機能を維持（13 日 14:00）

・３号機の建屋の爆発に伴い、原子炉建屋ブローアウトパネル開放（14 日 11 時過ぎ）

・２号機の原子炉圧力容器の水位が低下傾向（14 日 13:18）。原子力災害対策特別措置法第１５条事象（原子炉冷却機能喪失）である旨、受信（14 日 13:49）

・２号機の原子炉圧力容器内に消火系ラインを用いて海水注入準備(14 日 19:20)

・２号機の原子炉圧力容器の水位が低下傾向（14 日 22:50）

・２号機で爆発音するとともに、サプレッションプール（圧力抑制室）の圧力低下（15 日 6:10）。同室に異常が発生したおそれ。(15 日 6:20 頃)

・原子炉圧力容器へ海水注入中。(19 日 12:00 現在)

・外部送電線から予備電源変電設備までの受電を完了し、そこから負荷側へのケーブル敷設を実施（19 日 13:30 現在）

・使用済燃料プールに海水を４０ｔ注入開始（20 日 15:00）

・２号機のパワーセンター受電（20 日 15:46）

＜３号機関係＞

・３号機の原子炉圧力容器内に消火系ラインにて真水注入開始(13 日 11:55)

・３号機の原子炉圧力容器内に消火系ラインを用いて海水注入開始(13 日 13:12)

・３号機及び１号機の注入をくみ上げ箇所の海水が少なくなったため停止。

(14 日 1:10)

・３号機の海水注入を再開(14 日 3:20)

・３号機の格納容器圧力が異常上昇(14 日 7:44)。原子力災害対策特別措置法第１５条事象である旨、受信（14 日 7:52)。

・３号機で１号機と同様に原子炉建屋付近で爆発（14 日 11:01）

・３号機から白い湯気のような煙が発生（16 日 8:30 頃）

・３号機の格納容器が破損しているおそれがあるため、中央制御室（共用）から作業員退避（16 日 10:45)。その後、作業員は中央制御室に復帰し、注水作業再開（16 日 11:30）

・自衛隊のヘリにより３号機への海水の投下を４回実施（17 日 9:48、9:52、9:58、10:01）

・機動隊が地上放水のため現場到着（17 日 16:10）

・１７日１９：３５から、自衛隊により放水。

・警察庁機動隊による地上放水（17 日 19:05～19:13）

・自衛隊消防車５台が地上放水を実施（17 日）
（各台放水開始時刻：17 日 19:35、19:45、19:53、20:00、20:07）

・自衛隊消防車６台（６ｔ放水／台）が地上放水を実施（18 日 14 時前～14:38）

・米軍消防車１台が地上放水を実施（18 日 14:45 終了)。

・原子炉圧力容器へ海水注入中（19 日 10:00 現在)。

・ハイパーレスキュー（１４台）が正門前に到着し（18 日 23:10)、うち、６台が地上放水のため発電所に入構（18 日 23:30)。

・東京消防庁ハイパーレスキュー隊が放水作業を実施し、完了（20 日 3:40 終了)。

・３号機の格納容器内圧力が上昇（20 日 11:00 現在 320kPa)。圧力下げるための準備を進めていたが、直ちに放出を必要とする状況ではないと判断し、圧力監視を継続。

・東京消防庁ハイパーレスキュー隊が３号機の使用済燃料プールに向け２０日１９：３０放水予定。

・ケーブル引き込みの現地調査（20 日予定）

＜４号機関係＞

・４号機のオペレーションエリアの壁が一部破損していることを確認（15 日 6:14)。

・４号機で火災発生。(15 日 9:38）事業者によると、自然に火が消えていることを確認（15 日 11:00 頃）

・４号機の使用済燃料貯蔵プール水温度が上昇(3 月 14 日 4:08 時点で 84℃)

・４号機で火災が発生（16 日 5:45 頃）。事業者によると、現場での火は確認できず（16 日 6:15 頃）。
・原子炉圧力容器のシュラウド工事中のため、原子炉圧力容器内に燃料はなし。
・自衛隊が４号機の使用済燃料プールに向け放水作業を実施。(20 日 9:43)
・自衛隊が４号機の使用済燃料プールに向け２０日１８：００放水予定。
・ケーブル引き込みの現地調査（20 日予定）

＜５号機，６号機関係＞
・６号機の非常用 D/G（１台）は運転可能。これにより５，６号機に電力供給中。MUWC（復水補給水系）を用いて原子炉圧力容器及び使用済燃料プールへ注水をしている。
・６号機の非常用ディーゼル発電機２台目（Ａ）起動。(19 日 4:22)
・５号機の残留熱除去系（ＲＨＲ）ポンプ（Ｃ）(19 日 5:00) 及び６号機の残留熱除去系（ＲＨＲ）ポンプ（Ｂ）(19 日 22:14) が起動し、除熱機能回復。使用済燃料貯蔵プールを優先的に冷却（電源：6 号の非常用ディーゼル発電機)。(19 日 5:00)
・６号機のＲＨＲポンプ（Ｂ）が復旧、本格運転（19 日 22:14)

＜使用済燃料共用プール＞
・１８日６：００過ぎ、プールはほぼ満水であることを確認。
・１９日９時００分時点でのプール水温度は５７℃程度。

○東京電力(株)福島第二原子力発電所（福島県双葉郡楢葉町及び富岡町）
（１）運転状況
１号機（110 万 kW）（自動停止、14 日 17:00 冷温停止）
２号機（110 万 kW）（自動停止）14 日 18:00 冷温停止）
３号機（110 万 kW）（自動停止、12 日 12:15 冷温停止）
４号機（110 万 kW）（自動停止、15 日 7:15 冷温停止）
（２）モニタリングポスト等の指示値
別添参照
（３）主なプラントパラメーター（20 日 15:00 現在）

	単位	１号機	２号機	３号機	４号機
原子炉圧力*1	MPa	0.19	0.12	0.11	0.15
原子炉水温	℃	36.5	30.4	35.6	37.0
原子炉水位*2	mm	10796	10246	7496	8785
原子炉格納容器内	℃	29	24	41	28

ｻﾌﾟﾚｯｼｮﾝﾌﾟｰﾙ水温					
原子炉格納容器内 ｻﾌﾟﾚｯｼｮﾝﾌﾟｰﾙ圧力	kPa (abs)	158	108	108	115
備　考		冷温停止中	冷温停止中	冷温停止中	冷温停止中

＊１：絶対圧に換算

＊２：燃料頂部からの数値

（４）その他異常等に関する報告

・１号機にて原子力災害対策特別措置法第１０条通報（11 日 18:08）

・１、２、４号機にて同法第１０条通報（11 日 18:33）

・１号機にて原子力災害対策特別措置法第１５条事象（圧力抑制機能喪失）発生（12 日 5:22）

・２号機にて原子力災害対策特別措置法第１５条事象（圧力抑制機能喪失）発生（12 日 5:32）

・４号機にて原子力災害対策特別措置法第１５条事象（圧力抑制機能喪失）発生（12 日 6:07）

○東北電力(株)女川原子力発電所（宮城県牡鹿郡女川町、石巻市）

（１）運転状況

１号機（52 万 4 千 kW）（自動停止、12 日 0:58 冷温停止）

２号機（82 万 5 千 kW）（自動停止、地震時点で冷温停止）

３号機（82 万 5 千 kW）（自動停止、12 日 1:17 冷温停止）

（２）モニタリングポスト等の指示値

MP２付近（敷地最北敷地境界）約 6,500nGy／ｈ（14 日 19:00）

→約 5400 nGy／ｈ（15 日 19:00）

（３）その他異常に関する報告

・タービン建屋地下 1 階の発煙は消火確認（11 日 22:55）

・原子力災害対策特別措置法第１０条通報（13 日 13:09）

２　産業保安

○電気（3 月 20 日 17:00 現在）

・東北電力（３月１９日 16:00 現在）

停電戸数：約２６万戸　（延べ停電戸数　約４８６万戸）

停電地域：青森県　三八の一部地域（約５百戸）

岩手県　一部地域（約４万１千戸）

宮城県　一部地域（約１６万７千戸）

福島県　一部地域（約３万８千戸）

・東京電力
　停電は１９日０１：００までに復旧済（延べ停電戸数　約４０５万戸）
・北海道電力
　停電は１２日１４：００までに復旧済　（延べ停電戸数　約３千戸）
・中部電力
　停電は１２日１７：１１に復旧済　（延べ停電戸数　約４百戸）

○一般ガス（3 月 20 日 16:30 現在）
死亡事故：地震との関係も含め原因詳細調査中。
・盛岡ガス（盛岡市）死者 1 名、負傷者 10 名
　14 日 08:00　デパートの地下での爆発
・東部ガス（いわき市）死者 1 名
　12 日 11:30　一般住宅での漏えいガスに着火

北海道、山形県、秋田県においては、供給停止の報告はない。
各社の供給停止状況は以下の通り。
・仙台市営ガス　358,781 戸供給停止
・塩釜ガス(塩釜市等)12,382 戸供給停止
・福島ガス（福島市）63 戸供給停止
・東部ガス（土浦市）4,589 戸供給停止
　　（水戸市）79 戸供給停止
・釜石ガス（釜石市）7,000 戸供給停止
・常磐共同ガス（いわき市）12,322 戸供給停止
・京葉ガス（浦安市）6,876 戸供給停止
・東北ガス（白河市）272 戸供給停止
・常磐都市ガス（いわき市）518 戸供給停止
・気仙沼市営ガス（気仙沼市）2,800 戸供給停止
・石巻ガス（石巻市）14,771 戸供給停止

○簡易ガス（3 月 20 日 16:30 現在）
各社の供給停止状況は以下の通り。
・宮城ガス（塩竈市）651 戸供給停止
　　（仙台市）2,058 戸供給停止
　　（黒川郡富谷町）2,318 戸供給停止
・岩沼市農業協同組合（岩沼市）753 戸供給停止
・橋本産業（東松島市）80 戸供給停止
・福陽ガス（須賀川市）81 戸供給停止

・仙台市ガス局（名取市）1,225 戸供給停止
（仙台市）114 戸供給停止
（岩沼市）342 戸供給停止
（黒川郡富谷町）1,855 戸供給停止
・仙台プロパン（途米市）93 戸供給停止
（亘理郡山元町）360 戸供給停止
（宮城郡松島町）192 戸供給停止
・仙南ガス（白石市）409 戸供給停止
（岩沼市）252 戸供給停止
（柴田郡柴田市）1,806 戸供給停止
・カメイ（亘理郡山元町）189 戸供給停止
（白河市）596 戸供給停止
（須賀川市）783 戸供給停止
（いわき市）126 戸供給停止
（宮古市）197 戸供給停止
・共同ガス（須賀川市）163 戸供給停止
・東北ガス（白河市）360 戸供給停止
・いわきガス（いわき市）594 戸供給停止
・相馬ガス（相馬市）143 戸供給停止
・相馬市ガス（相馬市）100 戸供給停止
・勝田ガス事業協同組合（ひたちなか市）647 戸供給停止
・帝石プロパンガス（高萩市）747 戸供給停止
・倉島商事（福島市）248 戸供給停止
・若松ガス（福島市）1,061 戸供給停止
・アイソン（安達郡本宮町）489 戸供給停止
・トーホクガス（多賀城市）130 戸供給停止
・三重商会（大船渡市）81 戸供給停止
・名取岩沼農業協同組合（岩沼市）586 戸供給停止

○熱供給（3 月 2 日 16:30 現在）
・小名浜配湯（いわき市小名浜）供給停止

○ＬＰガス（3 月 20 日 16:30 現在）
死亡事故：地震との関係も含め原因詳細調査中
・福島県いわき市　死者１名
１３日午前中　共同住宅でガス爆発

○コンビナート（3月20日16:30現在現在）
・コスモ石油千葉製油所（千葉県市原市）
　ＬＰＧ貯槽の支柱が折れ、破損。ガス漏れ火災。
　重傷者１名、軽傷５名。3月19日午後鎮圧。
・JX日鉱日石エネルギー(株)仙台製油所（宮城県仙台市）
　出荷設備エリアで爆発、火災が発生。3月15日午後鎮火。

３　原子力安全・保安院等の対応

【3月11日】

１４：４６　地震発生と同時に原子力安全・保安院に災害対策本部設置

１５：４２　福島第一原子力発電所にて原子力災害対策特別措置法第１０条通報

１６：３６　福島第一原子力発電所１、２号機にて事業者が同法第１５条事象（原子炉冷却機能喪失）発生判断（１６：４５通報）

１８：０８　福島第二原子力発電所１号機にて原子力災害対策特別措置法第１０条通報

１８：３３　福島第二原子力発電所１、２、４号機にて原子力災害対策特別措置法第１０条通報

１９：０３　緊急事態宣言（政府原子力災害対策本部及び同現地対策本部設置）

２０：５０　福島県対策本部は、福島第一原子力発電所１号機の半径２ｋｍの住人に避難指示を出した。（２ｋｍ以内の住人は１８６４人）

２１：２３　内閣総理大臣より、福島県知事、大熊町長及び双葉町長に対し、東京電力(株)福島第一原子力発電所で発生した事故に関し、原子力災害対策特別措置法第１５条第３項の規定に基づく指示を出した。
　・福島第一原子力発電所から半径３ｋｍ圏内の住民に対する避難指示。
　・福島第一原子力発電所から半径１０ｋｍ圏内の住民に対する屋内退避指示。

２４：００　池田経済産業副大臣現地対策本部到着

【3月12日】

５：２２　福島第二原子力発電所１号機にて事業者が原子力災害対策特別措置法第１５条事象（圧力抑制機能喪失）発生判断（６：２７通報）

５：３２　福島第二原子力発電所２号機にて事業者が原子力災害対策特別措置法第１５条事象（圧力抑制機能喪失）発生判断（６：２７通報）

５：４４　総理指示により福島第一原子力発電所の１０ｋｍ圏内に避難指示

６：０７　福島第二原子力発電所４号機にて原子力災害対策特別措置法第１５条事象（圧力抑制機能喪失）発生

６：５０　原子炉等規制法第６４条第３項の規定に基づき、福島第一原子力発電所第１号機及び第２号機に設置された原子炉格納容器内の圧力を抑制することを命じた。

７：４５　内閣総理大臣より、福島県知事、広野町長、楢葉町長、富岡町長及び大熊町長に対し、東京電力(株)福島第二原子力発電所で発生した事故に関し、原子力災害対策特別措置法第１５条第３項の規定に基づく指示を出した。

・福島第二原子力発電所から半径３ｋｍ圏内の住民に対する避難指示。

・福島第二原子力発電所から半径１０ｋｍ圏内の住民に対する屋内退避指示。

１７：００　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信

１７：３９　内閣総理大臣が福島第二原子力発電所の避難区域

・福島第二原子力発電所から半径１０ｋｍ圏内の住民に対する避難を指示。

１８：２５　内閣総理大臣が福島第一原子力発電所の避難区域

・福島第一原子力発電所から半径２０ｋｍ圏内の住民に対する避難を指示。

１９：５５　福島第一原子力発電所１号機の海水注入について総理指示

２０：０５　総理指示を踏まえ、原子炉等規制法第６４条第３項の規定に基づき、福島第一原子力発電所第１号機の海水注入等を命じた。

２０：２０　福島第一原子力発電所１号機の海水注入を開始

【3 月 13 日】

５：３８　福島第一原子力発電所３号機にて原子力災害対策特別措置法第１５条事象（全注水機能喪失）である旨、受信。
当該サイトについて、東京電力において現在、電源及び注水機能の回復と、ベントのための作業を実施中。

９：０１　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信

９：０８　福島第一原子力発電所３号機の圧力抑制及び真水注入を開始

９：２０　福島第一原子力発電所３号機の耐圧ベント弁開放

９：３０　福島県知事、大熊町長、双葉町長、富岡町長、浪江町長に対し、原子力災害対策特別措置法に基づき、放射能除染スクリーニングの内容について指示

９：３８　福島第一原子力発電所１号機にて原子力災害対策特別措置法第１５条通報

１３：０９　女川原子力発電所にて原子力災害対策特別措置法第１０条通報
１３：１２　福島第一原子力発電所３号機の注入を真水から海水に切り替え
１４：３６　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信

【3 月 14 日】

１：１０　福島第一原子力発電所１号機及び３号機の注入をくみ上げ箇所の海水が少なくなったため停止。
３：２０　福島第一原子力発電所３号機の海水注入を再開
４：４０　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信
５：３８　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信
７：５２　福島第一原子力発電所３号機にて原子力災害対策特別措置法第１５条事象（格納容器圧力異常上昇）である旨、受信。
１３：２５　福島第一原子力発電所２号機にて原子力災害対策特別措置法第１５条事象（原子炉冷却機能喪失）である旨、受信。
２２：１３　福島第二原子力発電所にて原子力災害対策特別措置法第１０条通報
２２：３５　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信

【3 月 15 日】

０：００　国際原子力（ＩＡＥＡ）専門家派遣の受け入れを決定
　ＩＡＥＡ天野事務局長による原子力発電所の被害に関する専門家派遣の意向を受け、原子力安全・保安院はＩＡＥＡによる知見ある専門家の派遣を受け入れることとした。なお、実際の受け入れ日程等については、今後調整を行う。
０：００　米国原子力規制委員会（ＮＲＣ）専門家派遣の受け入れを決定
７：２１　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信
７：２４　（独）日本原子力研究開発機構東海研究開発センター核燃料サイクル工学研究所にて原子力災害対策特別措置法第１０条通報
７：４４　（独）日本原子力研究開発機構原子力科学研究所にて原子力災害対策特別措置法第１０条通報
８：５４　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信
１０：３０　経済産業大臣が原子炉等規制法に基づき、４号機の消火及び再臨界の防止、２号機の原子炉内への早期注水及びドライウェルのベン

トの実施について指示

１０：５９　今後の事態の長期化を考慮し、現地対策本部の機能を福島県庁内へ移転することを決定。

１１：００　内閣総理大臣が福島第一原子力発電所の避難区域・炉内の状況を考慮して、新たに福島第一原子力発電所から半径２０ｋｍ圏～３０ｋｍ圏内の住民に対する屋内退避を指示

１６：３０　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信

２２：００　経済産業大臣が原子炉等規制法に基づき、４号機の使用済燃料プールへの注水の実施を指示

２３：４６　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信

【3 月 18 日】

１３：００　文部科学省にて、福島第一、第二原子力発電所の緊急時における全国的モニタリング調査の強化を決定

１５：５５　原子炉等規制法第６２条の３に基づき、東京電力(株)福島第一原子力発電所第１・２・３・４号機における事故故障等（原子炉建屋内の放射性物質の非管理区域への漏えい）の報告を受理

１６：４８　原子炉等規制法第６２条の３に基づき、日本原子力発電(株)東海第二発電所における事故故障等(非常用ディーゼル発電機２Ｃ海水ポンプ用電動機の故障）の報告を受理

【3 月 19 日】

７：４４　６号機の非常用ディーゼル発電機２台目（Ａ）起動
５号機の残留熱除去系（ＲＨＲ）ポンプ（Ｃ）が起動し、使用済燃料貯蔵プールの冷却を開始（電源：６号の非常用ディーゼル発電機））の旨を受信

８：５８　福島第一原子力発電所にて原子力災害対策特別措置法第１５条事象（敷地境界放射線量異常上昇）である旨、受信

＜被ばくの可能性（3 月 20 日 16:30 現在）＞

＜住民の被ばく＞

（１）二本松市福島県男女共生センターにおいて、双葉厚生病院からの避難者約６０名を含む１３３名の測定を行い、１３０００cpm 以上の２３名に除染を実施した。

（２）この他、福島県が用意した民間バスで、双葉厚生病院から川俣町済生会川俣病院へ移動した３５名については、県対策本部は被ばくしていないと判断。

（３）バスにより避難した双葉町の住民約１００名について、１００名のうち、９名について測定した結果、以下の通りだった。県外(宮城県)に分かれて避難したが、その後合流して二本松市福島男女共生センターへ移動。

カウント数	人数
18,000cpm	１名
30,000～36,000cpm	１名
40,000cpm	１名
40,000cpm 弱※	１名
ごく小さい値	５名

※（１回目の測定では 100,000cpm を超え、その後靴を脱いで測定した結果計測されたもの）

（４）３月１２日から３月１５日にかけて、大熊町のオフサイトセンターにおいて、スクリーニングを開始。現在までに 162 名が検査済み。初め除染の基準値を 6,000cpm とし、110 名が 6,000cpm 未満、41 名が 6,000cpm 異常の値を示した。後に基準値を 13,000cpm と引き上げた際には、８名が 13,000cpm 未満、３名が 13,000cpm 以上の値を示した。

検査を受けた 162 名のうち、５名が除染処置を施した後、病院へ搬送された。

（５）福島県において、避難した１０ｋｍ圏内の入院患者と病院関係者の避難を実施。関係者のスクリーニングを行った結果、３名について除染後も高い数値が検出されたため、第２次被ばく医療機関へ搬送。この搬送に関係した消防職員６０名のスクリーニングで３名について、バックグランドの２倍以上程度の放射線が検出されたため、６０名に対し除染を行った。

＜従業員等の被ばく＞

（１）福島第一原発で作業していた従業員１８名。測定の結果、１名は１０６．３mSv、その他の方は健康に影響ないレベルであるが具体的な数値は不明。１０６．３mSvの１名は、内部被ばくの恐れはなく医療的処置は不要とのこと。

（２）福島第一原発３号機の爆発の際に近くで作業していて負傷した従業員７名（意識あり）負傷。そのうち６名については福島第二の産業医で除染処置を施し、問題ないことを確認。１名については病院で除染し、治療中。

＜その他＞

（１）福島県は３月１３日からスクリーニングを開始。避難所を巡回、保健所等１２ヶ所（常設）で実施中。実施結果は集計中。

（２）福島第一原発で給水作業に従事していた自衛隊員５名が被ばく。作業終了後（１２日）、ＯＦＣへ移動後の測定では３０，０００cpm。除染後の測定では、５，０００～１０，０００cpm。１名は放医研に搬送。防衛省において、その他自衛官の被ばくは確認されず。

（３）警察官について、警察庁において２名の除染の実施を確認。異常の報告はなし。

＜避難時における安定ヨウ素剤投与の指示＞

１６日、原子力災害対策現地本部から、「避難区域（半径２０ｋｍ）からの避難時における安定ヨウ素剤投与の指示」を県知事及び市町村（富岡町、双葉町、大熊町、浪江町、川内村、楢葉町、南相馬市、田村市、葛尾村、広野町、いわき市、飯館村）宛に発出。

＜負傷者の状況（3 月 20 日 16:30 現在）＞

１．地震による被害

・社員２名（軽傷）
・協力会社２名（うち１名両足骨折）
・行方不明２名（社員。４号タービン建屋内）
・急病人１名発生（脳梗塞、救急車搬送、県情報）
・管理区域外にて社員１名が左胸の痛みを訴えて救急車を要請（意識あり）
・社員２名が中央制御室での全面マスク着用中に不調を訴え、福島第二の産業医の受診を受けるべく搬送

２．福島第一原子力発電所１号機爆発による被害

・１号機付近で爆発と発煙が発生した際に４名が１号タービン建屋付近（管理区域外）で負傷。川内診療所で診療。

３．福島第一原子力発電所３号機の爆発による負傷

・社員４名

・協力会社３名

・自衛隊４名（うち１名は内部被ばくの可能性を考慮し、「(独）放射線医学総合研究所」へ搬送。診察の結果内部被ばくはなし。３月１６日退院）

４．その他の被害

・福島第二原子力発電所内の診療所に変電所から腹痛を訴える人が来たが、被ばくをしていないことからいわき市の診療所へ搬送。

＜住民避難の状況（3 月 20 日 16:30 現在）＞

３月１５日１１：００、内閣総理大臣の指示により、福島第一原子力発電所半径２０ｋｍから３０ｋｍ圏内の住民に対して、屋内退避を指示。その旨を福島県及び関係自治体へ連絡。

福島第一原子力発電所２０ｋｍ圏外及び福島第二原子力発電所１０ｋｍ圏外への避難は、措置済。

・福島第一原子力発電所２０ｋｍから３０ｋｍ圏内の屋内退避について、徹底中。

・福島県と連携して、屋内退避圏内の住民の生活支援等を実施。

（本発表資料のお問い合わせ）
原子力安全・保安院
原子力安全広報課：渡邉、金城
電話：０３－３５０１－１５０５
０３－３５０１－５８９０

（参考）

【東北地方太平洋沖地震】

１．災害概要

（１）発生日時：平成 23 年 3 月 11 日（金）　１４：４６発生

（２）発生場所：震源三陸沖（北緯 38 度、東経 142.9 度）
深さ 10km、マグニチュード 9.0

（３）各地の震度

○震度４以上の地域

震度７　宮城県北部
震度６強　茨城県北部、茨城県南部
震度５強　青森県三八上北
震度５弱　新潟県中越
震度４

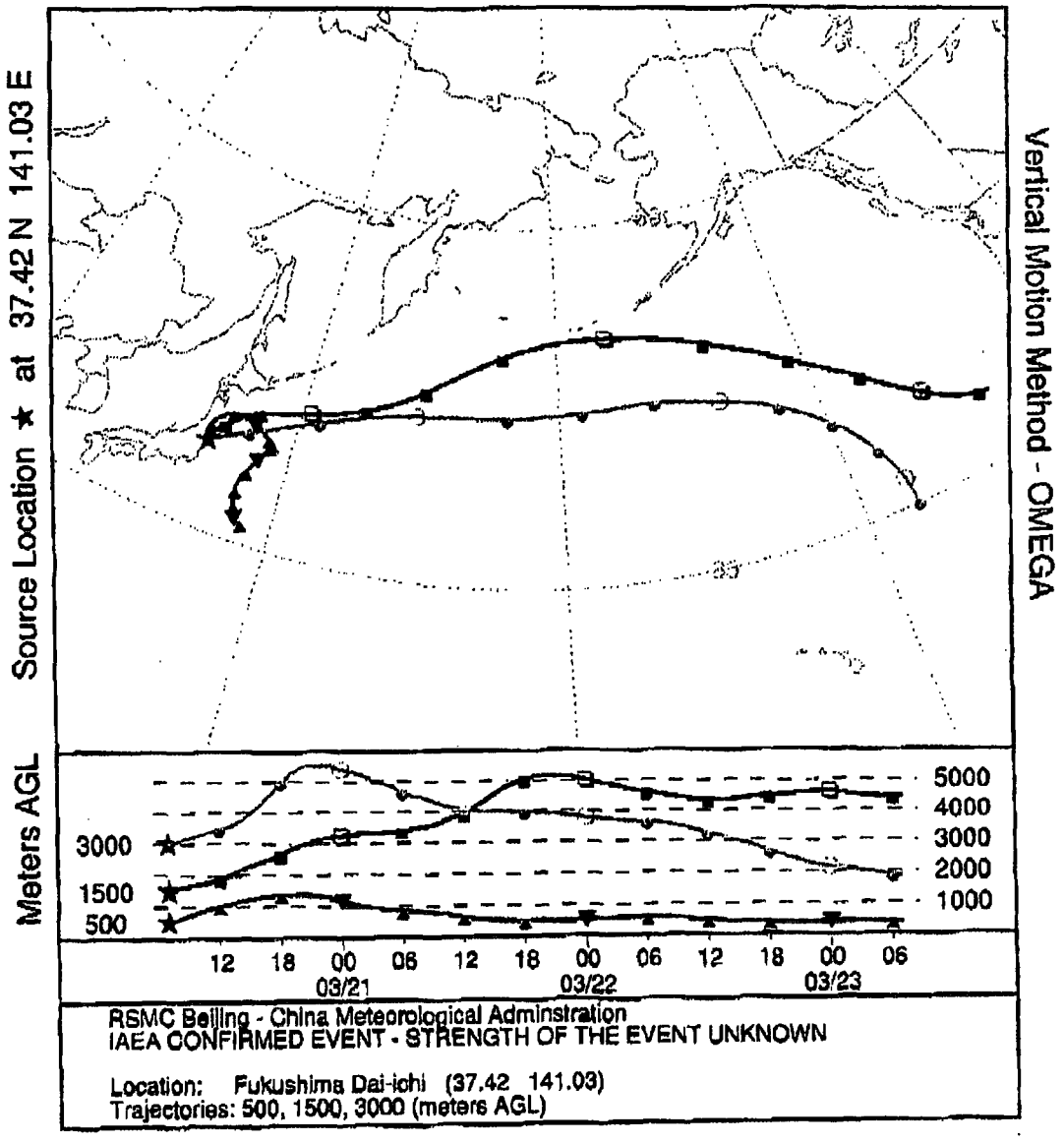
○震度４以上の市町村

震度６強　福島県楢葉町、富岡町、大熊町、双葉町
震度６弱　宮城県石巻市、女川町（発電所の震度計による）、東海村
震度５弱　新潟県刈羽村
震度４　青森県六ケ所村、東通村、新潟県柏崎市、神奈川県横須賀市
震度１　北海道泊村

RSMC BEIJING - CHINA METEOROLOGICAL ADMINISTRATION

Forward trajectories starting at 07 UTC 20 Mar 11

00 UTC 20 Mar CMAG Forecast Initialization



RSMC Beijing - China Meteorological Adminstration
IAEA CONFIRMED EVENT - STRENGTH OF THE EVENT UNKNOWN

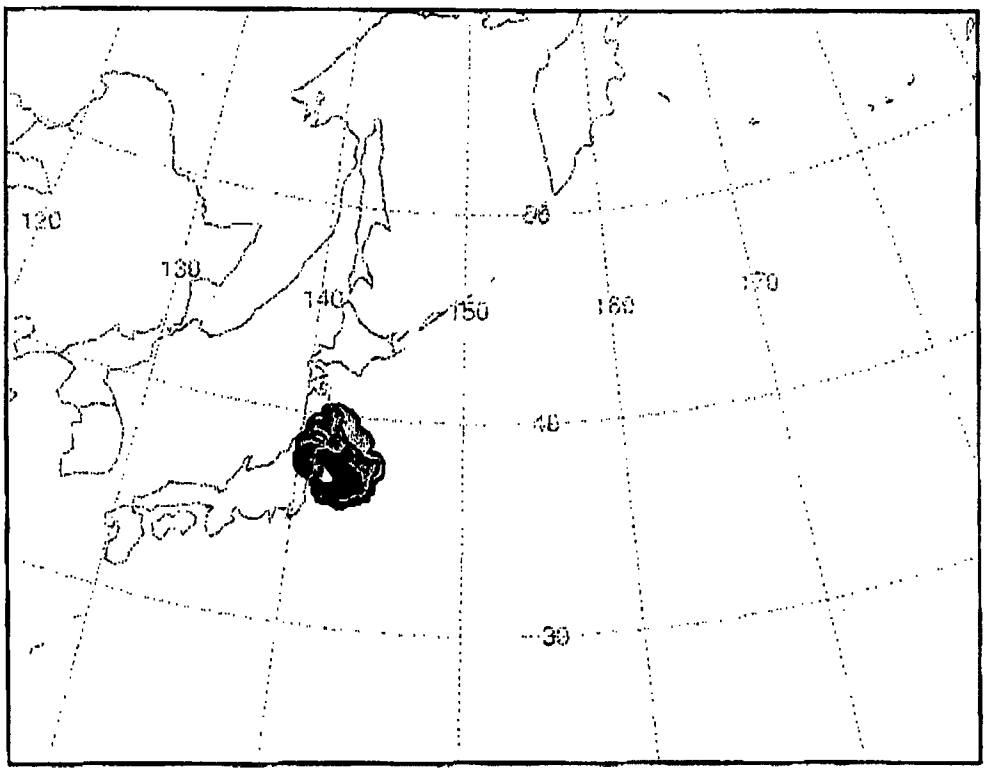
Location: Fukushima Dai-ichi (37.42 141.03)
Trajectories: 500, 1500, 3000 (meters AGL)

03/20/2011 17:48 8601068407469 PAGE 02/05
To:+43126007290000 From:IAEA VIENNA FAX Fax:+43 1 2600 7 KOFAX© at:20-MAR-2011-10:51 Doc:949 Page:002

RSMC BEIJING - CHINA METEOROLOGICAL ADMINISTRATION

Exposure averaged between 0 m and 500 m (Bq-s/m3)
Integrated from 00z 20 Mar to 00z 21 Mar (UTC)
I131 Release Started at 07Z 20 Mar (UTC)

Source (★) 37.42 N 141.03 E from 20 to 500 m



00Z 20 Mar 11 CMAG FORECAST INITIALIZATION

1.0E-10 1.0E-11 1.0E-12 1.0E-13

2.6E-10 Maximum at square

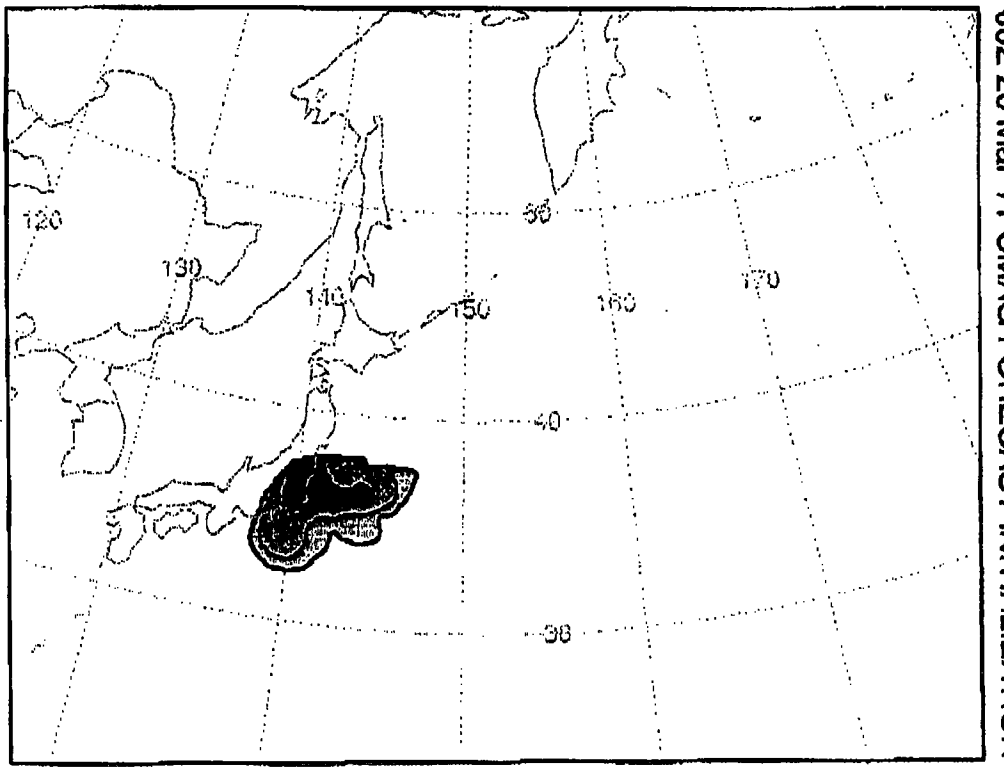
IAEA CONFIRMED EVENT - STRENGTH OF THE EVENT UNKNOWN
Location: Fukushima Dai-Ichi (37.42 141.03)
Meteorology: GT213
Emission: 1.0 Bq of I131 over 72 hr
Distribution: Uniform between 20 m - 500 m agl
Deposition: Wet and Dry (0.1 cm/s)
Notes: Contours may change from map to map
Results based on default values

03/20/2011 17:48 8601058407469 PAGE 03/05
To:+43126007290000 From:IAEA VIENNA FAX Fax:+43 1 2600 7 KOFAX® at:20-MAR-2011-10:51 Doc:949 Page:003

RSMC BEIJING - CHINA METEOROLOGICAL ADMINISTRATION

Exposure averaged between 0 m and 500 m (Bq-s/m3)
Integrated from 00z 21 Mar to 00z 22 Mar (UTC)
I131 Release Started at 07Z 20 Mar (UTC)

Source (★) 37.42 N 141.03 E from 20 to 500 m



00Z 20 Mar 11 CMAG FORECAST INITIALIZATION

1.0E-09 1.0E-11 1.0E-13 1.0E-15

1.2E-09 Maximum at square

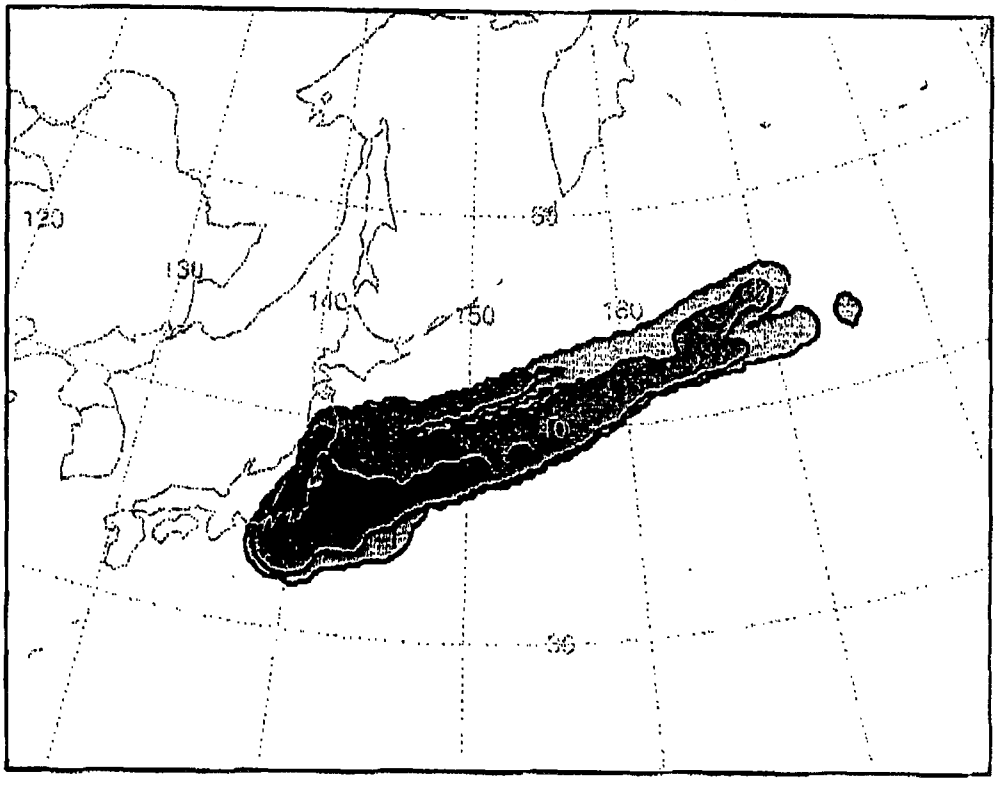
IAEA CONFIRMED EVENT - STRENGTH OF THE EVENT UNKNOWN
Location: Fukushima Dai-ichi (37.42 141.03)
Meteorology: GT213
Emission: 1.0 Bq of I131 over 72 hr
Distribution: Uniform between 20 m - 500 m agl
Deposition: Wet and Dry (0.1 cm/s)
Notes: Contours may change from map to map
Results based on default values

03/20/2011 17:48 8501068407469 PAGE 04/05
To:+43126007290 00 From:IAEA VIENNA FAX Fax:+43 1 2600 7 KOFAX3 at:20-MAR-2011-10:31 Dnc:949 Page:004

RSMC BEIJING - CHINA METEOROLOGICAL ADMINISTRATION

Deposition at Ground-Level (Bq/m2)
Integrated from 00z 20 Mar to 00z 22 Mar (UTC)
I131 Release Started at 07Z 20 Mar (UTC)

Source (★) 37.42 N 141.03 E from 20 to 500 m



00Z 20 Mar 11 CMAG FORECAST INITIALIZATION

1.0E-11 1.0E-13 1.0E-15 1.0E-17

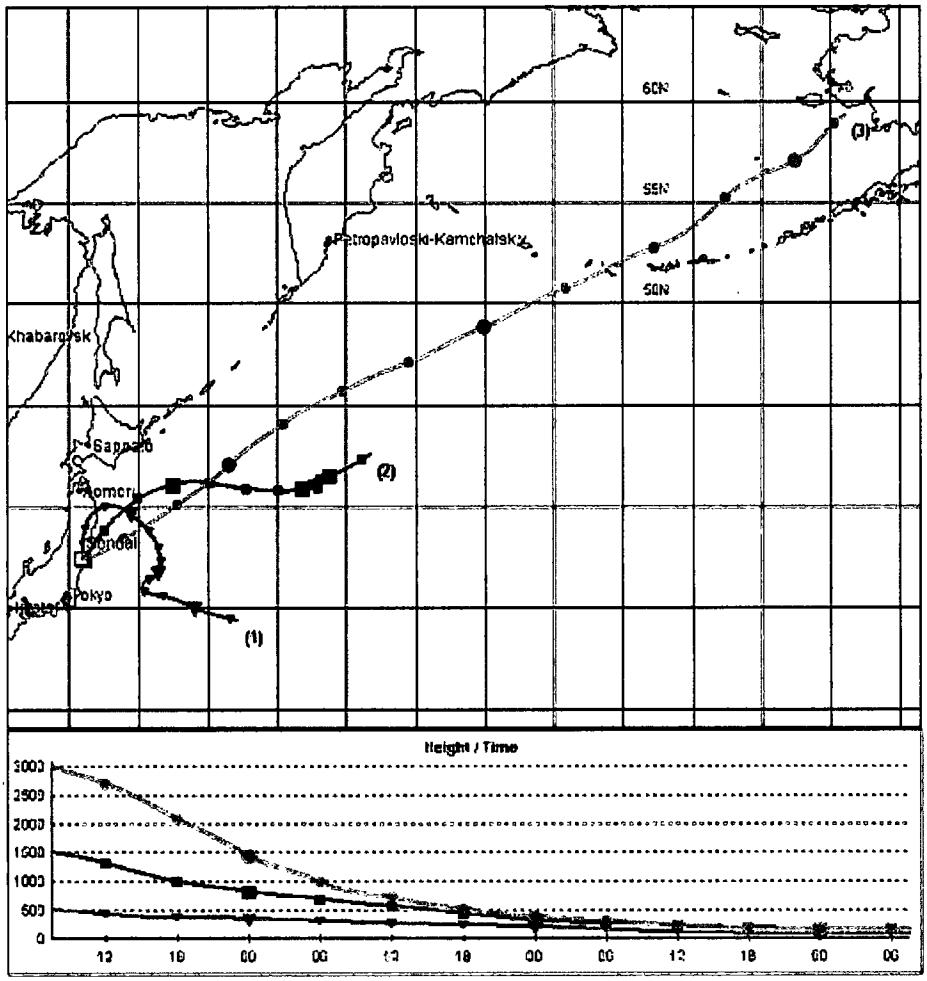
5.3E-11 Maximum at square

IAEA CONFIRMED EVENT - STRENGTH OF THE EVENT UNKNOWN
Location: Fukushima Dai-ichi (37.42 141.03)
Meteorology: GT213
Emission: 1.0 Bq of I131 over 72 hr
Distribution: Uniform between 20 m - 500 m agl
Deposition: Wet and Dry (0.1 cm/s)
Notes: Contours may change from map to map
Results based on default values

03/20/2011 17:48 8601068407469 PAGE 05/05
To:+431260072900 From:IAEA VIENNA FAX Fax:+43 1 2600 7 KOFAX:9 at:20-MAR-2011-10:51 Dnis:949 Page:005

RSMC Obninsk, Russia

Forward trajectories



Levels: (1) 500 m (2) 1500 m (3) 3000 m

Date of release: 20 Mar 2011, 7:30 UTC

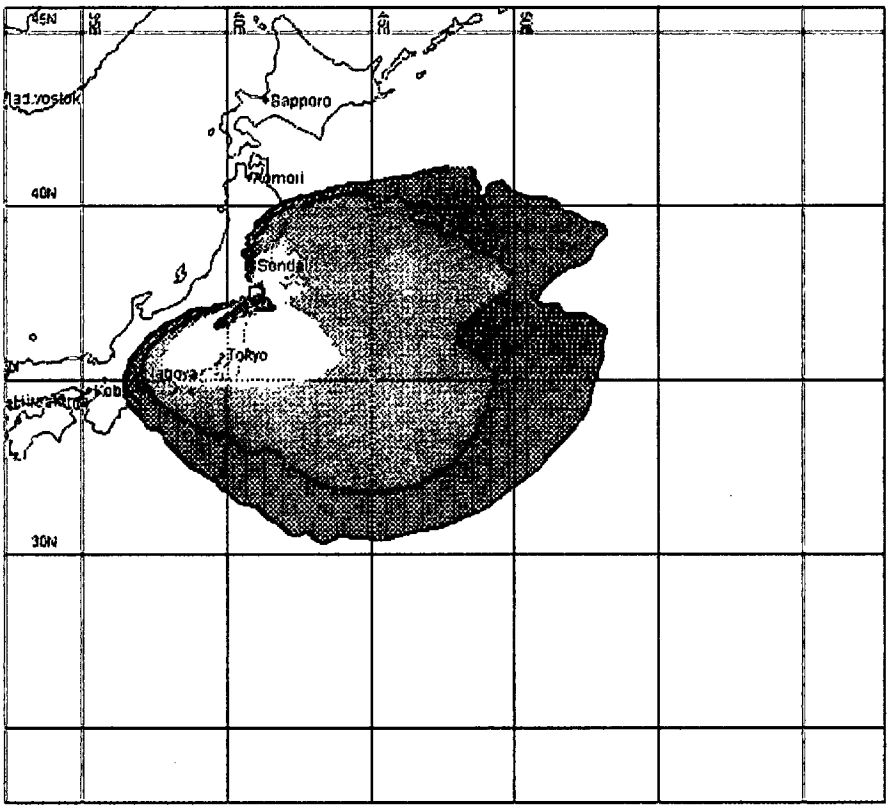
Source location: 141.03° E, 37.42° N

Chart 1/6

RSMC Obninsk, Russia

Total deposition

from 20 Mar 2011, 07:30 to 23 Mar 2011, 07:30 UTC



Contours: 1e-11 1e-12 1e-13 1e-14

Maximum value 1.1e-10 Bq/m2

Date of release 20 Mar 2011, 7:30 UTC

Duration 72:00

Source location: 141.03° E, 37.42° N

Vert. distribution: uniform 20-500 m

Total release 1 Bq of I-131

Contour values may change from chart to chart

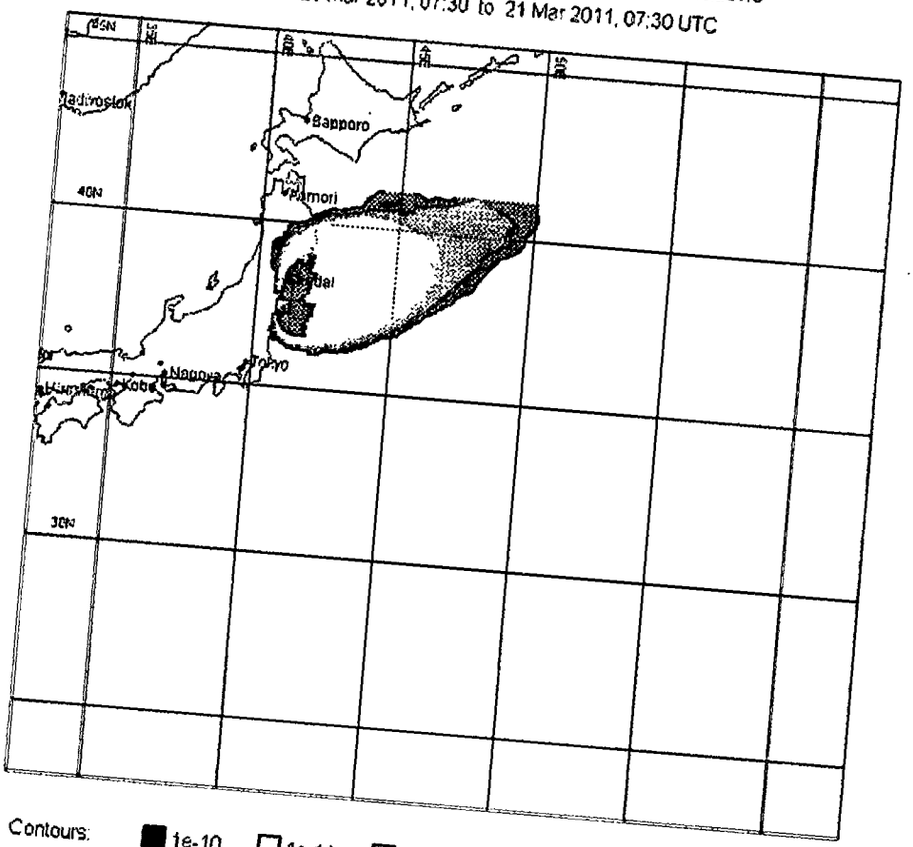
Results based on default initial values

Chart 2/6

RSMC Obninsk, Russia

Time integrated surface to 500m layer concentrations

from 20 Mar 2011, 07:30 to 21 Mar 2011, 07:30 UTC



Contours: 1e-10 1e-11 1e-12 1e-13

Maximum value 2.1e-09 Bq*s/m3

Date of release 20 Mar 2011, 7:30 UTC

Source location: 141.03° E, 37.42° N

Total release: 1 Bq of I-131

Duration: 72:00

Vert. distribution: uniform 20-500 m

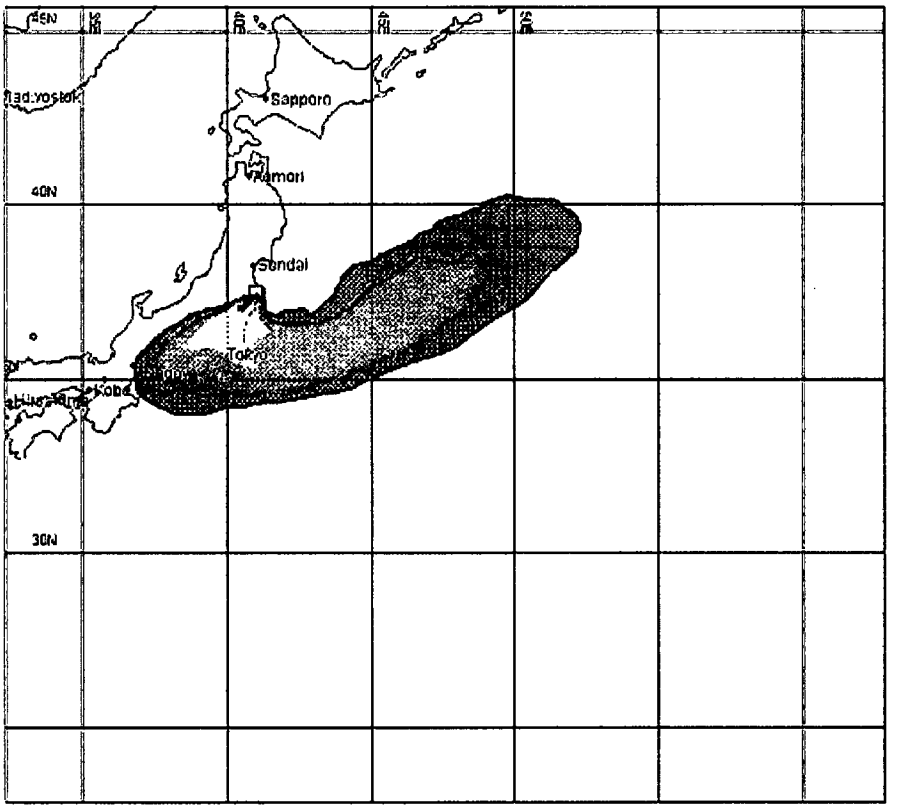
Contour values may change from chart to chart

Results based on default initial values

RSMC Obninsk, Russia

Time integrated surface to 500m layer concentrations

from 21 Mar 2011, 07:30 to 22 Mar 2011, 07:30 UTC



Contours: 1e-09 1e-10 1e-11 1e-12

Maximum value 5.6e-09 Bq*s/m3

Date of release 20 Mar 2011, 7:30 UTC

Source location: 141.03° E, 37.42° N

Total release 1 Bq of I-131

Duration: 72:00

Vert. distribution: uniform 20-500 m

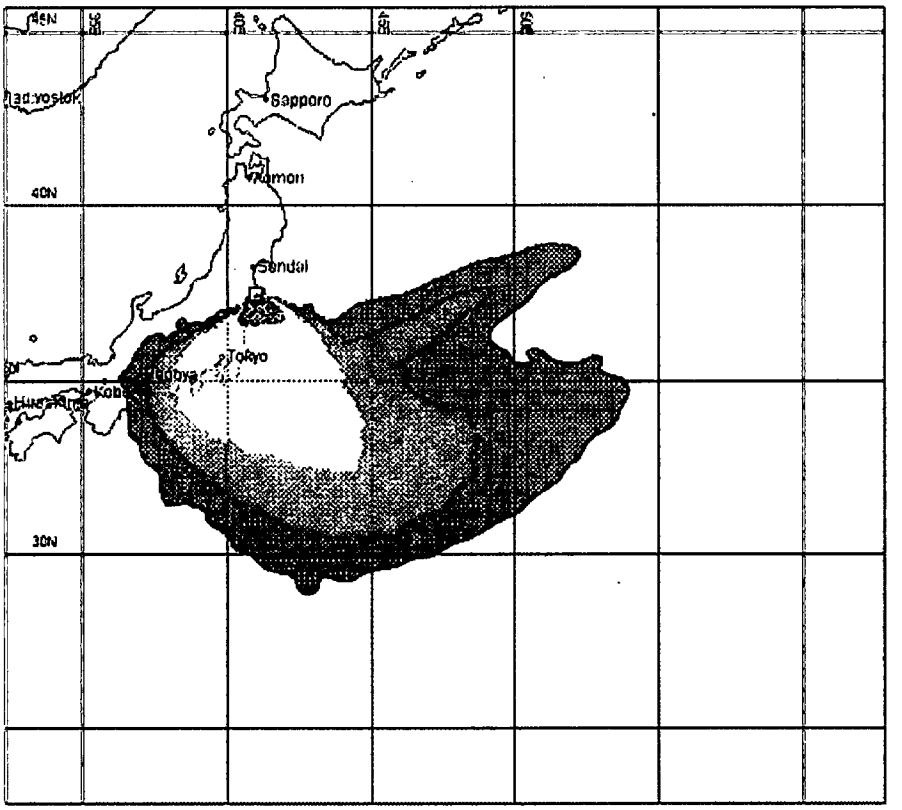
Contour values may change from chart to chart

Results based on default initial values

RSMC Obninsk, Russia

Time integrated surface to 500m layer concentrations

from 22 Mar 2011, 07:30 to 23 Mar 2011, 07:30 UTC



Contours: 1e-10 1e-11 1e-12 1e-13

Maximum value. 2.6e-09 Bq*s/m3

Date of release: 20 Mar 2011, 7:30 UTC

Source location: 141.03° E, 37.42° N

Total release 1 Bq of I-131

Duration: 72:00

Vert. distribution. uniform 20-500 m

Contour values may change from chart to chart

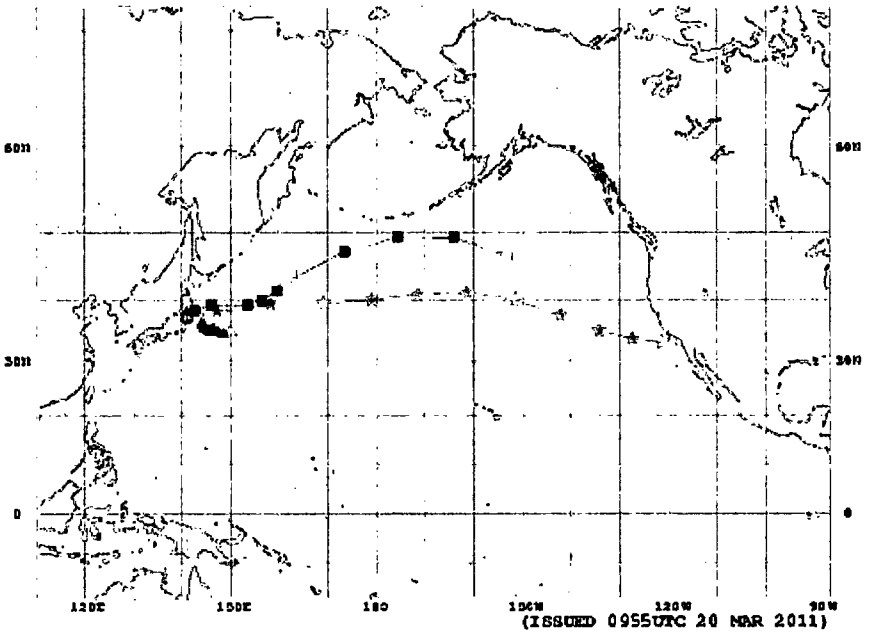
Results based on default initial values

Chart 5/6

☐ DELEGATED AUTHORITY REQUESTED
☐ IAEA NOTIFIED EMERGENCY

3-D TRAJECTORY

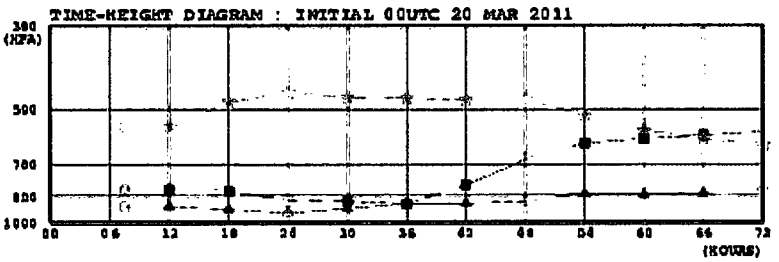
FROM 07UTC 20 MAR 2011 TO 00UTC 23 MAR 2011



(ISSUED 0955UTC 20 MAR 2011)

▲ INITIAL HEIGHT - 500M ABOVE THE SURFACE
■ INITIAL HEIGHT - 1500M ABOVE THE SURFACE
★ INITIAL HEIGHT - 3000M ABOVE THE SURFACE
MARKED WITH TIME INTERVAL OF 6 HOURS
SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI

TIME-HEIGHT DIAGRAM : INITIAL 00UTC 20 MAR 2011

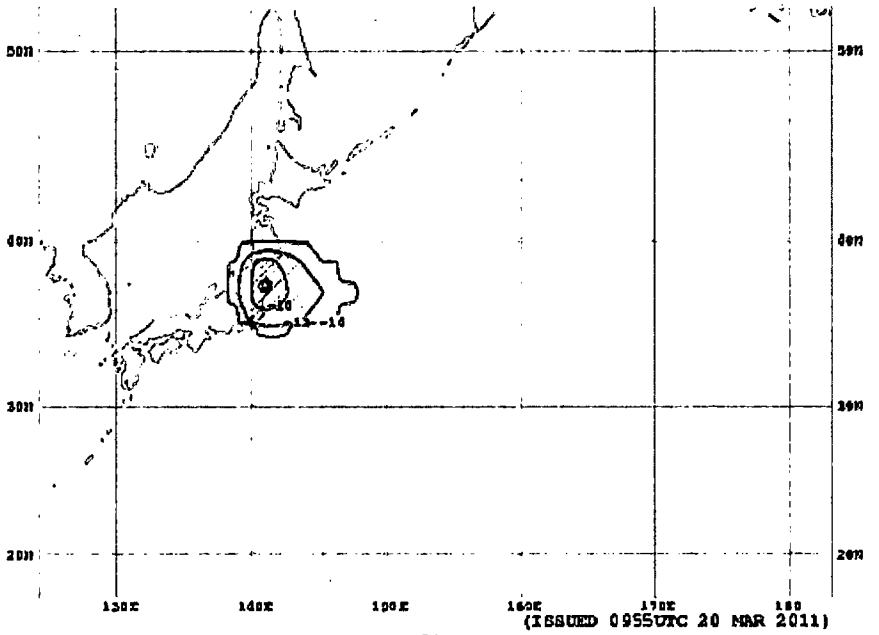


JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 1 / 5

☐ DELEGATED AUTHORITY REQUESTED
☐ IAEA NOTIFIED EMERGENCY

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 07UTC 20 MAR 2011
TO 00UTC 21 MAR 2011



(ISSUED 0955UTC 20 MAR 2011)

ASSUMED POLLUTANT RELEASED : I -131
START OF THE EMISSION : 0730UTC 20 MAR 2011
END OF THE EMISSION : 0730UTC 23 MAR 2011
⊙ SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 500M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 4.90E-9 (BQ.S/M3)
CONTOURS: 1E-10, 1E-12, 1E-14

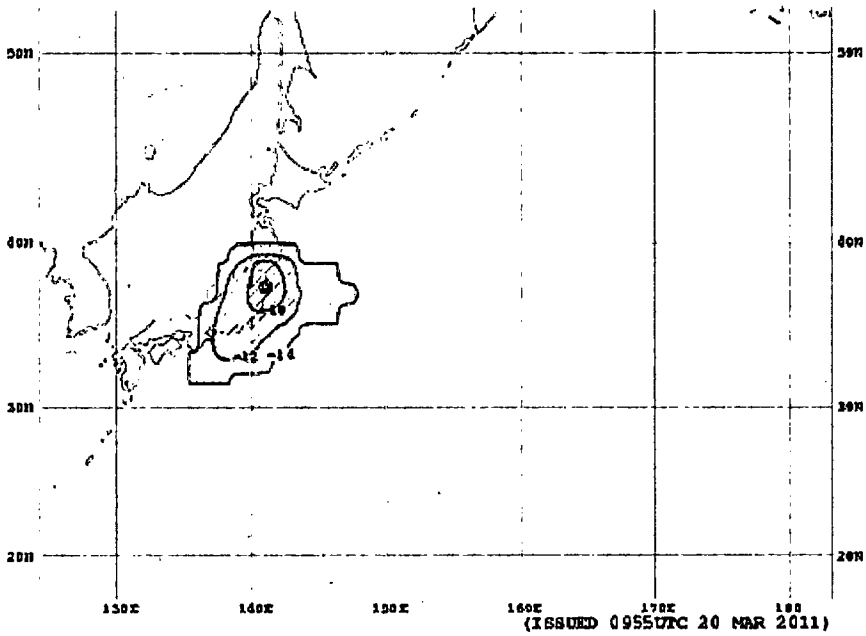
CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 2 / 5

☐ DELEGATED AUTHORITY REQUESTED
☐ IAEA NOTIFIED EMERGENCY

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 00UTC 21 MAR 2011
TO 00UTC 22 MAR 2011



(ISSUED 0955UTC 20 MAR 2011)

ASSUMED POLLUTANT RELEASED : I -131
START OF THE EMISSION : 0730UTC 20 MAR 2011
END OF THE EMISSION : 0730UTC 23 MAR 2011
✪ SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 500M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 4.27E-9 (BQ.S/M3)
CONTOURS: 1E-10 , 1E-12 , 1E-14

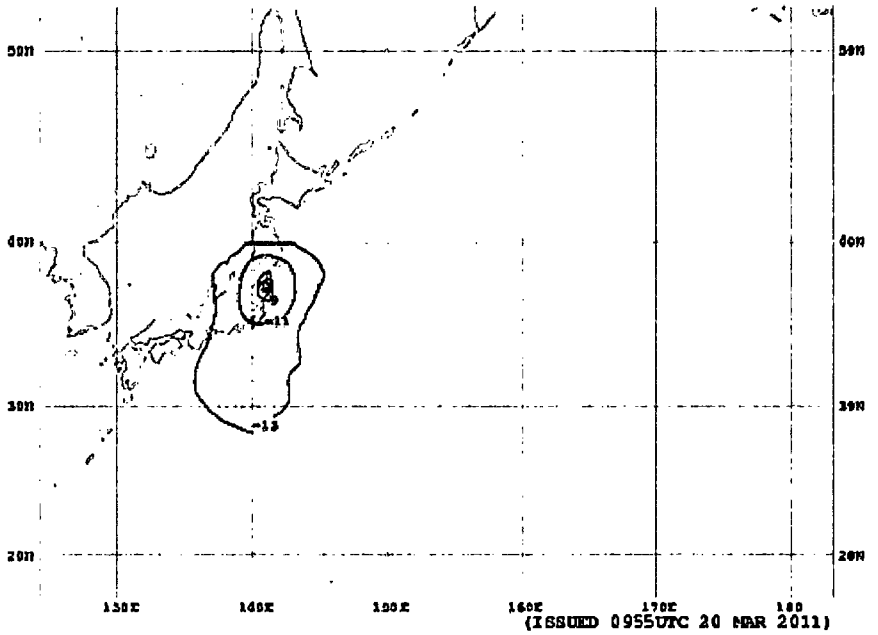
CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 3 / 5

☐ DELEGATED AUTHORITY REQUESTED
☐ IAEA NOTIFIED EMERGENCY

TIME INTEGRATED SURFACE - 500M LAYER CONCENTRATION

INTEGRATED FROM 00UTC 22 MAR 2011
TO 00UTC 23 MAR 2011



(ISSUED 0955UTC 20 MAR 2011)

ASSUMED POLLUTANT RELEASED : I -131
START OF THE EMISSION : 0730UTC 20 MAR 2011
END OF THE EMISSION : 0730UTC 23 MAR 2011
⊙ SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 500M ABOVE THE GROUND
UNIT : (BQ.S/M3)
MAXIMUM : 2.01E-9 (BQ.S/M3)
CONTOURS: 1E-9, 1E-11, 1E-13

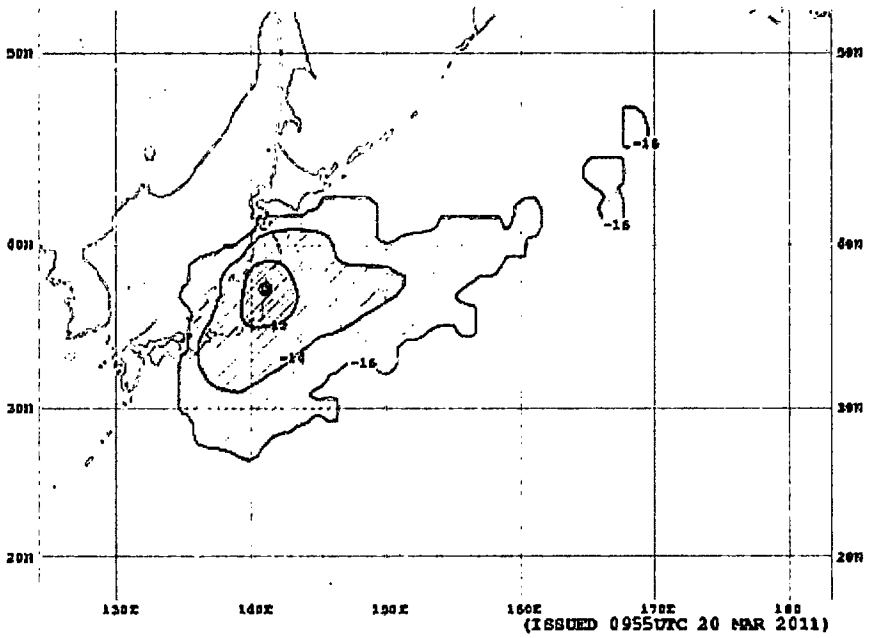
CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 4 / 5

☐ DELEGATED AUTHORITY REQUESTED
☐ IAEA NOTIFIED EMERGENCY

TOTAL (WET AND DRY) DEPOSITION

INTEGRATED FROM 07UTC 20 MAR 2011
TO 00UTC 23 MAR 2011



(ISSUED 0955UTC 20 MAR 2011)

ASSUMED POLLUTANT RELEASED : I -131
START OF THE EMISSION : 0730UTC 20 MAR 2011
END OF THE EMISSION : 0730UTC 23 MAR 2011
✪ SOURCE LOCATION : LATITUDE 37.42N
LONGITUDE 141.03E
NAME FUKUSHIMA DAIICHI
ASSUMED TOTAL EMISSION : 1 BECQUEREL
UNIFORM RELEASE FROM 20- 500M ABOVE THE GROUND
UNIT : (BQ/M2)
MAXIMUM : 1.44E-11 (BQ/M2)
CONTOURS: 1E-12 , 1E-14 , 1E-16

CONTOUR VALUES MAY CHANGE FROM CHART TO CHART

JAPAN METEOROLOGICAL AGENCY
GLOBAL TRACER TRANSPORT MODEL
CHART 5 / 5

JOINT STATEMENT
by: RSMC Tokyo(JP), RSMC Obninsk(RU) and RSMC Beijing(CN)

Emergency notified by the IAEA (Emergency)

Issued: 12:40 **UTC, Mar. 20, 2011**

RADIOLOGICAL EVENT DETAILS
Source:
Fukushima Dai-ichi, Japan
Location:
37.4206 degrees North latitude, 141.0329 degrees East longitude
Release date-time:
From: 07:30 UTC 20 Mar 2011
To: 07:30 UTC 23 Mar 2011
Comments:
Emergency Accident

Weather Situation

A low pressure system was formed over the East China Sea on 20th March. The system with a moderate precipitation moved eastward and reached to the western part of the Sea of Japan. After the system will pass over Japan, a stationary front will form along the southern coast of Japan. The front will be quasi-stationary up to 22th March, and it will bring a moderate precipitation over eastern part of Japan.

Trajectories

RSMC Beijing predicts that the tracers at 500m is mainly moving to northeast in first 24 hours and then make a clockwise turn to southwest during the following 48 hours. At 1500m and 3000m, the forecast trajectories will move to east in first 72 hours.
RSMC Tokyo predicts that the tracers at 500m, 1500m and 3000m will move to east in the first 24 hours. Then, the tracer released at 500m is moving toward southeast slowly in the following 60 hours. The tracer released at 1500m will turn to the northeast for the next 24 hours. And, the tracer at 3000m will continue to move to the east and reach to near the western coastal area of U.S. at the end of the forecast period.
RSMC Obninsk's simulation shows that the tracer at 500m will follow the 3/4 cycle located in east of Japan Sea in next 48 hours and then turn to southeast. The tracer at 1500 will move to northeast in first 24 hours and then go to east in next 24 hour followed by a turn of northeast.

Exposure

RSMC Beijing and RSMC Tokyo's exposure areas will spread toward east for the first 24 hours and then spread toward southwest from the start of emissions for the following 60 hours. The exposure of RSMC Obninsk will spread to northeast.

Depositions

The deposition areas for the forecast period from three RSMCs cover the eastern part of Japan and the Pacific Ocean off the coast of the eastern part of Japan.

Summary

There would be a hazard around eastern part of Japan and western part of the North Pacific Ocean.

END

From:	HOO Hoc
To:	HOO Hoc; LIA07 Hoc; OST01 HOC; OST02 HOC; OST03 HOC
Subject:	FW: Radiation data by MEXT
Date:	Sunday, March 20, 2011 8:50:58 AM
Attachments:	20110320_10.pdf 20110320_11.pdf 20110320_12.pdf 20110320_13.pdf 20110320_14.pdf

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From: NITOPS[SMTP:NITOPS@NNSA.DOE.GOV]
Sent: Sunday, March 20, 2011 8:50:50 AM
To: CMHT; HOO Hoc; NARAC; PMT01 Hoc; PMT02 Hoc; Hoc, PMT12
Cc: NITOPS
Subject: FW: Radiation data by MEXT
Auto forwarded by a Rule

Japanese Data.

Nuclear Incident Team (NIT)
Office of Emergency Response (NA-42)
National Nuclear Security Administration
U.S. Department of Energy
nitops@nnsa.doe.gov
nit@doe.sgov.gov
202-586-8100

-----Original Message-----
From: Cherry, Ron
Sent: Sunday, March 20, 2011 8:45 AM
To: JapanEmbassy, TaskForce; NITOPS; CMHT; NRC PMT
Cc: Duncan, Aleshia (State Dept); Uchida, Koichi
Subject: FW: Radiation data by MEXT

Forwarding.

This email is UNCLASSIFIED

-----Original Message-----
From: saigai03@mext.go.jp [mailto:saigai03@mext.go.jp]
Sent: Sunday, March 20, 2011 7:50 PM
To: Cherry, Ronald C
Cc: Duncan, Aleshia D; Uchida, Koichi; akasaka@mext.go.jp; senami@mext.go.jp; cmht@nnsa.doe.gov; reachback@cnttr.dtra.mil; paul.guss@usfj.mil; latrice.davis@jtfcs.northcom.mil; Robinson, Alexis M CTR DTRA; Wright, Curry D Civ DTRA; Wong, Christopher L MAJ USA DTRA; Peeke, Richard S. MAJ USA; Davis, Latrice Y. CPT USA; richard.peeke@jtfcs.northcom.mil; Craig.Haas@usfj.mil; david.mack@yokota.af.mil
Subject: Radiation data by MEXT

Dear Mr. Cherry,

Please see attached the document.

154/AA

Sincerely yours,
Eiko SENAMI

Eiko SENAMI (Ms.)
Office of International Relations, Nuclear Safety Division, Ministry of Education, Culture, Sports, Science and Technology - Japan

プレス発表資料

福島第一原子力発電所の20Km以遠のモニタリング結果について

平成23年3月20日19時00分現在
文　部　科　学　省

1. 文部科学省が集計した結果

注)太下線データが今回追加分
注)3月20日より警察(NBC対策部隊)が協力

＊1　GM(ガイガー=ミューラー計測管)における値
＊2　電離箱における値
＊3 NaI(ヨウ化ナトリウム)シンチレータにおける値

場所(福島第1発電所からの距離)	測定日時	数値(マイクロシーベルト／時)(記載のない限り屋外)	天候	実施者
測定箇所　【1】　(約60Km北西)	3月20日17時30分	6.0 *2	降雨無し	文部科学省
測定箇所　【1】　(約60Km北西)	3月20日9時10分	5.0 *2	降雨無し	原子力安全技術センター
測定箇所　【2】　(約55Km北西)	3月20日15時06分	12.0 *2	降雨無し	日本原子力研究開発機構
測定箇所　【2】　(約55Km北西)	3月20日9時55分	9.3 *2	降雨無し	日本原子力研究開発機構
測定箇所　【3】　(約45Km北西)	3月20日14時36分	14.0 *2	降雨無し	日本原子力研究開発機構
測定箇所　【3】　(約45Km北西)	3月20日10時27分	11.7 *2	降雨無し	日本原子力研究開発機構
測定箇所　【4】　(約50Km北西)	3月20日15時44分	6.7 *2	降雨無し	原子力安全技術センター
測定箇所　【4】　(約50Km北西)	3月20日10時33分	5.3 *2	降雨無し	原子力安全技術センター
測定箇所　【5】　(約45Km北)	3月20日13時02分	1.2 *2	降雨無し	日本原子力研究開発機構
測定箇所　【5】　(約45Km北)	3月20日12時19分	1.2 *2	降雨無し	日本原子力研究開発機構
測定箇所　【5】　(約45Km北)	3月20日11時03分	1.2 *2	降雨無し	日本原子力研究開発機構
測定箇所　【6】　(約45Km北)	3月20日13時18分	2.7 *2	降雨無し	日本原子力研究開発機構
測定箇所　【6】　(約45Km北)	3月20日12時34分	2.8 *2	降雨無し	日本原子力研究開発機構
測定箇所　【6】　(約45Km北)	3月20日11時26分	2.5 *2	降雨無し	日本原子力研究開発機構
測定箇所　【7】　(約45Km北)	3月20日13時24分	2.2 *2	降雨無し	日本原子力研究開発機構

＊1　GM(ガイガー=ミューラー計測管)における値
＊2　電離箱における値
＊3 NaI(ヨウ化ナトリウム)シンチレータにおける値

場所(福島第1発電所からの距離)	測定日時	数値(マイクロシーベルト／時)(記載のない限り屋外)	天候	実施者
測定箇所　【7】　(約45Km北)	3月20日12時38分	2.6 *2	降雨無し	日本原子力研究開発機構
測定箇所　【7】　(約45Km北)	3月20日11時35分	2.0 *2	降雨無し	日本原子力研究開発機構
測定箇所　【9】　(約45Km北)	3月20日17時31分	2.5 *2	降雨無し	原子力安全技術センター
測定箇所　【10】　(約40Km北西)	3月20日15時20分	5.0 *2	降雨無し	原子力安全技術センター
測定箇所　【10】　(約40Km北西)	3月20日10時55分	5.2 *2	降雨無し	原子力安全技術センター
測定箇所　【11】　(約40Km北西)	3月20日15時10分	5.2 *2	降雨無し	原子力安全技術センター
測定箇所　【11】　(約40Km北西)	3月20日11時05分	5.1 *2	降雨無し	原子力安全技術センター
測定箇所　【12】　(約40Km西)	3月20日17時02分	0.6 *2	降雨無し	原子力安全技術センター
測定箇所　【12】　(約40Km西)	3月20日11時38分	0.7 *2	降雨無し	原子力安全技術センター
測定箇所　【13】　(約40Km西)	3月20日13時56分	1.1 *2	降雨無し	原子力安全技術センター
測定箇所　【13】　(約40Km西)	3月20日12時56分	1.0 *2	降雨無し	原子力安全技術センター
測定箇所　【13】　(約40Km西)	3月20日11時56分	0.9 *2	降雨無し	原子力安全技術センター
測定箇所　【14】　(約35Km西)	3月20日14時04分	0.8 *2	降雨無し	原子力安全技術センター
測定箇所　【14】　(約35Km西)	3月20日13時04分	0.9 *2	降雨無し	原子力安全技術センター
測定箇所　【14】　(約35Km西)	3月20日12時04分	0.7 *2	降雨無し	原子力安全技術センター
測定箇所　【15】　(約35Km西)	3月20日14時13分	3.2 *2	降雨無し	原子力安全技術センター
測定箇所　【15】　(約35Km西)	3月20日13時13分	3.8 *2	降雨無し	原子力安全技術センター
測定箇所　【15】　(約35Km西)	3月20日12時13分	3.7 *2	降雨無し	原子力安全技術センター
測定箇所　【20】　(約45Km北西)	3月20日11時30分	2.6 *2	降雨無し	原子力安全技術センター

＊1　GM(ガイガー=ミューラー計測管)における値
＊2　電離箱における値
＊3 NaI(ヨウ化ナトリウム)シンチレータにおける値

場所(福島第1発電所からの距離)	測定日時	数値(マイクロシーベルト／時)(記載のない限り屋外)	天候	実施者
測定箇所　【21】　(約30Km西北西)	3月20日14時16分	13.7 *2	降雨無し	原子力安全技術センター
測定箇所　【21】　(約30Km西北西)	3月20日13時16分	12.7 *2	降雨無し	原子力安全技術センター
測定箇所　【21】　(約30Km西北西)	3月20日12時16分	12.1 *2	降雨無し	原子力安全技術センター
測定箇所　【22】　(約35Km西北西)	3月20日13時58分	3.9 *2	降雨無し	原子力安全技術センター
測定箇所　【22】　(約35Km西北西)	3月20日12時58分	4.3 *2	降雨無し	原子力安全技術センター
測定箇所　【22】　(約35Km西北西)	3月20日11時58分	4.0 *2	降雨無し	原子力安全技術センター
測定箇所　【23】　(約35Km西北西)	3月20日13時43分	4.4 *2	降雨無し	原子力安全技術センター
測定箇所　【23】　(約35Km西北西)	3月20日12時43分	3.0 *2	降雨無し	原子力安全技術センター
測定箇所　【23】　(約35Km西北西)	3月20日11時43分	2.8 *2	降雨無し	原子力安全技術センター
測定箇所　【31】　(約30Km西北西)	3月20日14時15分	45.0 *2	降雨無し	文部科学省
測定箇所　【31】　(約30Km西北西)	3月20日13時13分	45.0 *2	降雨無し	文部科学省
測定箇所　【31】　(約30Km西北西)	3月20日11時48分	45.0 *2	降雨無し	文部科学省
測定箇所　【32】　(約30Km北西)	**3月20日15時03分**	**105.0 *2**	**降雨無し**	**文部科学省**
測定箇所　【32】　(約30Km北西)	3月20日14時03分	110.0 *2	降雨無し	文部科学省
測定箇所　【32】　(約30Km北西)	3月20日13時03分	110.0 *2	降雨無し	文部科学省
測定箇所　【33】　(約30Km北西)	3月20日14時35分	60.0 *2	降雨無し	文部科学省
測定箇所　【33】　(約30Km北西)	3月20日13時25分	55.0 *2	降雨無し	文部科学省
測定箇所　【33】　(約30Km北西)	3月20日12時25分	55.0 *2	降雨無し	文部科学省
測定箇所　【34】　(約30Km北西)	**3月20日15時56分**	**25.0 *2**	**降雨無し**	**文部科学省**

＊1　GM（ガイガー=ミューラー計測管）における値
＊2　電離箱における値
＊3 NaI（ヨウ化ナトリウム）シンチレータにおける値

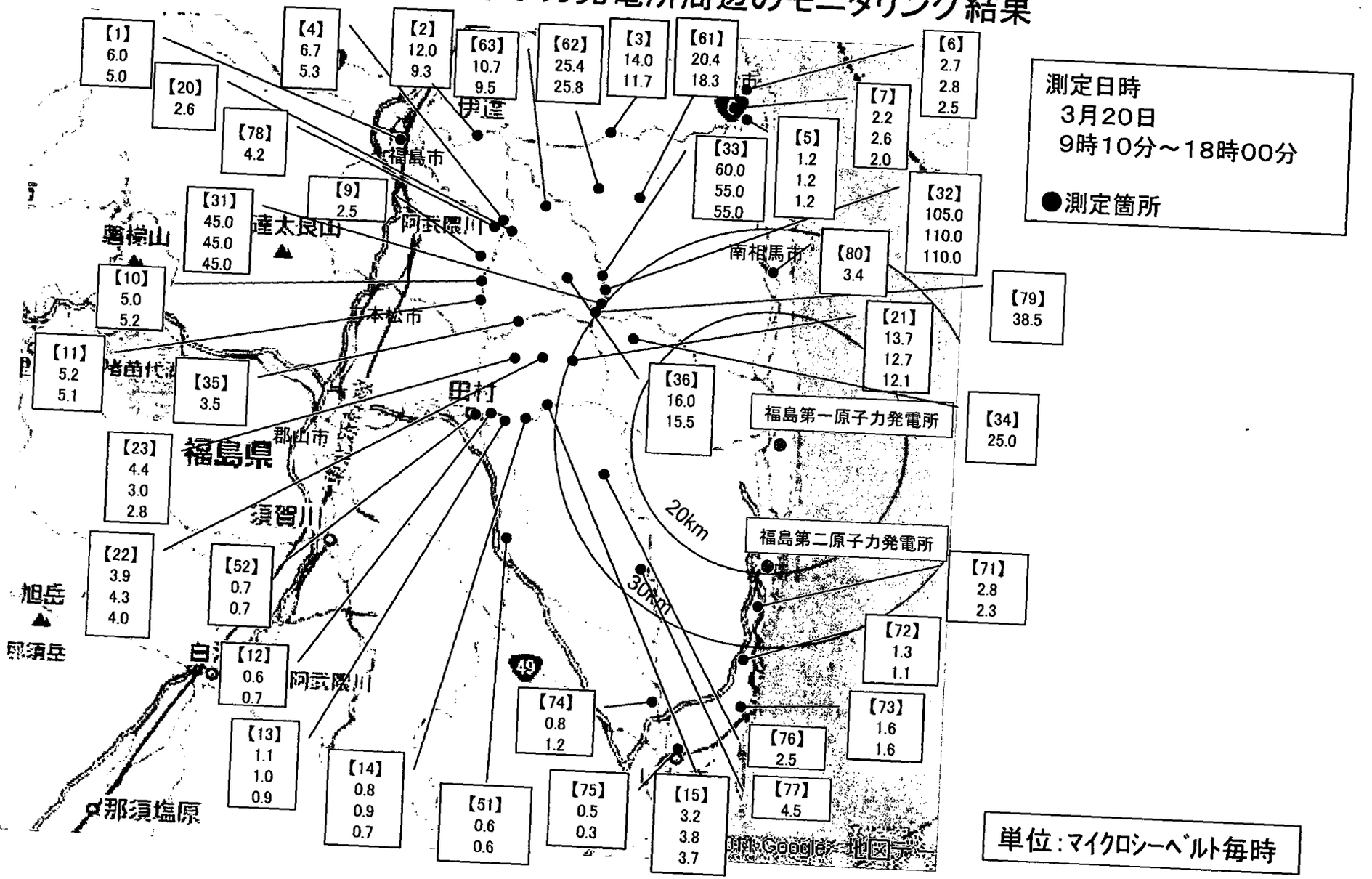
場所（福島第1発電所からの距離）	測定日時	数値（マイクロシーベルト／時）（記載のない限り屋外）	天候	実施者
測定箇所　【35】　（約30Km南）	3月20日15時32分	3.5 *2	降雨無し	文部科学省
測定箇所　【36】　（約40Km北西）	3月20日11時20分	15.5 *2	降雨無し	文部科学省
測定箇所　【36】　（約40Km北西）	3月20日16時20分	16.0 *2	降雨無し	文部科学省
測定箇所　【51】　（約40Km南西）	3月20日16時45分	0.6 *3	降雨無し	福島県
測定箇所　【51】　（約40Km南西）	3月20日13時50分	0.6 *3	降雨無し	福島県
測定箇所　【52】　（約40Km西）	3月20日17時12分	0.7 *3	降雨無し	福島県
測定箇所　【52】　（約40Km西）	3月20日12時40分	0.7 *3	降雨無し	福島県
測定箇所　【61】　（約40Km北西）	3月20日15時48分	20.4 *3	降雨無し	福島県
測定箇所　【61】　（約40Km北西）	3月20日13時55分	18.3 *3	降雨無し	福島県
測定箇所　【62】　（約40Km北西）	3月20日15時59分	25.4 *3	降雨無し	福島県
測定箇所　【62】　（約40Km北西）	3月20日13時00分	25.8 *3	降雨無し	福島県
測定箇所　【63】　（約45Km北西）	3月20日16時13分	10.7 *3	降雨無し	福島県
測定箇所　【63】　（約45Km北西）	3月20日12時24分	9.5 *3	降雨無し	福島県
測定箇所　【71】　（約25Km南）	3月20日15時43分	2.8 *2	降雨無し	警察（NBC対策部隊）
測定箇所　【71】　（約25Km南）	3月20日9時22分	2.3 *2	降雨無し	警察（NBC対策部隊）
測定箇所　【72】　（約30Km南）	3月20日15時31分	1.3 *2	降雨無し	警察（NBC対策部隊）
測定箇所　【72】　（約30Km南）	3月20日9時07分	1.1 *2	降雨無し	警察（NBC対策部隊）
測定箇所　【73】　（約35Km南）	3月20日15時08分	1.6 *2	降雨無し	警察（NBC対策部隊）
測定箇所　【73】　（約35Km南）	3月20日8時56分	1.6 *2	降雨無し	警察（NBC対策部隊）

＊1　GM(ガイガー=ミューラー計測管)における値
＊2　電離箱における値
＊3 NaI(ヨウ化ナトリウム)シンチレータにおける値

場所(福島第1発電所からの距離)	測定日時	数値(マイクロシーベルト／時)(記載のない限り屋外)	天候	実施者
測定箇所　【74】　(約35Km南)	3月20日16時41分	0.8 *2	降雨無し	警察(NBC対策部隊)
測定箇所　【74】　(約35Km南)	3月20日10時46分	1.2 *2	降雨無し	警察(NBC対策部隊)
測定箇所　【75】　(約45Km南)	3月20日14時36分	0.5 *2	降雨無し	警察(NBC対策部隊)
測定箇所　【75】　(約45Km南)	3月20日8時28分	0.3 *2	降雨無し	警察(NBC対策部隊)
測定箇所　【76】　(約25Km南西)	3月20日15時05分	2.5 *2	降雨無し	警察(NBC対策部隊)
測定箇所　【77】　(約25Km南西)	3月20日11時35分	4.5 *2	降雨無し	警察(NBC対策部隊)
測定箇所　【78】　(約45Km北西)	3月20日9時00分	4.2 *2	降雨無し	警察(NBC対策部隊)
測定箇所　【79】　(約40Km北西)	3月20日13時55分	38.5 *2	降雨無し	警察(NBC対策部隊)
測定箇所　【80】　(約25Km北)	3月20日10時45分	3.4 *2	降雨無し	警察(NBC対策部隊)

2. 防衛省の測定については準備中

福島第一原子力発電所周辺のモニタリング結果



環境放射能水準調査結果

H23.3.20 19:00

（μSv/h(マイクロシーベルト毎時)）

	都道府県名	3月19日							3月20日							
		17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-1	1-2	2-3	3-4	4-5	5-6	6-7	過去の平常値の範囲
1	北海道(札幌市)	0.028	0.029	0.029	0.029	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.02～0.105
2	青森県(青森市)	0.020	0.020	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.017～0.102
3	岩手県(盛岡市)	0.027	0.027	0.027	0.026	0.026	0.027	0.027	0.026	0.027	0.027	0.026	0.027	0.027	0.027	0.014～0.084
4	宮城県(仙台市)															0.0176～0.0513
5	秋田県(秋田市)	0.034	0.034	0.034	0.034	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.022～0.086
6	山形県(山形市)	0.041	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.041	0.041	0.041	0.041	0.025～0.082
7	福島県(双葉郡)															0.037～0.071
8	茨城県(水戸市)	0.169	0.168	0.167	0.167	0.167	0.166	0.166	0.166	0.165	0.164	0.164	0.164	0.163	0.163	0.036～0.056
9	栃木県(宇都宮市)	0.148	0.148	0.147	0.147	0.146	0.146	0.146	0.145	0.145	0.145	0.144	0.144	0.143	0.142	0.030～0.067
10	群馬県(前橋市)	0.076	0.076	0.075	0.075	0.075	0.075	0.075	0.074	0.074	0.074	0.074	0.074	0.073	0.073	0.017～0.045
11	埼玉県(さいたま市)	0.055	0.055	0.055	0.055	0.055	0.055	0.054	0.055	0.055	0.055	0.054	0.054	0.054	0.054	0.031～0.060
12	千葉県(市原市)	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.034	0.034	0.034	0.022～0.044
13	東京都(新宿区)	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.028～0.079
14	神奈川県(茅ヶ崎市)	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.035～0.069
15	新潟県(新潟市)	0.047	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.047	0.047	0.047	0.047	0.047	0.031～0.153
16	富山県(射水市)	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.048	0.048	0.048	0.048	0.049	0.048	0.049	0.029～0.147
17	石川県(金沢市)	0.046	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.048	0.0291～0.1275
18	福井県(福井市)	0.045	0.045	0.045	0.045	0.045	0.046	0.045	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.032～0.097
19	山梨県(甲府市)	0.043	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.045	0.044	0.045	0.045	0.045	0.045	0.040～0.064
20	長野県(長野市)	0.066	0.066	0.066	0.067	0.067	0.066	0.067	0.067	0.067	0.067	0.067	0.066	0.066	0.067	0.0299～0.0974
21	岐阜県(各務原市)	0.060	0.060	0.060	0.060	0.061	0.061	0.061	0.061	0.061	0.061	0.061	0.062	0.062	0.062	0.057～0.110
22	静岡県(静岡市)	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.036	0.036	0.037	0.036	0.037	0.037	0.037	0.0281～0.0765
23	愛知県(名古屋市)	0.039	0.039	0.039	0.039	0.039	0.040	0.040	0.040	0.041	0.041	0.041	0.041	0.042	0.042	0.035～0.074
24	三重県(四日市市)	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.0416～0.0789
25	滋賀県(大津市)	0.033	0.033	0.033	0.033	0.033	0.034	0.035	0.035	0.036	0.036	0.036	0.037	0.037	0.038	0.031～0.061
26	京都府(京都市)	0.038	0.038	0.038	0.038	0.038	0.039	0.039	0.038	0.038	0.039	0.039	0.039	0.040	0.040	0.033～0.087
27	大阪府(大阪市)	0.042	0.042	0.042	0.042	0.042	0.042	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.042～0.061
28	兵庫県(神戸市)	0.036	0.036	0.037	0.037	0.038	0.037	0.037	0.038	0.038	0.038	0.038	0.038	0.039	0.039	0.035～0.076
29	奈良県(奈良市)	0.047	0.047	0.047	0.047	0.047	0.048	0.048	0.048	0.048	0.048	0.049	0.049	0.049	0.049	0.046～0.08
30	和歌山県(和歌山市)	0.031	0.031	0.031	0.031	0.032	0.032	0.032	0.032	0.032	0.033	0.033	0.033	0.033	0.033	0.031～0.056
31	鳥取県(東伯郡)	0.062	0.062	0.062	0.063	0.063	0.063	0.063	0.063	0.064	0.064	0.064	0.064	0.064	0.063	0.036～0.11
32	島根県(松江市)	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.038	0.038	0.038	0.033～0.079
33	岡山県(岡山市)	0.048	0.048	0.048	0.048	0.048	0.048	0.049	0.050	0.050	0.051	0.051	0.051	0.052	0.052	0.043～0.104
34	広島県(広島市)	0.046	0.046	0.046	0.047	0.047	0.047	0.048	0.049	0.050	0.050	0.050	0.050	0.050	0.051	0.035～0.069
35	山口県(山口市)	0.091	0.092	0.092	0.093	0.093	0.094	0.094	0.095	0.096	0.095	0.096	0.096	0.096	0.096	0.084～0.128
36	徳島県(徳島市)	0.038	0.038	0.037	0.038	0.038	0.038	0.039	0.038	0.039	0.039	0.039	0.039	0.039	0.039	0.037～0.067
37	香川県(高松市)	0.052	0.052	0.052	0.052	0.052	0.052	0.053	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.051～0.077
38	愛媛県(松山市)	0.047	0.047	0.047	0.048	0.049	0.048	0.049	0.049	0.049	0.049	0.049	0.049	0.050	0.050	0.045～0.074
39	高知県(高知市)	0.024	0.025	0.025	0.025	0.025	0.026	0.026	0.026	0.026	0.026	0.027	0.026	0.027	0.027	0.023～0.076
40	福岡県(太宰府市)	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.034～0.079
41	佐賀県(佐賀市)	0.039	0.039	0.039	0.039	0.040	0.040	0.040	0.040	0.040	0.041	0.041	0.041	0.041	0.041	0.037～0.086
42	長崎県(大村市)	0.028	0.028	0.029	0.029	0.029	0.029	0.028	0.029	0.028	0.028	0.029	0.028	0.029	0.029	0.027～0.069
43	熊本県(宇土市)	0.026	0.026	0.027	0.027	0.027	0.027	0.027	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.021～0.067
44	大分県(大分市)	0.050	0.049	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.051	0.050	0.051	0.051	0.051	0.048～0.085
45	宮崎県(宮崎市)	0.026	0.026	0.026	0.026	0.026	0.027	0.027	0.027	0.026	0.026	0.027	0.027	0.026	0.026	0.0243～0.0664
46	鹿児島県(鹿児島市)	0.034	0.034	0.034	0.034	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.0306～0.0943
47	沖縄県(うるま市)	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.0133～0.0575

*宮城県では、測定実施場所が倒壊の危険性があるため測定不能。宮城県内のモニタリング結果は、
宮城県原子力安全対策室HP(http://www.pref.miyagi.jp/gentai/Press/PressH230315.html)で公開
*福島県では、モニタリングポスト周辺の空間線量が高いことから測定が困難であるが、その分のデータはモニタリングカーを用いて測定。
別資料の「福島第一原子力発電所の20km以遠のモニタリング結果について(3月20日19:00現在)」参照。
*空欄は機器点検等のための欠測等
*本データは、1μGy/h(マイクログレイ毎時)=1μSv/h(マイクロシーベルト毎時)と換算して算出
*文部科学省が各都道府県等からの報告に基づき作成

環境放射能水準調査結果

H23.3.20 19:00　　（μSv/h（マイクロシーベルト毎時））

	都道府県名	3月20日										
		7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	過去の平常値の範囲
1	北海道（札幌市）	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.02～0.105
2	青森県（青森市）	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.017～0.102
3	岩手県（盛岡市）	0.027	0.027	0.027	0.026	0.026	0.026	0.026	0.026	0.025	0.026	0.014～0.084
4	宮城県（仙台市）											0.0176～0.0513
5	秋田県（秋田市）	0.035	0.035	0.035	0.035	0.034	0.034	0.035	0.034	0.034	0.035	0.022～0.086
6	山形県（山形市）	0.040	0.041	0.041	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.025～0.082
7	福島県（双葉郡）											0.037～0.071
8	茨城県（水戸市）	0.162	0.161	0.161	0.159	0.263	0.204	0.186	0.183	0.177	0.174	0.036～0.056
9	栃木県（宇都宮市）	0.142	0.141	0.139	0.138	0.137	0.136	0.140	0.164	0.153	0.153	0.030～0.067
10	群馬県（前橋市）	0.073	0.073	0.071	0.070	0.069	0.069	0.069	0.069	0.069	0.072	0.017～0.045
11	埼玉県（さいたま市）	0.054	0.054	0.054	0.053	0.053	0.053	0.053	0.052	0.052	0.052	0.031～0.060
12	千葉県（市原市）	0.034	0.033	0.033	0.033	0.033	0.033	0.033	0.032	0.032	0.032	0.022～0.044
13	東京都（新宿区）	0.046	0.046	0.046	0.046	0.046	0.045	0.045	0.045	0.045	0.045	0.028～0.079
14	神奈川県（茅ヶ崎市）	0.048	0.048	0.048	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.035～0.069
15	新潟県（新潟市）	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.031～0.153
16	富山県（射水市）	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.051	0.054	0.029～0.147
17	石川県（金沢市）	0.048	0.048	0.048	0.047	0.047	0.048	0.048	0.049	0.052	0.052	0.0291～0.1275
18	福井県（福井市）	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.047	0.047	0.048	0.032～0.097
19	山梨県（甲府市）	0.045	0.045	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.044	0.040～0.064
20	長野県（長野市）	0.067	0.066	0.066	0.065	0.064	0.064	0.063	0.063	0.063	0.066	0.0299～0.0974
21	岐阜県（各務原市）	0.063	0.063	0.062	0.062	0.062	0.061	0.061	0.061	0.061	0.065	0.057～0.110
22	静岡県（静岡市）	0.037	0.036	0.037	0.038	0.038	0.038	0.038	0.037	0.036	0.036	0.0281～0.0765
23	愛知県（名古屋市）	0.042	0.042	0.042	0.042	0.041	0.040	0.040	0.040	0.039	0.040	0.035～0.074
24	三重県（四日市市）	0.047	0.046	0.047	0.047	0.046	0.047	0.046	0.046	0.046	0.048	0.0416～0.0789
25	滋賀県（大津市）	0.038	0.035	0.034	0.034	0.034	0.034	0.034	0.034	0.036	0.037	0.031～0.061
26	京都府（京都市）	0.040	0.040	0.039	0.039	0.039	0.039	0.039	0.039	0.043	0.045	0.033～0.087
27	大阪府（大阪市）	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.044	0.046	0.042～0.061
28	兵庫県（神戸市）	0.039	0.038	0.037	0.037	0.037	0.037	0.037	0.037	0.036	0.037	0.035～0.076
29	奈良県（奈良市）	0.049	0.048	0.049	0.049	0.049	0.048	0.048	0.048	0.051	0.053	0.046～0.08
30	和歌山県（和歌山市）	0.033	0.033	0.033	0.033	0.032	0.032	0.031	0.031	0.031	0.031	0.031～0.056
31	鳥取県（東伯郡）	0.064	0.064	0.064	0.063	0.063	0.063	0.063	0.064	0.064	0.064	0.036～0.11
32	島根県（松江市）	0.038	0.039	0.039	0.038	0.038	0.041	0.039	0.039	0.040	0.039	0.033～0.079
33	岡山県（岡山市）	0.052	0.051	0.050	0.050	0.050	0.050	0.049	0.049	0.051	0.053	0.043～0.104
34	広島県（広島市）	0.051	0.052	0.051	0.051	0.050	0.050	0.051	0.053	0.053	0.051	0.035～0.069
35	山口県（山口市）	0.097	0.099	0.098	0.096	0.096	0.095	0.095	0.097	0.097	0.096	0.084～0.128
36	徳島県（徳島市）	0.039	0.039	0.039	0.039	0.038	0.038	0.037	0.037	0.037	0.037	0.037～0.067
37	香川県（高松市）	0.054	0.054	0.054	0.053	0.053	0.053	0.053	0.053	0.053	0.054	0.051～0.077
38	愛媛県（松山市）	0.050	0.049	0.048	0.048	0.048	0.048	0.048	0.048	0.050	0.051	0.045～0.074
39	高知県（高知市）	0.026	0.027	0.026	0.026	0.026	0.026	0.028	0.027	0.027	0.029	0.023～0.076
40	福岡県（太宰府市）	0.037	0.037	0.038	0.039	0.038	0.038	0.039	0.040	0.039	0.037	0.034～0.079
41	佐賀県（佐賀市）	0.041	0.042	0.045	0.048	0.045	0.046	0.048	0.049	0.048	0.045	0.037～0.086
42	長崎県（大村市）	0.030	0.030	0.030	0.032	0.031	0.033	0.033	0.033	0.032	0.032	0.027～0.069
43	熊本県（宇土市）	0.029	0.031	0.030	0.028	0.027	0.028	0.028	0.030	0.032	0.031	0.021～0.067
44	大分県（大分市）	0.051	0.050	0.050	0.051	0.050	0.050	0.050	0.050	0.051	0.052	0.048～0.085
45	宮崎県（宮崎市）	0.027	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.027	0.0243～0.0664
46	鹿児島県（鹿児島市）	0.035	0.036	0.036	0.038	0.037	0.035	0.034	0.034	0.035	0.037	0.0306～0.0943
47	沖縄県（うるま市）	0.021	0.020	0.021	0.021	0.021	0.021	0.020	0.021	0.021	0.020	0.0133～0.0575

*宮城県では、測定実施場所が倒壊の危険性があるため測定不能。宮城県内のモニタリング結果は、
宮城県原子力安全対策室HP（http://www.pref.miyagi.jp/gentai/Press/PressH230315.html）で公開
*福島県では、モニタリングポスト周辺の空間線量が高いことから測定が困難であるが、その分のデータはモニタリングカーを用いて測定。
別資料の「福島第一原子力発電所の20km以遠のモニタリング結果について（3月20日19：00現在）」参照。
*空欄は機器点検等のための欠測等
*本データは、1μGy/h（マイクログレイ毎時）=1μSv/h（マイクロシーベルト毎時）と換算して算出
*文部科学省が各都道府県等からの報告に基づき作成

茨城県におけるモニタリング状況（1／1）

文部科学省

H23.3.20 19:00

μSv/h（マイクロシーベルト毎時）

日時	日本原子力研究開発機構 原子力科学研究所 （茨城県東海村）	日本原子力研究開発機構 核燃料サイクル工学研究所 （茨城県東海村）	東京大学弥生 （茨城県東海村）
3月20日			
0:00	0.98	0.66	0.81
0:30	0.98	0.66	0.83
1:00	0.98	0.66	0.84
1:30	0.98	0.66	0.90
2:00	0.98	0.66	0.67
2:30	0.98	0.66	0.81
3:00	0.97	0.66	0.80
3:30	0.97	0.66	0.80
4:00	0.97	0.65	0.84
4:30	0.97	0.65	0.85
5:00	0.97	0.65	0.88
5:30	0.97	0.65	0.77
6:00	0.96	0.65	0.82
6:30	0.96	0.65	0.78
7:00	0.96	0.64	0.84
7:30	0.96	0.64	0.76
8:00	0.96	0.64	0.83
8:30	0.95	0.64	0.81
9:00	0.95	0.64	0.76
9:30	0.94	0.63	0.84
10:00	0.93	0.63	0.70
10:30	0.98	0.67	0.79
11:00	1.10	0.74	0.82
11:30	1.00	0.70	0.77
12:00	1.00	0.69	0.75
12:30	1.00	0.68	0.74
13:00	0.99	0.67	0.76
13:30	0.97	0.66	0.76
14:00	0.97	0.66	0.79
14:30	0.96	0.65	0.77
15:00	0.95	0.65	0.76
15:30	0.95	0.64	0.72
16:00	0.94	0.64	0.64
16:30	0.94	0.64	0.76
17:00	0.93	0.63	0.71
17:30	0.93	0.63	0.74
18:00	0.93	0.63	0.73

環境放射能水準調査結果（定時降下物）
（19日9時～20日9時採取）

H23.3.20 19:00 (MBq/km2)

	都道府県名	定時降下物		
		I－131	Cs－137	備考
1	北海道（札幌市）	不検出	不検出	
2	青森県（青森市）	不検出	不検出	
3	岩手県（盛岡市）	不検出	0.24	
4	宮城県	－	－	震災被害によって計測不能
5	秋田県（秋田市）	不検出	不検出	
6	山形県（山形市）	22	20	
7	福島県	－	－	震災対応により計測不能
8	茨城県	－	－	震災対応により計測遅れ
9	栃木県（宇都宮市）	540	45	
10	群馬県（前橋市）	190	63	
11	埼玉県（さいたま市）	66	不検出	
12	千葉県（市原市）	44	3.8	
13	東京都(新宿区)	40	不検出	
14	神奈川県（茅ヶ崎市）	38	不検出	
15	新潟県（新潟市）	2.5	不検出	
16	富山県（射水市）	不検出	不検出	
17	石川県（金沢市）	不検出	不検出	
18	福井県（福井市）	不検出	不検出	
19	山梨県（甲府市）	不検出	不検出	
20	長野県（長野市）	不検出	不検出	
21	岐阜県（各務原市）	不検出	不検出	
22	静岡県（御前崎市）	不検出	不検出	
23	愛知県(名古屋市)	不検出	不検出	
24	三重県（四日市市）	不検出	不検出	
25	滋賀県（大津市）	不検出	不検出	
26	京都府（京都市）	不検出	不検出	
27	大阪府（大阪市）	不検出	不検出	
28	兵庫県（神戸市）	不検出	不検出	
29	奈良県	－	－	機器調整中
30	和歌山県（和歌山市）	不検出	不検出	
31	鳥取県（東伯郡）	不検出	不検出	
32	島根県（松江市）	不検出	不検出	
33	岡山県（岡山市）	不検出	不検出	
34	広島県（広島市）	不検出	不検出	
35	山口県（山口市）	不検出	不検出	
36	徳島県（徳島市）	不検出	不検出	
37	香川県(高松市)	不検出	不検出	
38	愛媛県（八幡浜市）	不検出	不検出	
39	高知県（高知市）	不検出	不検出	
40	福岡県（太宰府市）	不検出	不検出	
41	佐賀県（佐賀市）	不検出	不検出	
42	長崎県（大村市）	不検出	不検出	
43	熊本県（宇土市）	不検出	不検出	
44	大分県（大分市）	不検出	不検出	
45	宮崎県（宮崎市）	不検出	不検出	
46	鹿児島県（鹿児島市）	不検出	不検出	
47	沖縄県（南城市）	不検出	不検出	

*文部科学省が各都道府県等からの報告に基づき作成

Thadani, Mohan

From: Burnell, Scott
Sent: Monday, March 21, 2011 4:29 PM
To: Collins, Timothy
Cc: Thadani, Mohan; Lobel, Richard; Bahadur, Sher
Subject: RE: Question on resolved BWR Mark I containment issues

Excellent! Thanks Tim.

From: Collins, Timothy
Sent: Monday, March 21, 2011 4:28 PM
To: Burnell, Scott
Cc: Thadani, Mohan; Lobel, Richard; Bahadur, Sher
Subject: RE: Question on resolved BWR Mark I containment issues

Scott,

The torus reinforcement issue for Mark I was initiated in the mid-late 70's as USI A-7. Hydrodynamic loads used for the torus design were found to be underestimated. Generic resolution of the USI was achieved in August 1982 (documented in NUREG-0661 Supplement 1) but required plant specific implementation. We have not yet been able to find dates for plant specific closure ...

Tim c

From: Burnell, Scott
Sent: Monday, March 21, 2011 2:33 PM
To: Collins, Timothy
Cc: Thadani, Mohan; Lobel, Richard; Bahadur, Sher
Subject: RE: Question on resolved BWR Mark I containment issues

Tim;

The Wed. date was for the AP reporter's specific requests. I eventually would like to have a detailed writeup on the torus reinforcement, but if I can have the basic timeline for that (problem identification date, final resolution date) by EOB today that's really going to help. Thanks very much to all of you for your help.

Scott

From: Collins, Timothy
Sent: Monday, March 21, 2011 2:29 PM
To: Burnell, Scott
Cc: Thadani, Mohan; Lobel, Richard; Bahadur, Sher
Subject: RE: Question on resolved BWR Mark I containment issues

---

Scott,

The original incoming email to Sher (below) to refers to two backfits: "torus reinforcement" and "hardened vent"? You indicated a Wednesday due date for the hardened vent schedules (Mohan Thadani is researching). Rich Lobel is working the torus reinforcement issue. Is the schedule for the "torus reinforcement" question also Wednesday or do you need something sooner?

Tim c

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From: Burnell, Scott
Sent: Monday, March 21, 2011 8:39 AM
To: Bahadur, Sher
Cc: Ruland, William
Subject: Question on resolved BWR Mark I containment issues
Importance: High

Sher;

We're trying to develop a concise Q&A on the torus reinforcement and hardened vent backfits that were done on BWR Mark Is decades ago. We only need a quick explanation of the underlying issues and why we feel the fixes address those issues. Is DSS the proper division for locating that corporate knowledge? If not, please aim me in the right direction. Thanks very much!!

Scott Burnell
OPA

From: Taylor, Robert
To: Mendiola, Anthony
Cc: Ward, Leonard; Klein, Paul
Subject: RE: TEPCO meeting at the US Embassy Monday.
Date: Monday, March 21, 2011 12:51:00 PM

I have Paul Klein tracking down our expertise. We will get back to you later this afternoon to formulate a plan.

-----Original Message-----
From: Mendiola, Anthony
Sent: Monday, March 21, 2011 12:18 PM
To: Taylor, Robert
Cc: Ward, Leonard
Subject: FW: TEPCO meeting at the US Embassy Monday.

Fyi...

-----Original Message-----
From: Nakanishi, Tony
Sent: Monday, March 21, 2011 6:12 AM
To: Ruland, William; Mendiola, Anthony; Casto, Greg; Ulses, Anthony; Dennig, Robert
Subject: FW: TEPCO meeting at the US Embassy Monday.

The meeting should go for about 2 hrs, beginning at 10am JST (9pm your time...please confirm). I am forwarding this in case anyone on your team might be able to support.
Thanks,
Tony

From: Nakanishi, Tony
Sent: Monday, March 21, 2011 5:47 AM
To: Peko, Damian; RST01 Hoc; Dorman, Dan; Casto, Chuck
Subject: RE: TEPCO meeting at the US Embassy Monday.

We called TEPCO to confirm the agenda for tomorrow. TEPCO will first discuss their analysis of salt accumulation and the experiments they performed on precipitation. TEPCO indicated that they would also like to pose a question on long-term cooling. Long-term cooling is a challenge for them and they would like our advice any methods they might employ. They are not expecting immediate feedback from us at the meeting but we should be prepared to fully understand their challenges and respond accordingly in short order. Any expertise in this regard (i.e., long term cooling) would be helpful to have on the call in addition to the seawater issue.

Thanks,
Tony

From: Peko, Damian [Damian.Peko@Nuclear.Energy.gov]
Sent: Monday, March 21, 2011 4:26 AM
To: '?? ?'
Cc: 'hoofc@state.gov'; Monninger, John; Nakanishi, Tony; satoh.takashi@tepco.co.jp
Subject: RE: TEPCO meeting at the US Embassy Monday.

Dear Kawano-san

The names have been input into our vi=sitor access system. Please noted hat you cannot bring a car into the Embassy compound unless it is cleared ahead of time. So if you want to drive in to the embassy, you need to send the licenes plate and the make of the car and the name of three driver. If

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you take a taxi, no information will be needed.

Best Regards

Damian Peko

-----Original Message-----
From: [mailto:kawano.akira@tepco.co.jp]
Sent: Monday, March 21, 2011 4:00 AM
To: Peko, Damian
Cc: 'hoofc@state.gov'; 'John.monninger@nrc.gov'; 'tony.nakanishi@nrc.gov'; satoh.takashi@tepco.co.jp
Subject: Re: TEPCO meeting at the US Embassy Monday.

Dear Mr.Damian Peko,

Thank you for all of your arrangement for tomorrow meeting.
I also appreciate for the Embassy of the U.S.A providing the convenience to use oversea telephone system.

Our participants for the meeting are as follows:

Toshihiro Bannai, NISA
Norihisa Yuuki, NISA
Syunichi Suzuki, TEPCO
junichi Hakii, TEPCO
Takashi Satoh, TEPCO
Akira Kawano, TEPCO

Warmest regards,

Akira Kawano
TEPCO

On Mon, 21 Mar 2011 03:25:36 -0400
"Peko, Damian" <Damian.Peko@Nuclear.Energy.gov> wrote:

> Dear Kawano-san
>
> I a sending you this email so you have the address to send the names of he NISA and TEPCO people who will be a the meeting we scheduled for 10:00 tomorrow. Please reply to this email with the names of the participants for this meeting.
>
> Best Regards
>
> Damian Peko

( )

:0240-32-2486( )
:kawano.akira@tepco.co.jp

Akira Kawano
Maintenance Director
Fukushima Daiichi Nuclear Power Station Tokyo Electric Power Company

Phone:+81-240-32-2486
Fax.:+81-240-32-3881
E-mail:kawano.akira@tepco.co.jp
URL:http://www.tepco.co.jp/fukushima1-np/index-j.html

Bensi, Michelle

From: Kammerer, Annie
Sent: Monday, March 21, 2011 3:26 PM
To: Bensi, Michelle
Subject: FW: Qs on Seismic-induced flooding and fire

-----Original Message-----
From: Chokshi, Nilesh
Sent: Sunday, March 20, 2011 8:17 PM
To: Dreisbach, Jason; See, Kenneth
Cc: McKirgan, John; Flanders, Scott; Kammerer, Annie; Bagchi, Goutam; Ader, Charles; Lombard, Mark; Khanna, Meena; Vettori, Robert; Dinh, Thinh; Lee, Samuel
Subject: RE: Qs on Seismic-induced flooding and fire

Thanks, Jason. This helps.

-----Original Message-----
From: Dreisbach, Jason
Sent: Sunday, March 20, 2011 7:05 PM
To: Chokshi, Nilesh; See, Kenneth
Cc: McKirgan, John; Flanders, Scott; Kammerer, Annie; Bagchi, Goutam; Ader, Charles; Lombard, Mark; Khanna, Meena; Vettori, Robert; Dinh, Thinh; Lee, Samuel
Subject: RE: Qs on Seismic-induced flooding and fire

Nilesh,

Regarding references to NRC guidance and recommendations, I am always referring to what is in RG 1.189. These obviously aren't requirements, and come from our guidance, not from 50.48 or Appendix R, so i don't call them requirements.

"Severe earthquake" is SSE.

For the reference to earthquakes that are expected to occur every 10 years, there is a discussion in RG 1.189, saying licensees should make sure FP systems are functional following "less severe earthquakes with high frequencies (approximately once in 10 years)", obviously different from the SSE.

All questions are applicable to operating reactors.

Fire suppressions systems are not seismically Cat I qualified and aren't required to work after an earthquake, however they could be "seismic Cat II", for the so called "II over I" situations. FP systems won't necessarily be functional, but it is required that their failure during an earthquake won't fail safe shutdown equipment.

-Jason.

From: Chokshi, Nilesh
Sent: Saturday, March 19, 2011 2:42 PM
To: Dreisbach, Jason; See, Kenneth
Cc: McKirgan, John; Flanders, Scott; Kammerer, Annie; Bagchi, Goutam; Ader, Charles; Lombard, Mark; Khanna, Meena; Vettori, Robert; Dinh, Thinh; Lee, Samuel
Subject: RE: Qs on Seismic-induced flooding and fire

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Nilesh

From: Lee, Samuel
Sent: Friday, March 18, 2011 10:02 AM
To: Chokshi, Nilesh; McKirgan, John
Cc: See, Kenneth; Flanders, Scott; Kammerer, Annie; Bagchi, Goutam; Ader, Charles; Khanna, Meena
Subject: RE: Qs on Seismic-induced flooding and fire

Nilesh,
Please forward me the questions that GXA asked during your briefing with him.
sam

Samuel S. Lee, Chief
Balance of Plant Branch 2
Division of Safety Systems & Risk Assessment Office of New Reactors U.S. Nuclear Regulatory Commission
301-415-0155
samuel.lee@nrc.gov

From: Chokshi, Nilesh
Sent: Friday, March 18, 2011 9:51 AM
To: McKirgan, John
Cc: See, Kenneth; Flanders, Scott; Kammerer, Annie; Bagchi, Goutam; Ader, Charles; Khanna, Meena; Lee, Samuel
Subject: Qs on Seismic-induced flooding and fire

John,

As we discussed, during my briefing with Comm. Apostolakis , he asked questions regarding how we look at seismic-induced internal floods. Internal floods are handled in the review of SRP Sections 3.4.1 and 3.4.2. I am not sure about seismic-induced fire during the design review. I know how we do both of these things in the beyond design basis space. So we need your help in developing answers to these questions. Ken See of my staff is working on these questions and I will ask him to contact Sam. These answers will also go in a Qs and As document being put together by Annie. We need these answers today. There is a Commission briefing on Monday morning.

Thanks,

Nilesh

Dep. Dir., Div. of Site & Environmental Reviews Office of New Reactors USNRC MS T-07F3 Washington, DC 20555
(301)-415-1634

From: Klein, Paul
To: Makar, Gregory
Cc: Taylor, Robert
Subject: FW: TEPCO meeting at the US Embassy Monday.
Date: Monday, March 21, 2011 2:14:11 PM
Attachments: 20110321Agenda.doc
NRCExecutiveBriefingR1.ppt

Greg,

As discussed on the phone, here is the only material I have received related to the salt concentration concern. Please treat this information as official use only, not to be shared without further discussions. Thanks.

Paul

-----Original Message-----
From: Taylor, Robert
Sent: Monday, March 21, 2011 12:30 PM
To: Klein, Paul
Subject: FW: TEPCO meeting at the US Embassy Monday.

FYI

-----Original Message-----
From: Nakanishi, Tony
Sent: Monday, March 21, 2011 9:34 AM
To: LIA02 Hoc; Liaison Japan
Cc: 'Damian.Peko@Nuclear.Energy.gov'
Subject: Fw: TEPCO meeting at the US Embassy Monday.

For the tepco mtg.

----- Original Message -----
From: <satoh.takashi@tepco.co.jp>
To: Peko, Damian <Damian.Peko@Nuclear.Energy.gov>
Cc: <kawano.akira@tepco.co.jp>; hoofc@state.gov <hoofc@state.gov>; Monninger, John; Nakanishi, Tony
Sent: Mon Mar 21 07:29:30 2011
Subject: Re: TEPCO meeting at the US Embassy Monday.

Dear Mr. Peko,

Thank you very much for your strong support to TEPCO.

Attached are the agenda and related material.
Please deliver those to the US side before the meeting of tomorrow starts.

Best regards,

Takashi Sato
TEPCO
(On behalf of Mr. Akira Kawano)

---

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(Takashi Sato)
100-8560 1-1-3
TEL:03-6373-4721
FAX:03-3596-8538
E-Mail:satoh.takashi@tepco.co.jp

----- Original Message -----
From: " " <kawano.akira@tepco.co.jp>
To: "Peko, Damian" <Damian.Peko@Nuclear.Energy.gov>
Cc: <hoofc@state.gov>; <John.monninger@nrc.gov>; <tony.nakanishi@nrc.gov>;
<satoh.takashi@tepco.co.jp>
Sent: Monday, March 21, 2011 4:59 PM
Subject: Re: TEPCO meeting at the US Embassy Monday.

> Dear Mr.Damian Peko,
>
> Thank you for all of your arrangement for tomorrow meeting.
> I also appreciate for the Embassy of the U.S.A providing the
> convenience to use oversea telephone system.
>
> Our participants for the meeting are as follows:
>
> Toshihiro Bannai, NISA
> Norihisa Yuuki, NISA
> Syunichi Suzuki, TEPCO
> junichi Hakii, TEPCO
> Takashi Satoh, TEPCO
> Akira Kawano, TEPCO
>
> Warmest regards,
>
> Akira Kawano
> TEPCO
>
>
> On Mon, 21 Mar 2011 03:25:36 -0400
> "Peko, Damian" <Damian.Peko@Nuclear.Energy.gov> wrote:
>
>> Dear Kawano-san
>>
>> I a sending you this email so you have the address to send the names
>> of he NISA and TEPCO people who will be a the meeting we scheduled
>> for 10:00 tomorrow. Please reply to this email with the names of the
>> participants for this meeting.
>>
>> Best Regards
>>
>> Damian Peko
>
> ( )
>
>
>
>
>
> :0240-32-2486( )
> :kawano.akira@tepco.co.jp
>

> Akira Kawano
> Maintenance Director
> Fukushima Daiichi Nuclear Power Station Tokyo Electric Power Company
>
> Phone:+81-240-32-2486
> Fax.:+81-240-32-3881
> E-mail:kawano.akira@tepco.co.jp
> URL:http://www.tepco.co.jp/fukushima1-np/index-j.html
>

Attachment 20110321Agenda_1.doc (25600 Bytes) cannot be converted to PDF format.

Executive Briefing
March 22, 2011

Preliminary Analysis on Salt Accumulation in RPV Bottom

Junichi Hakii
Nuclear Asset Management Dep.
TEPCO

Risks of Salt Accumulation

- Loss of Cooling of Fuel
  - Loss of Function of SRV
    - Degradation of Efficiency of Heat Exchanger (if we are able to go into mid or long term heat removal)
      - SCC (significant increase of Crack Growth Rate)

Loss of Cooling of Fuel

- Injection of Sea Water Starts
  - Unit 1: March 12 20:20
  - Unit 2: March 14 16:30
  - Unit 3: March 13 13:10
- Regulator's Concerns on March 16
- I was told to examine the same Concern by Superintendant's on March 16

➢ Efforts to accelerate the preparation on Fresh Water

Rough Estimation of Time Limit (1)

Total Sea Water Injected as of March 20 15:00

- Unit 1(1,380 MWth): 3,530 ton
- Unit 2(2,381 MWth): 5,880 ton
- Unit 3(2,381 MWth): 4,389 ton

Scenario

- Saturated (Already saturated)
- Starts of Accumulation Salt (Already progressed)
- Level of Accumulated Salt Reaches to the Lower End of Fuels = Loss of Cooling

Rough Estimation of Time Limit (2)

Injected Flow Rate of Sea Water after 24:00 March 20 Assumed in the Following Way

- Unit 1: 115 l/min (Its Latent heat is equal to then decay heat (=0.3% of Thermal Power)
- Unit 2 and 3: 190 l/min

Salt Production and accumulated Rate

- All Salt of Injected Sea Water Remains and Accumulates in RPV

Rough Estimation of Time Limit (3)

Time Limits For

- Unit 1: March 31 (19 days)
- Unit 2: March 31 (17 days)
- Unit 3: April 2 (20 days)

These Estimation Based on

- Support of CRIEPI
- Insights of Specialist of Sea Water Desalination Plants Systems

Discussion (1)

Adequacy of Criteria of Loss of Cooling- What is Appropriate Criteria ?

Adequacy of Density of Accumulated Salt (I intentionally assume 1 gram/cm3 instead of theoretical density 2.16 because 2.16 is neither conceivable nor conservative

Further Insights of Chemistry Specialists – Any Potential Risks

Helton, Donald

From: RST01 Hoc
Sent: Monday, March 21, 2011 8:51 AM
To: Skeen, David; Uhle, Jennifer; Brown, Eva; Brown, Frederick; Brown, Michael; Holian, Brian; Ruland, William; Hiland, Patrick; Thomas, Eric; Collins, Frank; Rini, Brett; Boyce, Tom (RES); Hasselberg, Rick; Schoenebeck, Greg; Bukharin, Oleg; Morlang, Gary; Esmaili, Hossein; Gilmer, James; Fuller, Edward; Ward, Leonard; Circle, Jeff; Dozier, Jerry; Salay, Michael; Laur, Steven; Helton, Donald; Dozier, Jerry; Norton, Charles; Alter, Peter; Vick, Lawrence; Thorp, John; Roggenbrodt, William; Bloom, Steven; Isom, James; Williams, Joseph; Hart, Ken; Kugler, Andrew; Williams, Donna
Subject: RST Watchbill

RST Watchbill as of the Day/Time Stamp of this email

Please Email RST01.hoc@nrc.gov if there are any errors, or if you would like to fill the red holes.

Thanks,
RST Coordinator

Date	Day	Time	Shift	RST Director	RST Coordinator	Accident Analyst	BWR Exp
3/21/2011	Monday	1500 - 2300	Swing	Dave Skeen	Greg Schoenebeck	Hossein Esmaili	Chuck No
3/21/2011	Monday	2300 - 0700	Midnight	Jennifer Uhle	Frank Collins	Jim Gilmer	Mike Bro
#VALUE!	Tuesday	0700 - 1500	Day	Fred Brown	Rick Hasselberg	Ed Fuller	Tom Boy
3/22/2011	Tuesday	1500 - 2300	Swing	Dave Skeen	Mike Morlang	Len Ward	Chuck No
3/22/2011	Tuesday	2300 - 0700	Midnight	Brian Holian	Oleg Bukharin		Mike Bro
#VALUE!	Wednesday	0700 - 1500	Day	Fred Brown	Eric Thomas	Jeff Circle	Larry Vi
3/23/2011	Wednesday	1500 - 2300	Swing	Bill Ruland	Greg Schoenebeck	Jerry Dozier	Chuck No
3/23/2011	Wednesday	2300 - 0700	Midnight	Brian Holian	Frank Collins	Mike Salay	Eva Bro
#VALUE!	Thursday	0700 - 1500	Day	Fred Brown	Rick Hasselberg	Jeff Circle	Peter Al
3/24/2011	Thursday	1500 - 2300	Swing	Bill Ruland	Brett Rini	Steve Laur	Chuck No
3/24/2011	Thursday	2300 - 0700	Midnight	Brian Holian	Tom Boyce	Don Helton	Eva Bro
#VALUE!	Friday	0700 - 1500	Day	Pat Hiland	Eric Thomas	Jerry Dozier?	
3/25/2011	Friday	1500 - 2300	Swing	Bill Ruland	Brett Rini	Steve Laur	Chuck No
3/25/2011	Friday	2300 - 0700	Midnight	Brian Holian	Frank Collins	Don Helton	Eva Bro
#VALUE!	Saturday	0700 - 1500	Day	Pat Hiland	Eric Thomas	Jerry Dozier?	

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Bensi, Michelle

From: Devlin, Stephanie
Sent: Tuesday, March 22, 2011 4:17 PM
To: Bensi, Michelle
Subject: FW: March 11, 2011 Japan Earthquake Strong-Motion Data at CESMD

FYI, some strong motion data that was forwarded to me.

From: Graizer, Vladimir
Sent: Wednesday, March 16, 2011 1:43 PM
To: Munson, Clifford; Li, Yong; Seber, Dogan; Devlin, Stephanie
Cc: Chokshi, Nilesh; Bagchi, Goutam
Subject: March 11, 2011 Japan Earthquake Strong-Motion Data at CESMD

The information on strong-motion records just been updated with a lot of new records.
They have 6 records with PGA higher than 1g. Two out of those 6 records exceed 2 g.

A number of records clearly demonstrate double-shock (two biggest asperities).

-----Original Message-----
From: CESMD [mailto:cesmd@strongmotioncenter.org]
Sent: Tuesday, March 15, 2011 2:26 PM
To: cesmd@strongmotioncenter.org
Subject: March 11, 2011 Japan Earthquake Strong-Motion Data at CESMD

Information about strong-motion data from the 9.0Mw earthquake that occurred in Japan, 80 miles east of Sendai at 02:46 PM local time (05:46 UTC) on March 11, 2011 are available from the Center for Engineering Strong Motion Data (http://www.strongmotioncenter.org).

CESMD Staff at USGS and CGS

160|AA

From:	Mendiola, Anthony
To:	Taylor, Robert
Subject:	FW: Do you have a copy of the slides you can send me.... Thanks
Date:	Tuesday, March 22, 2011 7:31:18 AM
Attachments:	NRCExecutiveBriefingR1.ppt

Fyi...

From: Yarsky, Peter
Sent: Monday, March 21, 2011 9:24 PM
To: Mendiola, Anthony; Miranda, Samuel; Klein, Paul
Subject: RE: Do you have a copy of the slides you can send me.... Thanks

---

From: Mendiola, Anthony
Sent: Monday, March 21, 2011 9:23 PM
To: Yarsky, Peter; Miranda, Samuel; Klein, Paul
Subject: Do you have a copy of the slides you can send me.... Thanks
Importance: High

161 | AA

Executive Briefing
March 22, 2011

Preliminary Analysis on Salt Accumulation in RPV Bottom

Junichi Hakii
Nuclear Asset Management Dep.
TEPCO

Risks of Salt Accumulation

- Loss of Cooling of Fuel
  - Loss of Function of SRV
    - Degradation of Efficiency of Heat Exchanger (if we are able to go into mid or long term heat removal)
      - SCC (significant increase of Crack Growth Rate)

Loss of Cooling of Fuel

- Injection of Sea Water Starts
  - Unit 1: March 12 20:20
  - Unit 2: March 14 16:30
  - Unit 3: March 13 13:10
- Regulator's Concerns on March 16
- I was told to examine the same Concern by Superintendant's on March 16

➢ Efforts to accelerate the preparation on Fresh Water

Rough Estimation of Time Limit (1)

Total Sea Water Injected as of March 20 15:00

- Unit 1(1,380 MWth): 3,530 ton
- Unit 2(2,381 MWth): 5,880 ton
- Unit 3(2,381 MWth): 4,389 ton

Scenario

- Saturated (Already saturated)
- Starts of Accumulation Salt (Already progressed)
- Level of Accumulated Salt Reaches to the Lower End of Fuels = Loss of Cooling

Rough Estimation of Time Limit (2)

Injected Flow Rate of Sea Water after 24:00 March 20 Assumed in the Following Way

- Unit 1: 115 l/min (Its Latent heat is equal to then decay heat (=0.3% of Thermal Power)
- Unit 2 and 3: 190 l/min

Salt Production and accumulated Rate

- All Salt of Injected Sea Water Remains and Accumulates in RPV

Rough Estimation of Time Limit (3)

Time Limits For

- Unit 1: March 31 (19 days)
- Unit 2: March 31 (17 days)
- Unit 3: April 2 (20 days)

These Estimation Based on

- Support of CRIEPI
- Insights of Specialist of Sea Water Desalination Plants Systems

Discussion (1)

Adequacy of Criteria of Loss of Cooling- What is Appropriate Criteria ?

Adequacy of Density of Accumulated Salt (I intentionally assume 1 gram/cm3 instead of theoretical density 2.16 because 2.16 is neither conceivable nor conservative

Further Insights of Chemistry Specialists – Any Potential Risks

Weaver, Tonna

From: Waters, Michael
Sent: Tuesday, March 22, 2011 9:38 AM
To: Ruland, William
Cc: Benner, Eric; Ulses, Anthony; Ordaz, Vonna
Subject: FYI: SFST Needs - RE: Funding Needs for Japan Follow-up
Attachments: SFST-Japan-Supplemental-rev0.doc

Importance: High

Bill,

FYI on item B. Not sure how much traction this will get yet at NMSS Office and CFO level. Doubt dry cask storage is a high priority issue.

I recollect that you brought up the facet of early-removal of fuel to dry storage casks last year in developing COMSECY-10-0007 for long-term storage considerations.

Want to make sure we have a planning wedge in case we are asked to take a harder look, in light of spent fuel lessons-learned from your shop.

Mike

From: Waters, Michael
Sent: Monday, March 21, 2011 8:30 PM
To: Benner, Eric; Rahimi, Meraj; Garcia-Santos, Norma; Pstrak, David
Cc: Berry, Rollie; Wharton, Raynard
Subject: SFST Needs - RE: Funding Needs for Japan Follow-up
Importance: High

Attached is my suggestion as an opening bid.

We should prepare for relevant dry cask storage questions that will naturally arise. It is not clear if the near-term and long-term work that will naturally be pursued by NRR would envelope dry cask storage at Part 50 reactor sites.

The work described below could be feasibly obligated to the CNWRA or PNNL under existing contracts, but would need to check with Rollie and contract PM.

The $ and FTE are total SWAGs, but recognizes the full time nature in rest of year just for executing a contract and coordinating with other Offices that have the bigger issue of reactor and spent fuel pool safety.

Thoughts?

Mike

From: Pulliam, Timothy
Sent: Monday, March 21, 2011 4:05 PM
To: Kinneman, John; Ordaz, Vonna; Davis, Jack
Cc: Kokajko, Lawrence; Mohseni, Aby; Weaver, Doug; Bailey, Marissa; Tschiltz, Michael; Haney, Catherine
Subject: FW: Funding Needs for Japan Follow-up
Importance: High

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All,

See below.

This seems like a very short time to gather the information below, but it looks like the Chairman wants to send a Supplemental Funding Request to Congress vs. Reprogramming and need the information by Wednesday. Our initial office response was; we weren't going to have additional contracts. However, based on the meeting this morning and the tasking under Longer Term Review below on "Applicability of the lessons learned to non-operating reactor and non-reactor facilities", FCSS you may want to review the that determination. Also, I'm not sure where or if spent fuel fits into the categories below, but Commissioner Ostendorff, did mention it this morning.

Please review if there are any needs at the Business Line level by tomorrow at 10am, and respond with the specific task and estimated funding (FTE and CS/T). This is not a precision drill, just broad estimates. Please forward your estimates to John Kinneman (Acting Office Director), Karen Fitch and me.

I have called OEDO and OCFO, to try to get some relief on timing.

Thanks,

Tim

From: Kasputys, Clare
Sent: Monday, March 21, 2011 3:07 PM
To: RidsNroOd Resource; RidsNrrOd Resource; RidsNsirOd Resource; RidsResOd Resource; RidsFsmeOd Resource; RidsNmssOd Resource; RidsOgcMailCenter Resource; RidsCsoMailCenter Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; RidsOipMailCenter Resource
Cc: RidsNrrPmda Resource; RidsNroPmda Resource; RidsNsirPmda Resource; RidsResPmdaMail Resource; RidsFsmePbpaFmb Resource; RidsNmssTa Resource; Golder, Jennifer; Smolik, George; Muessle, Mary; Andersen, James; Jacobs-Baynard, Elizabeth; Allwein, Russell; Peterson, Gordon; Peterson, Gordon; Virgilio, Martin; Virgilio, Martin; Weber, Michael; Weber, Michael; Ash, Darren; Ash, Darren
Subject: Funding Needs for Japan Follow-up

All,

The Chairman has requested for the NRC to conduct a Near-term (90 day effort) and a longer-term review (as discussed by Bill B at the Commission meeting today) of regulatory issues affecting U.S. operating reactors based on the events in Japan. The Chairman is interested in seeking supplemental funding to support our efforts for the above effort, in addition to NRC's costs associated with emergency response and technical experts sent to Japan. OCFO is preparing cost data associated with emergency response and technical support to Japan.

On Friday, the OCFO requested some initial estimates to support the reviews (see attached). At this time, we are requesting the offices to review these initial estimates and include some information concerning the work that is envisioned to support these reviews. Listed below are some initial thoughts about the scope of the near-term and long-term reviews. Also, consider what on-going efforts related to the development of our regulatory program could benefit with supplemental funding. For example, it was mentioned in the Commission meeting that NRC is currently working on GSI-199. Should funding be accelerated for this effort and others of this nature.

<u>Near Term Review (90 day effort):</u>

- Evaluate currently available technical and operational information from the Japan event to identify near-term (or immediate) operational or regulatory issues affection U.S. operating reactors of all designs in areas such as protection against earthquakes, tsunami, flooding, hurricanes, station blackout and a degraded ability to restore power; severe accident mitigation and emergency preparedness

- Develop recommendations for generic communications, orders, changes to inspection procedures and licensing review guidance, etc.
- Possibly prepare a 30 day quick look report

Longer-Term Review (Following obtaining sufficient technical information from the Japan event)

- 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 the NRC.
- Evaluate interagency issues such as emergency preparedness.
- Applicability of the lessons learned to non-operating reactor and non-reactor facilities.

It is recognized that the full scope of the reviews has yet to be determined or the size of the group that will be conducting the analysis. Therefore, we are looking only for rough cost estimates. You are requested to send the level of funding (dollars and FTE) that is anticipated that could be obligated in FY 2011 for both the near-term and long-term efforts. We are asking the business line leads to coordinate with supporting offices and submit a response by business line and by office. Please send your responses to me and Liz Jacobs-Baynard and copy Jennifer Golder and George Smolik, OCFO NLT than Noon on Tuesday.

If you have any questions, please let me know.

Thank you for your support.

Applicability of the Lessons Learned to Non-Operating Reactor and Non-Reactor Facilities

	FY 11		FY 12	
	$ K	FTE	$ K	FTE
SPENT FUEL STORAGE AND TRANSPORTATION				
A. Evaluate dry cask storage and independent spent fuel storage installation (ISFSI) technical issues related to the Japanese event, in areas such as protection against earthquakes, tsunami, and recovery from severe accidents. Activities will focus on [a] data and lessons derived from the seismic response of the dry cask storage facility located at the Fukushima reactor site; [b] the seismic adequacy of five primary dry cask storage technologies for potential beyond-design basis seismic loads (e.g., > 2000-yr regulatory return period); and [c] post-accident recovery issues of spent fuel casks, particularly at "stranded" sites without external facilities to readily handle and transfer fuel from damaged dry storage casks (e.g. ISFSIs at decommissioned sites) [NMSS/SFST]	**150**	**0.5**	**300**	**1.0**
B. If warranted by the early results and policy implications of reactor spent fuel pool evaluations, evaluate the potential risk mitigation strategies regarding the potential early-removal of spent fuel from pools to dry cask storage. Activities would focus on [a] the radiological, thermal, and handling challenges with potentially transferring significant amounts of short-cooled fuel (< 5 years) into large-capacity cask technologies (>35W); and [b] the relative safety and risk-benefits of early removal of spent fuel from pools to dry cask storage. [NMSS/NRR]	**100**	**0.25**	**300**	**0.5**
C.				

Weaver, Tonna

From: Leeds, Eric
Sent: Tuesday, March 22, 2011 3:32 PM
To: Astwood, Heather
Cc: Grobe, Jack; Ruland, William; Boger, Bruce; Cohen, Shari
Subject: RE: Visiting of Dr Ishikawa to NRC

Looks like I should be available. Please invite Jack Grobe and Bill Ruland. I think Bruce B will be out. Certainly, someone (you?) from the NRR International team should attend.

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

-----Original Message-----
From: Astwood, Heather
Sent: Tuesday, March 22, 2011 2:06 PM
To: Emche, Danielle
Cc: Leeds, Eric; Doane, Margaret; Abrams, Charlotte; Cullingford, Michael; Regan, Christopher; Cohen, Shari
Subject: RE: Visiting of Dr Ishikawa to NRC

Thanks for the information Danielle,

We are looking at his schedule and will get back to you if he is available.

-----Original Message-----
From: Emche, Danielle
Sent: Tuesday, March 22, 2011 1:22 PM
To: Astwood, Heather
Cc: Leeds, Eric; Doane, Margaret; Abrams, Charlotte
Subject: FW: Visiting of Dr Ishikawa to NRC

Hi Heather,

The Japan Nuclear Technology Institute (JANTI) has requested a meeting with NRC. JANTI is an organization that was closely modeled after INPO. Chairman Klein met with them in December 2009 in Tokyo. During that meeting, they explained their initiative to work and coordinate with industry, and the significant strides they have made in recent years. We'd like to set up a meeting with Eric and Mr. Ishikawa, former president and current chief advisor of JANTI, on March 25th for a half hour, as requested by JANTI (see emails below). At the end of the meeting, we'd like the Chairman to stop in for a meet/greet, and the Chairman agrees with this approach. It is our understanding that while JANTI is in country, they are meeting with NEI and most likely INPO.

Danielle

-----Original Message-----
From: Masaki UOTANI [mailto:uotani.masaki@gengikyo.jp]
Sent: Monday, March 21, 2011 11:26 PM

1163/AA

To: Emche, Danielle; Doane, Margaret; RINCKEL, Jeannie
Cc: 中村 民平; 北村 信行; 永田 匡尚; MARION, Alex; SLIDER, James; MAUER, Andrew; ANDERSON, Victoria; 成瀬 喜代士; 百々 隆; 伊藤 裕之; 大部 悦二; Abrams, Charlotte
Subject: Visiting of Dr Ishikawa to NRC

Dear Ms. Danielle Emche,

I am Masaki Uotani, staff of the Japan Nuclear Technology Institute (JANTI). JANTI develops technical expertise and supports utilities in promoting safety activities, aiming further enhance the safety of nuclear power, similar to INPO in the US. JANTI has examined the status of Fukushima Daiichi NPP after the earthquake, and thinks that the situation is not reported abroad correctly.

Dr. Michio Ishikawa, Chief Advisor and former-president of JANTI, would like to visit NRC Executives personally, especially Chairman Jaczko, in order to present his prospect based on the exact information of the damage. Dr. Ishikawa has been contributed to enhancement of nuclear safety in Japan for a long time.

Could you arrange the visit of Dr. Ishikawa and a few staffs of JANTI to NRC anytime on March 25, if possible for half an hour ?

I would like to say thank you in advance.

Sincerely yours,

Masaki UOTANI
Strategic Planning Office, JANTI

----- Original Message -----
From: "Doane, Margaret" <Margaret.Doane@nrc.gov>
To: "RINCKEL, Jeannie" <jmr@nei.org>; "Masaki UOTANI" <uotani.masaki@gengikyo.jp>
Cc: "中村 民平" <nakamura.tamihei@gengikyo.jp>; "北村 信行" <kitamura.nobuyuki@gengikyo.jp>; "永田 匡尚" <nagata.tadahisa@gengikyo.jp>; "MARION, Alex" <axm@nei.org>; "SLIDER, James" <jes@nei.org> "MAUER, Andrew" <anm@nei.org>; "ANDERSON, Victoria" <vka@nei.org>; "成瀬 喜代士" <naruse.kiyoshi@gengikyo.jp>; "百々 隆" <dodo.takashi@gengikyo.jp>; "Emche, Danielle" <Danielle.Emche@nrc.gov>; "伊藤 裕之" <ito.hiroyuki@gengikyo.jp>; "大部 悦二" <obu.etsuji@gengikyo.jp>; "Abrams, Charlotte" <Charlotte.Abrams@nrc.gov>
Sent: Tuesday, March 22, 2011 7:09 AM
Subject: RE: Visiting of Dr Ishikawa (JANTI)

Dear Mr. Uotani,

The NRC would be pleased to meet with you and your team. The Chairman's schedule is full this week, but we will look to see if something can be changed. If not, we would be happy to try and schedule a meeting with our Executives. If you or one of your team would please contact Ms. Danielle Emche she will take care of all of the arrangements. I have copied her on this note. She can be reached at 301-415-2644, or by e-mail at danielle.emche@nrc.gov

As we remember from our visit, your activities may be similar to the activities of our Institute of Nuclear Power Operators (INPO) in the US. I have spoken with NEI and INPO and they would be willing to try to set up a teleconference if time and schedules permit, if you would find that helpful.

With kind regards,
Margie Doane
Office of International Programs, Director US Nuclear Regulatory Commission

---Original Message-----
From: RINCKEL, Jeannie [mailto:jmr@nei.org]
Sent: Monday, March 21, 2011 1:22 PM
To: Masaki UOTANI; Doane, Margaret
Cc: 中村 民平; 北村 信行; 永田 匡尚; MARION, Alex; SLIDER, James; MAUER, Andrew; ANDERSON, Victoria; 成瀬 喜代士; 百々 隆; 伊藤 裕之; 大部
悦二
Subject: RE: Visiting of Dr Ishikawa (JANTI)

Dear Mr. Uotani,
We will be prepared to meet with JANTI in the NEI offices on Thursday afternoon from 1:30 - 4:30 pm. I will follow up with you with more details in a subsequent email.

Regarding the arrangements with the NRC, Margaret Doane, Director, Office of International Programs, will provide you with further assistance. I spoke with Margaret this morning and she is included on distribution to this email response. She will provide you with the details for arranging a meeting as you requested.

Please let me know if I can be of further assistance.

Sincerely yours,
Jeannie Rinckel

Jeannie M. Rinckel
Regulatory Affairs Executive Director
Nuclear Energy Institute
jmr@nei.org
202-739-8095

---Original Message-----
From: Masaki UOTANI [mailto:uotani.masaki@gengikyo.jp]
Sent: Sunday, March 20, 2011 1:53 AM
To: RINCKEL, Jeannie
Cc: 中村 民平; 北村 信行; 永田 匡尚; MARION, Alex; SLIDER, James; MAUER, Andrew; ANDERSON, Victoria; 成瀬 喜代士; 百々 隆; 伊藤 裕之; 大部
悦二
Subject: Re: Visiting of Dr Ishikawa (JANTI)

Dear Ms. Rinckel,

Thank you for accepting our proposal to visit NEI and explain the status of the Fukushima Daiichi NPP.

JANTI would like to visit you on March 24, 1:30-4:30 PM.

The visiting members are as follows:
Dr. Michio Ishikawa, Chief Advisor
Mr. Tamihei Nakamura, Director, the General Affairs Division
Mr. Yoshikazu Suzuki, General Manager, Codes and Standards Division
Mr. Nobuyuki Kitamura, General Manager, Strategic Planning Office
Mr. Tadahisa Nagata, General Manager, Strategic Planning Office
Interpreter

JANTI is planning to explain the following topics using PPT slide and video:
(1) Description of Fukushima Daiichi NPP
(2) Sequence of Earthquake and Tsunami damage
(3) Details
Earthquake and Tsunami (Scale, Plant damage)
Core (Situation, Damage estimated by the result of TMI-2 Study)
Spent Fuel Pool (Estimation of fuel cooling)
Dose rate on site and outside
(4) Prospects of settlement of the damaged facility

I would like to ask you to suggest the persons concerned in NRC and INPO to attend the meeting.

In addition, Dr. Ishikawa is hoping to visit NRC Executives personally, especially Chairman Jaczko, on March 25, in order to present his prospect and discuss with them. Could you arrange the visit with NRC Executives, if possible for half an hour ?

After visiting NEI, JANTI's delegation is going to visit WANO Paris Center next week.

Dr. Ishikawa contributed an article on nuclear safety of the Fukushima Daiichi NPP to the Electric Daily News (The Denki Shimbun). I am attaching the article to this Email, translated into English.

Sincerely yours,

Masaki UOTANI

Original Message -----
From: "RINCKEL, Jeannie" <jmr@nei.org>
To: "Masaki UOTANI" <uotani.masaki@gengikyo.jp>
Cc: "中村 民平" <nakamura.tamihei@gengikyo.jp>; "北村 信行" <kitamura.nobuyuki@gengikyo.jp>; "永田 匡尚" <nagata.tadahisa@gengikyo.jp>; "MARION, Alex" <axm@nei.org>; "SLIDER, James" <jes@nei.org> "MAUER, Andrew" <anm@nei.org>; "ANDERSON, Victoria" <vka@nei.org>
Sent: Saturday, March 19, 2011 12:10 AM
Subject: RE: Visiting of Dr Ishikawa (JANTI)

Dear Mr. Uotani,

You and the JANTI folks have been in my thoughts since the devastating events of last week. I hope that you and your family are doing well.
I am sorry to hear the Dr. Ishikawa suffered as a result of the earthquake and hope recovery is going well.

At NEI, we established a emergency response center that has been monitoring the events around the clock in order to assist in providing technical expertise to the communications efforts. We have been following the progress very closely.

I am encouraged by your message and particularly Dr. Ishikawa's interested in visiting NEI to explain the status of the Fukushima NPP.
We are very interested in understanding the details such that we can incorporate lessons learned to every U.S. reactor. We can be available to meet with you whenever convenient.

Additionally, Alex Marion has a new email address: axm@nei.org and is on copy to this email.

Sincerely yours,
Jeannie Rinckel

Original Message-----
From: Masaki UOTANI [mailto:uotani.masaki@gengikyo.jp]
Sent: Friday, March 18, 2011 5:50 AM
To: RINCKEL, Jeannie
Cc: 中村 民平; 北村 信行; 永田 匡尚
Subject: Visiting of Dr Ishikawa (JANTI)

Dear Ms. Rinckel,

I sent the following Email to Mr. A. Marion again and again, but the message could not be delivered to Mr. Marion.

Could you please inform Mr. Marion of this message? I will appreciate it if you inform us of Mr. Marion's available day after March 24th for visiting of Dr. Ishikawa.

I would like to say thank you in advance.

Sincerely yours,

M.Uotani

Dear Mr. Marion,

I am most grateful to you for your kind arrangement of NEI-JANTI Meeting last Monday. The meeting was very fruitful for us.

You know Japan was hit by the greatest ever earthquake last Friday, and Fukushima Nuclear Power Plant suffered from large damage. JANTI is now engaged in collecting the information of the impact of the earthquake.

Dr. M. Ishikawa, Chief Advisor and former-president of JANTI, would like to visit you and to explain the status of Fukushima NPP to you directly, if possible for half a day. Could you inform me of your available day after March 24th?

Dr.Ishikawa suffered from the earthquake himself, so he is sorry to contact you late.

Sincerely yours,

Masaki UOTANI
Strategic Planning Office, JANTI

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Sent through mail.messaging.microsoft.com

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Sent through mail.messaging.microsoft.com

Nelson, Robert

From: Nelson, Robert NCR
Sent: Tuesday, March 22, 2011 8:55 AM
To: Chernoff, Harold
Subject: Action: SSE & OBE Info.

Please prepare the text for an e-mail that I will send to the regions and DORL BCs .

NELSON

From: Giitter, Joseph
Sent: Tuesday, March 22, 2011 8:46 AM
To: Nelson, Robert
Cc: Howe, Allen
Subject: RE: Query: SSE & OBE Info.

If you recall from our conversation yesterday, I proposed we send them to the Regions. Please ask them to provide feedback.

From: Nelson, Robert
Sent: Tuesday, March 22, 2011 8:37 AM
To: Giitter, Joseph
Subject: Query: SSE & OBE Info.

See below. The regions knew we were working on this and are now asking for it. Can I release to the regions with caveats??

NELSON

From: Lara, Julio
Sent: Monday, March 21, 2011 4:24 PM
To: Nelson, Robert
Subject: RE: Query: SSE & OBE Info.

Do you know If the spreadsheets were completed?

From: Nelson, Robert
Sent: Thursday, March 17, 2011 1:25 PM
To: Roberts, Darrell; Lara, Julio; Kennedy, Kriss; Croteau, Rick
Cc: West, Steven; Shear, Gary; Meighan, Sean; Nguyen, Quynh; Chernoff, Harold; Giitter, Joseph
Subject: Query: SSE & OBE Info.

Refer to the request in the second paragraph below. The "tsunami" information that was included in these tables was not clear. We are crafting a revision. See sheet 1 of the attached as an example. In addition, see sheet 2. Would this info be helpful as well? Hope to have sheet 1 info ready tomorrow.

NELSON

From: Lara, Julio
Sent: Thursday, March 17, 2011 11:02 AM

164/AA

To: Nelson, Robert
Subject: FW: Event Response - Communications and Qs&As

Bob,

I understand that Cindy Pederson informed you that I am the POC for RIII. I work for Steve West – DRP Director.

One initial piece of information we would like to obtain is the listing that was generated earlier this week for the Chairman regarding SSE, OBE, ... from the FSARs. NRR developed this listing for all plants. It will be useful and avoid our research to gather same.

If you can obtain it, maybe you can forward to the Regional group members.

julio

Nelson, Robert

From: Nelson, Robert
Sent: Tuesday, March 22, 2011 8:54 AM
To: Giitter, Joseph
Subject: RE: Query: SSE & OBE Info.

Will do. Thanks for refreshing my memory. I did not recall this point from yesterday.

NELSON

From: Giitter, Joseph
Sent: Tuesday, March 22, 2011 8:46 AM
To: Nelson, Robert
Cc: Howe, Allen
Subject: RE: Query: SSE & OBE Info.

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To: Roberts, Darrell; Lara, Julio; Kennedy, Kriss; Croteau, Rick
Cc: West, Steven; Shear, Gary; Meighan, Sean; Nguyen, Quynh; Chernoff, Harold; Giitter, Joseph
Subject: Query: SSE & OBE Info.

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NELSON

From: Lara, Julio
Sent: Thursday, March 17, 2011 11:02 AM

165/AA

To: Nelson, Robert
Subject: FW: Event Response - Communications and Qs&As

Bob,

I understand that Cindy Pederson informed you that I am the POC for RIII. I work for Steve West – DRP Director.

One initial piece of information we would like to obtain is the listing that was generated earlier this week for the Chairman regarding SSE, OBE, ... from the FSARs. NRR developed this listing for all plants. It will be useful and avoid our research to gather same.

If you can obtain it, maybe you can forward to the Regional group members.

julio

Nelson, Robert

From: Nelson, Robert
Sent: Tuesday, March 22, 2011 8:39 AM
To: Chernoff, Harold
Subject: RE: FYI: Comm Team Sitrep

I have a request in with Joe. The regions are asking for it.

NELSON

From: Chernoff, Harold
Sent: Tuesday, March 22, 2011 8:38 AM
To: Markley, Michael; Nelson, Robert
Subject: RE: FYI: Comm Team Sitrep
Importance: High

Mike – yes we put it together, but we don't have Joe's concurrence to distribute within the NRC. It is located at G:\ADRO\DORL\DORL TA\Japan Responses

Nelson – any change in Joe's position?

From: Markley, Michael
Sent: Tuesday, March 22, 2011 8:34 AM
To: Chernoff, Harold
Subject: FW: FYI: Comm Team Sitrep

Harold,

Your staff put this together, right. Could you forward or identify the g: drive location?

Mike

From: Hay, Michael
Sent: Tuesday, March 22, 2011 8:31 AM
To: Markley, Michael
Subject: FW: FYI: Comm Team Sitrep

Mike,
Do you happen to have the compilation of OBE, SSE, Max Flooding Level and Protection Level discussed below in item 4? We are putting together a table in the region.

Thanks,
Mike

From: Nelson, Robert
Sent: Monday, March 21, 2011 3:51 PM
To: Leeds, Eric; Boger, Bruce; Giitter, Joseph
Cc: Meighan, Sean; Nguyen, Quynh; Markley, Michael; Oesterle, Eric; Thomas, Eric
Subject: FYI: Comm Team Sitrep

b6 AA

1. The biggest advancement was the public version of Annie Kemmerer's Qs & As. Our team had little to do with this other than to ask for it.
2. We added numerous documents to our NRR internal website: http://portal.nrc.gov/edo/nrr/default.aspx . I've communicated this update to our regional POCs.
3. I prepared & forwarded to Eric a recommended communication to all NRR staff regarding that web site. Our staff is hungry for info.
4. We completed our compilation of OBE, SSE, Max Flooding Level and Protection Level for all of the plants based on info in the FSARs. This info is readily available when needed.
5. We'll begin our screening of potentially sensitive licensing actions tomorrow. I'll inform you of the results.
6. We working on some additional Qs & As but we've been impacted by the AP FOIA and did not make as much progress as we had hoped.
7. I've asked OEDO for the file of the EDO's opening remarks from today's meeting. We don't want to wait for the transcript. This is another source of info for Qs & As. No response yet.

NELSON

Nelson, Robert

From: Nelson, Robert
Sent: Tuesday, March 22, 2011 11:41 AM
To: Mahoney, Michael
Cc: Wilson, George; Westreich, Barry; Thomas, Brian; Bahadur, Sher; Blount, Tom; Brown, Frederick; Cheok, Michael; Evans, Michele; Ferrell, Kimberly; Galloway, Melanie; Giitter, Joseph; Givvines, Mary; Hiland, Patrick; Holian, Brian; Howe, Allen; Lee, Samson; Lubinski, John; McGinty, Tim; Quay, Theodore; Ruland, William; Skeen, David
Subject: Action: Congressional Correspondence on Japan

Please forward to all NRR Division TAs for info. Also inform them that, in my capacity as NRR External Communications Coordinator, I should be kept informed of any requests for communications assistance from OEDO or other sources.

NELSON

From: Rihm, Roger
Sent: Tuesday, March 22, 2011 10:42 AM
To: Nguyen, Quynh; Meighan, Sean
Cc: Scales, Kerby; Mathew, Roy; Roquecruz, Carla
Subject: Congressional Correspondence on Japan

I've heard from most of you with questions about proceeding on some of the many letters we have received since the events in Japan. We've just met with OCA and are proceeding as follows: For most of the letters (Markey, Kucinich. Boxer/Carper, and Lowey) I am going to draft an interim response that basically tells them of our near and longer term plans to do a review of facilities, etc., and does NOT attempt to address their many specific questions. That will come after our reviews are complete. For a couple of others that ask some narrower ques, I am going to try to respond more directly (and as final correspondence).

Bottom line: there is no need for you to do anything right now. I will ask if/when I need specific assistance. I will work with the OEDO mailroom to adjust green ticket deadlines accordingly.

Call me if you have any questions.

Roger S. Rihm
Communications and Performance Improvement Staff
Office of the Executive Director for Operations
US NRC
301.415.1717
roger.rihm@nrc.gov

167/AA

Nelson, Robert

From: Nelson, Robert
Sent: Tuesday, March 22, 2011 11:26 AM
To: Wilson, George
Subject: FW: (good) INFO: Congressional Correspondence on Japan

See the very latest guidance from OEDO below

NELSON

From: Meighan, Sean
Sent: Tuesday, March 22, 2011 10:52 AM
To: Nelson, Robert; Markley, Michael
Subject: (good) INFO: Congressional Correspondence on Japan

Please read below

From: Rihm, Roger
Sent: Tuesday, March 22, 2011 10:42 AM
To: Nguyen, Quynh; Meighan, Sean
Cc: Scales, Kerby; Mathew, Roy; Roquecruz, Carla
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168/AA

Thadani, Mohan

From: Burnell, Scott
Sent: Tuesday, March 22, 2011 12:08 PM
To: Collins, Timothy; Nelson, Robert
Cc: Thadani, Mohan; Lobel, Richard; Dennig, Robert
Subject: RE: Question on resolved BWR Mark I containment issues

Excellent, thanks for tacking on the Hydrogen rule! I'm going to send that version around to my counterparts as approved language.

From: Collins, Timothy
Sent: Tuesday, March 22, 2011 7:58 AM
To: Burnell, Scott
Cc: Thadani, Mohan; Lobel, Richard; Dennig, Robert
Subject: RE: Question on resolved BWR Mark I containment issues

Scott,

A few mods:

The NRC required several changes to the BWR Mark I containments at U.S. plants in the 1980s and 1990s to ensure the plants could continue to deal with severe events.
The first issue involved the design's large circular tube, or "torus," which holds enough water to safely condense the large volumes of steam that could be released during a severe event. The NRC became aware in the mid-late 1970s that designers might have underestimated the forces the torus would have to withstand during an event. The NRC laid out an appropriate generic approach to resolving the issue in August 1982, and individual reactors carried out their plant-specific torus reinforcement efforts from [dates to come, but all fixed at least 15 years ago]

The second issue involved the potential for containment failure following an extended loss of decay heat removal capability. Under the Mark I Containment Performance Improvement program that ran from the late 1980s into the early 1990s, all Mark I BWRs operating at that time installed hardened vent systems to provide an additional decay heat removal capability to protect against containment overpressure failure. The containment vent system could also be used to control hydrogen concentrations in containment. Two units, Browns Ferry 1 and 3, were in extended shutdown at that time, and hardened vents were installed before those reactors restarted. In addition most plants provided an alternate water injection capability that is independent of normal and emergency power supplies and enhanced the reliability of the automatic depressurization system to reduce the likelihood of a challenge to containment.

Furthermore, in 2003, the Commission issued the "Hydrogen Rule" (10CFR50.44) that required all BWR Mark I plants to operate in an inert atmosphere to preclude the possibility of a hydrogen explosions in containment.

From: Burnell, Scott
Sent: Monday, March 21, 2011 5:20 PM
To: Collins, Timothy
Cc: Thadani, Mohan
Subject: RE: Question on resolved BWR Mark I containment issues
Importance: High

Gentlemen;

169 | AA

Is this a reasonable summation of what you've provided me so far?

Why hasn't the NRC fixed the well-known problems with the BWR Mark I containments?

The NRC required several changes to the BWR Mark I containments at U.S. plants in the 1980s and 1990s to ensure the plants could continue to deal with severe events.
The first issue involved the design's large circular tube, or "torus," which holds enough water to safely condense the large volumes of steam that could be released during a severe event. The NRC became aware in the mid-late 1970s that designers might have underestimated the forces the torus would have to withstand during an event. The NRC laid out an appropriate generic approach to resolving the issue in August 1982, and individual reactors carried out their plant-specific torus reinforcement efforts from [dates to come, but all fixed at least 15 years ago]
The second issue involved the potential for hydrogen to build up following a severe event, one of several issues covered in the Containment Performance Improvement program that ran from the late 1980s into the early 1990s. Under that program, by 1995 all Mark I BWRs operating at that time installed hardened vent systems to safely disperse hydrogen. Two units, Browns Ferry 1 and 3, were in extended shutdown at that time, and hardened vents were installed before those reactors restarted.

Thanks!

Scott

From: Collins, Timothy
Sent: Monday, March 21, 2011 4:28 PM
To: Burnell, Scott
Cc: Thadani, Mohan; Lobel, Richard; Bahadur, Sher
Subject: RE: Question on resolved BWR Mark I containment issues

Scott,

The torus reinforcement issue for Mark I was initiated in the mid-late 70's as USI A-7. Hydrodynamic loads used for the torus design were found to be underestimated. Generic resolution of the USI was achieved in August 1982 (documented in NUREG-0661 Supplement 1) but required plant specific implementation. We have not yet been able to find dates for plant specific closure ...

Tim c

From: Burnell, Scott
Sent: Monday, March 21, 2011 2:33 PM
To: Collins, Timothy
Cc: Thadani, Mohan; Lobel, Richard; Bahadur, Sher
Subject: RE: Question on resolved BWR Mark I containment issues

Tim;

The Wed. date was for the AP reporter's specific requests. I eventually would like to have a detailed writeup on the torus reinforcement, but if I can have the basic timeline for that (problem identification date, final resolution date) by EOB today that's really going to help. Thanks very much to all of you for your help.

Scott

From: Collins, Timothy
Sent: Monday, March 21, 2011 2:29 PM

To: Burnell, Scott
Cc: Thadani, Mohan; Lobel, Richard; Bahadur, Sher
Subject: RE: Question on resolved BWR Mark I containment issues

---

Scott,

The original incoming email to Sher (below) to refers to two backfits: "torus reinforcement" and "hardened vent"? You indicated a Wednesday due date for the hardened vent schedules (Mohan Thadani is researching). Rich Lobel is working the torus reinforcement issue. Is the schedule for the "torus reinforcement" question also Wednesday or do you need something sooner?

Tim c

From: Burnell, Scott
Sent: Monday, March 21, 2011 8:39 AM
To: Bahadur, Sher
Cc: Ruland, William
Subject: Question on resolved BWR Mark I containment issues
Importance: High

Sher;

We're trying to develop a concise Q&A on the torus reinforcement and hardened vent backfits that were done on BWR Mark Is decades ago. We only need a quick explanation of the underlying issues and why we feel the fixes address those issues. Is DSS the proper division for locating that corporate knowledge? If not, please aim me in the right direction. Thanks very much!!

Scott Burnell
OPA

Thadani, Mohan

From: Burnell, Scott
Sent: Tuesday, March 22, 2011 12:12 PM
To: Collins, Timothy; Nelson, Robert
Cc: Thadani, Mohan; Lobel, Richard; Dennig, Robert
Subject: RE: Question on resolved BWR Mark I containment issues

And just to be clear – we'll still need the plant-specific "fix" dates for the torus issue. Thanks!!!

From: Collins, Timothy
Sent: Tuesday, March 22, 2011 7:58 AM
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170|AA

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