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(781) 396-2900188 CONCORD STREET, SUITE 107
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(508) 875-2900<http://markey.house.gov>**Congress of the United States**
House of Representatives
Washington, DC 20515-2107

March 11, 2011

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

Dear Chairman Jaczko:

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

The 8.9 magnitude earthquake has caused some serious damage at two nuclear facilities in Japan. The Japanese government declared an "atomic power emergency."¹ Fukushima Daiichi nuclear power plant has experienced a failure associated with its emergency diesel generators, preventing the flow of water into its cooling system. To reduce rising pressure inside the Fukushima reactor, slightly radioactive vapor is being released.² Residents within a 3 km radius of Fukushima have been evacuated.³ The United States Air Force also reportedly delivered equipment that could be used to cool the reactor.⁴ The International Atomic Energy Agency (IAEA) is seeking information about whether the flow of cooling water has been restored, and about other nuclear power plants and research reactors in Japan.⁵ Nuclear fuel requires continued cooling even after a plant has shut down. Failure of the cooling system for many hours is what resulted in a partial core melt at Three Mile Island in 1979.⁶ There was also a fire in a turbine building at the Onagawa nuclear facility; Japanese authorities reported to the IAEA that it had been extinguished.⁷

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

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

55511

This disaster serves to highlight both the fragility of nuclear power plants and the potential consequences associated with a radiological release caused by earthquake-related damage. We must ensure that America's nuclear power plants can withstand a catastrophic event and abide by the absolute highest standards for safety. Last year, I requested a GAO investigation⁸ into the adequacy of Commission regulations associated with seismic safety. Earlier this week, I wrote⁹ you regarding the Commission's pending approval of the design for the AP1000 nuclear reactor, in light of concerns raised by one of the Commission's most long-serving staff that there is a risk that an earthquake at the AP1000 could result in a catastrophic core meltdown. According to this individual:

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

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

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

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

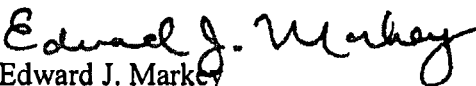
⁸ <http://markey.house.gov/docs/gaoinspection.pdf>

⁹ <http://markey.house.gov/docs/3-7-11.ejntonrc.pdf>

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

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

Sincerely,


Edward J. Markey

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

From: Borchardt, Bill
To: Taylor, Renee
Subject: Re: Ops Center
Date: Friday, March 11, 2011 4:16:43 PM

Thanks. It'll be close.
Bill Borchardt
Via blackberry

From: Taylor, Renee
To: Borchardt, Bill
Sent: Fri Mar 11 16:07:07 2011
Subject: Ops Center

Bill,

Nader phoned, if you return to the office by 5:15 they would like you to join them in the Ops Center. Looks like they will be pulling an all nighter.

Renee

JJJ/2

From: N Tanaka
To: Borchardt, Bill
Subject: Nobuo Tanaka- amid seismic
Date: Friday, March 11, 2011 8:52:05 AM

Dear Bill,

A lot of lessons and message to my colleagues and next generation. This is a topic beyond CNRA regulatory effectiveness and nuclear safety convention. Let's talk later and send my best regards to your appropriate environments. I am still in an aftershock.

Best regards,

Nobuo Tanaka
(Jnes, Japan) but from my home

N. Tanaka

555/3

From: Droggitis, Spiros
Sent: Saturday, March 12, 2011 5:39 PM
To: Miller, Chris (Reid)
Subject: IAEA Press release - Level 4

<http://www.iaea.org/press/?p=1160>

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From: OST01 HOC
Sent: Friday, April 01, 2011 1:49 AM
To: ET07 Hoc
Subject: FW: UPDATE: ET Status Briefing for Chairman

Importance: High

From: HOO Hoc
Sent: Friday, April 01, 2011 1:44 AM
To: LIA07 Hoc; OST01 HOC; OST02 HOC; OST03 HOC
Subject: FW: UPDATE: ET Status Briefing for Chairman
Importance: High

From: Pace, Patti
Sent: Thursday, March 31, 2011 8:18 PM
To: HOO Hoc
Subject: UPDATE: ET Status Briefing for Chairman
Importance: High

Please cancel the Chairman's morning briefing from the Executive Team tomorrow morning. Please confirm receipt of this message.

Many thanks,

Patti Pace
Assistant to Chairman Gregory B. Jaczko
U.S. Nuclear Regulatory Commission
301-415-1820 (office)
301-415-3504 (fax)

From: Pace, Patti
Sent: Thursday, March 31, 2011 7:52 PM
To: HOO Hoc
Subject: ET Status Briefing for Chairman

Good Evening,

Chairman Jaczko requests to move the time of his morning status briefing tomorrow, Friday April 1st, to 8:00AM (instead of 7:15AM). Still requests HOO to call him to initiate. Please confirm.

Thanks,

Patti Pace
Assistant to Chairman Gregory B. Jaczko
U.S. Nuclear Regulatory Commission
301-415-1820 (office)

301-415-3504 (fax)

From: OST01 HOC
Sent: Tuesday, April 26, 2011 7:15 AM
To: FOIA Response.hoc Resource
Subject: FW: RESPONSE - NRC's Daily Assessment of Conditions at Fukushima Daiichi

From: Weber, Michael
Sent: Tuesday, April 26, 2011 6:42 AM
To: Moore, Carl
Cc: Casto, Chuck; Reynolds, Steven; Virgilio, Martin; Uhle, Jennifer; OST01 HOC; FOIA Response.hoc Resource
Subject: RESPONSE - NRC's Daily Assessment of Conditions at Fukushima Daiichi

Thanks, Carl. Some of the updates on Unit 4 indicate that the Japanese plan to erect concrete columns to support the weight of the spent fuel pool due to the damage caused by the previous explosion in that unit. Has the Site Team confirmed these plans and that they are safe (i.e., unlikely to exacerbate the existing situation)?

From: Moore, Carl
Sent: Tuesday, April 26, 2011 2:24 AM
To: Jaczko, Gregory
Cc: Borchardt, Bill; Weber, Michael; Virgilio, Martin; Casto, Chuck; Leeds, Eric; Reynolds, Steven; RST01 Hoc; OST01 HOC
Subject: NRC's Daily Assessment of Conditions at Fukushima Daiichi

Dear Chairman

The attached is the NRC Japan Team's Daily Assessment of conditions at the Fukushima Daiichi nuclear power plants and spent fuel pools. There are no changes to the daily assessment chart for today.

If you have any questions, please don't hesitate to ask.

Best regards,
Carl Moore
NRC Japan Team

From: Droggitis, Spiros
Sent: Saturday, March 12, 2011 5:34 PM
To: Miller, Chris (Reid)
Subject: TEPCO press release

<http://www.tepco.co.jp/en/press/corp-com/release/11031301-e.html>

555/7

From: Droggitis, Spiros
Sent: Saturday, March 12, 2011 8:04 PM
To: Schmidt, Rebecca; Shane, Raeann; Riley (OCA), Timothy; Powell, Amy; Decker, David; Dacus, Eugene; Weil, Jenny
Subject: Latest TEPCO press release

<http://www.tepco.co.jp/en/press/corp-com/release/11031302-e.html>

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From: Droggitis, Spiros
Sent: Monday, March 14, 2011 9:41 AM
To: PABLO.DURAN@MAIL.HOUSE.GOV
Subject: Member briefing this week
Attachments: 11-046.docx; 11-045.docx

Pablo: Received your request. Someone from the Office of Congressional Affairs will be contacting you to follow up. In the meantime, most recently issued NRC press releases are attached.

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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. 11-045

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.



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

No. 11-046

March 13, 2011

(Revised)

NRC SEES NO RADIATION AT HARMFUL LEVELS REACHING U.S. FROM DAMAGED JAPANESE NUCLEAR POWER PLANTS

The Nuclear Regulatory Commission is coordinating with the Department of Energy and other federal agencies in providing whatever assistance the Japanese government requests as they respond to conditions at several nuclear power plant sites following the March 11 earthquake and tsunami. The NRC has sent two boiling-water reactor experts to Japan as part of a U.S. Agency for International Development team.

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

During a nuclear event the NRC has requirements to protect populations around reactors. For instance, the U.S. evacuation standard at 10 miles is roughly equivalent to the 20-kilometer distance recommended in Japan. The United States also uses sheltering in place and potassium iodide, protective measures also available in Japan. United States citizens in Japan are encouraged to follow the protective measures recommended by the Japanese government. These measures appear to be consistent with steps the United States would take.

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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From: OPA Resource
To: Ash, Darren; Barkley, Richard; Batkin, Joshua; Bell, Hubert; Belmore, Nancy; Bergman, Thomas; Bollwerk, Paul; Bonaccorso, Amy; Borchartt, Bill; Bozin, Sunny; Brenner, Eliot; Brock, Terry; Brown, Boris; Bubar, Patrice; Burnell, Scott; Burns, Stephen; Carpenter, Cynthia; Chandrathil, Prema; Clark, Theresa; Collins, Elmo; Couret, Ivonne; Crawford, Carrie; Cutler, Iris; Dacus, Eugene; Dapas, Marc; Davis, Roger; Dean, Bill; Decker, David; Dricks, Victor; Droggitis, Spiros; Flory, Shirley; Franovich, Mike; Gibbs, Catina; Haney, Catherine; Hannah, Roger; Harbuck, Craig; Harrington, Holly; Hasan, Nasreen; Hayden, Elizabeth; Holahan, Gary; Holahan, Patricia; Holian, Brian; Jacobssen, Patricia; Jaczko, Gregory; Jasinski, Robert; Jenkins, Verlyn; Johnson, Michael; Jones, Andrea; Kock, Andrea; Kotzalas, Margie; Ledford, Joey; Lee, Samson; Leeds, Eric; Lepre, Janet; Lew, David; Lewis, Antoinette; Loyd, Susan; Magwood, William; McCrary, Cheryl; McGrady-Finneran, Patricia; McIntyre, David; Mensah, Tanya; Mitlyng, Viktoria; Monninger, John; Montes, David; Nieh, Ho; Ordaz, Vonna; Ostendorff, William; Owen, Lucy; Powell, Amy; Quesenberry, Jeannette; Reddick, Darani; Regan, Christopher; Reyes, Luis; Riddick, Nicole; RidsSecyMailCenter Resource; Riley (OCA), Timothy; Rohrer, Shirley; Samuel, Olive; Satorius, Mark; Schaaf, Robert; Schmidt, Rebecca; Scott, Catherine; Screnci, Diane; Shaffer, Vered; Shane, Raeann; Sharkey, Jeffrey; 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
Date: Saturday, March 12, 2011 2:27:12 PM
Attachments: 11-045.docx

For immediate release and posting.

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

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

No. 11-045

March 12, 2011

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"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.

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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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From: HOO Hoc
Sent: Sunday, March 13, 2011 8:14 PM
To: LIA01 Hoc; LIA02 Hoc; LIA04 Hoc; LIA07 Hoc; LIA11 Hoc; LIA12 Hoc
Subject: FW: Japan event
Attachments: image001.jpg

Please respond as needed.

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



From: Thorp, John
Sent: Sunday, March 13, 2011 6:58 PM
To: HOO Hoc
Cc: kenneth.broman@ssm.se; Brown, Frederick
Subject: FW: Japan event

Dear HOO Watch Officer,

I just received the below e-mail. My Counterpart in the Swedish nuclear safety authority, Mr. Ken Broman, is serving on the staff of their Emergency Response Center. He has asked that his organization be updated with information that we are obtaining on the Japanese reactor events that were caused by the recent major earthquake and tsunami.

Please let me know how you wish to proceed with information sharing with our international counterpart nuclear safety authorities. I stand ready to work with you to provide information we can share, recognizing that we must coordinate our efforts in USNRC.

Thanks,

John Thorp
NRR Daytime Emergency Officer

From: Broman, Kenneth [<mailto:Kenneth.Broman@ssm.se>]
Sent: Saturday, March 12, 2011 5:36 PM
To: Thorp, John
Subject: Japan event

Dear John,

Are you still at work?

555/11

I am in our emergency center. Can we get some contact and achieve information from the NRC emergency center.

We have problems to get good information.

Best regards
Kenneth

From: Borchardt, Bill
To: Taylor, Renee; Ciani, Sandra
Cc: Virgilio, Martin; Weber, Michael; Muessle, Mary; Ash, Darren
Subject: calendar
Date: Sunday, March 13, 2011 2:05:00 PM

We continued staffing the ops center through the weekend due to the Japan events. Please be prepared to make significant adjustments to Monday's calendars since it is possible that Marty, Mike and I will be occupied by continued Japan activities for the first half of the week. At the very least we need to reschedule Monday's lunch for open house winners. We'll touch base with you early Mon when we know more.

Bill

555/12

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; Droggitts, 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, Jeffrey; 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: Revised - NRC Sees No Radiation at Harmful Levels Reaching U.S. From Damaged Japanese Nuclear Power Plants
Date: Sunday, March 13, 2011 4:26:35 PM
Attachments: 11-046.docx

For Immediate Release

555/13



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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From: Borchardt, Bill
To: Jaczko, Gregory
Subject: JNES mtg
Date: Sunday, March 13, 2011 7:54:07 PM

The meeting with JNES originally scheduled for 8:30am (Japan time) has been postponed to an undetermined time. Both Tony and Jim are at the embassy.

There have been no recent developments of interest. Unless the JNES meeting is conducted, or there is a significant development, we'll plan to brief you Monday morning.

Bill Borchardt
Via blackberry

555/14

From: Borchardt, Bill
To: Leeds, Eric
Subject: Re: Coverage in the Ops Center
Date: Sunday, March 13, 2011 9:49:42 PM

Thanks
Bill Borchardt
Via blackberry

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

From: Leeds, Eric
To: Borchardt, Bill
Cc: Virgilio, Martin
Sent: Sun Mar 13 18:25:41 2011
Subject: Fw: Coverage in the Ops Center

I hope you got the message

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

From: Grobe, Jack
To: Cohen, Shari; Schwarz, Sherry
Cc: Leeds, Eric; Boger, Bruce; Ruland, William; Lubinski, John; Cheok, Michael; Hiland, Patrick; Giitter, Joseph; McGinty, Tim; Brown, Frederick; Givvines, Mary; Holian, Brian
Sent: Sun Mar 13 18:04:57 2011
Subject: Coverage in the Ops Center

Shari and Sherry

I will be covering the 3pm to 11pm shift in the Ops Center at least early this week. I will likely not be in early tomorrow, but will be a little later. Thanks.
Jack Grobe, Deputy Director, NRR

JJJ/15

From: Droggitis, Spiros
Sent: Monday, March 14, 2011 9:44 AM
To: Duran, Pablo
Subject: RE: Member briefing this week

And the White House issued the following last night:

From: White House Press Office <noreply@messages.whitehouse.gov>
To: Weil, Jenny
Sent: Sun Mar 13 17:55:53 2011
Subject: Statement from the Press Secretary on the Ongoing U.S. Response to the Earthquakes and Tsunami in Japan

THE WHITE HOUSE
Office of the Press Secretary

FOR IMMEDIATE RELEASE

March 13, 2011

Statement from the Press Secretary on the Ongoing U.S. Response to the Earthquakes and Tsunami in Japan

Our thoughts and our prayers remain with the people of Japan. The President has been kept fully briefed on developments and the response throughout the weekend. As directed by the President, we have offered our Japanese friends whatever assistance is needed as America will stand with Japan as they recover and rebuild.

We have already been helping in a number of ways. USAID is coordinating the overall U.S. government efforts in support of the Japanese government's response to the earthquakes and subsequent tsunami that hit Friday and are currently directing individuals to www.usaid.gov for information about response donations. The U.S. Ambassador declared an emergency which opened up an immediate funding of \$100K from USAID's Office of Foreign Disaster Assistance. They set up a Response Management Team in DC and sent a Disaster Assistance Response Team to Tokyo, which includes people with nuclear expertise from the Departments of Energy and Health and Human Services as well the Nuclear Regulatory Commission (NRC). The NRC members are experts in boiling water nuclear reactors and are available to assist their Japanese counterparts. Two Urban Search and Rescue Teams (LA County and Fairfax County teams) which total 144 members plus 12 search and rescue canines and up to 45 metric tons of rescue equipment are also on the ground in Misawa, Japan and will begin searching at first light March 14. The Department of Defense has the USS Reagan on station off the coast of Japan and the USS Essex en route, and is currently using an air facility in Misawa as a forward operating base. The American Red Cross (ARC) International Services team is supporting the Japanese Red Cross Society (JRCS) to assess the impact, determine response efforts, and assist the people of Japan.

Officials from the Department of Energy, NRC, and other agencies have maintained contact with Japanese officials and will provide whatever assistance the Japanese government requests as they work to stabilize their damaged nuclear reactors. United States citizens in Japan are encouraged to follow the protective measures recommended by the Japanese government. The NRC has announced (<http://www.nrc.gov/reading-rm/doc-collections/news/2011/11-046.pdf>) that these measures appear to be consistent with steps the United States would take. With regards to the United States, the NRC has released information stating that Hawaii, Alaska, the U.S. Territories and the U.S. West Coast are not expected to experience any harmful levels of radioactivity. For instance, according to the NRC, the U.S. evacuation standard at 10 miles is roughly equivalent to the 20-kilometer distance recommended in Japan. The United

States and Japan both have highly advanced capabilities for monitoring and predicting the path of any radioactive release. American citizens in Japan should continue to listen to the local authorities regarding evacuation notices and any other preparedness measures and should contact the State Department if they have any questions.

From the moment this earthquake struck our State Department and Embassy and Consulates in Japan have been working around the clock to assist and inform U.S. citizens. U.S. citizens in need of emergency assistance should send an e-mail to JapanEmergencyUSC@state.gov with detailed information about their location and contact information, and monitor the U.S. Department of State website at travel.state.gov.

###

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From: Duran, Pablo [mailto:Pablo.Duran@mail.house.gov]
Sent: Monday, March 14, 2011 9:42 AM
To: Droggitis, Spiros
Subject: RE: Member briefing this week

Thanks, Spiros.

Pablo Duran
Cong. Rick Larsen

From: Droggitis, Spiros [mailto:Spiros.Droggitis@nrc.gov]
Sent: Monday, March 14, 2011 9:41 AM
To: Duran, Pablo
Subject: Member briefing this week

Pablo: Received your request. Someone from the Office of Congressional Affairs will be contacting you to follow up. In the meantime, most recently issued NRC press releases are attached.

From: Droggitis, Spiros
Sent: Monday, March 14, 2011 9:31 AM
To: Schmidt, Rebecca; Powell, Amy
Cc: Weil, Jenny
Subject: FW: Member briefing this week

From: OCA_Web Resource [mailto:OCA_Web.Resource@nrc.gov]
Sent: Monday, March 14, 2011 9:24 AM
To: Droggitis, Spiros; Belmore, Nancy
Subject: FW: Member briefing this week

From: Duran, Pablo[SMTP:PABLO.DURAN@MAIL.HOUSE.GOV]
Sent: Monday, March 14, 2011 9:23:47 AM
To: OCA_Web Resource
Subject: Member briefing this week
Auto forwarded by a Rule

My boss, Cong. Rick Larsen (WA-02), would like to be briefed this week on the nuclear reactor activity taking place in Japan, as well as a discussion of any radiation hitting Washington and, if that were to happen, actions to be taken. Please email or give me a call (202-225-6182) to set this up.
Thank you.

Pablo Duran
Legislative Assistant
Office of Congressman Rick Larsen (WA-02)
202-225-2605 (p)
larsen.house.gov

From: Droggitis, Spiros
Sent: Monday, March 14, 2011 1:37 PM
To: Janbergs, Holly
Subject: NRC team

I'm on an EDO call and they say that a team of 9 additional people is going to Japan. You may want to see what additional info you can get on that.

555/18

From: Droggitis, Spiros
Sent: Monday, March 14, 2011 1:41 PM
To: Janbergs, Holly
Subject: Message

Japan has a strong nuclear regulator. NRC team is to provide technical assistance to the US embassy in Japan and to provide any assistance requested by the Japanese.

555/19

From: Borchardt, Bill
To: Schmocker Ulrich
Cc: Straub Markus; Doane, Margaret; Mamish, Nader
Subject: RE: Accident in Japan
Date: Monday, March 14, 2011 12:09:00 PM

Unfortunately, we have found it very difficult to get reliable and specific information on the event also. We have our operations center staffed 24/7. I suggest that you call 301-816-5100 and ask to speak to the international liaison. Our liaison will provide all the info we can.

Best Regards,
Bill

From: Schmocker Ulrich [mailto:Ulrich.Schmocker@ensi.ch]
Sent: Monday, March 14, 2011 10:56 AM
To: Borchardt, Bill
Cc: Straub Markus
Subject: Accident in Japan

Dear Bill

Sorry to disturb you. We at ENSI are completely busy to inform the public, the politicians and the media about the accidents happened in Japan. Our problem is that the information we receive from Japan are only the official ones given by the government and some information from the licensee's web-side. Based on this information it is very difficult to come up with a consistent picture about the accident scenario. We assume that NRC may have additional information channels and may have a better and more consistent picture about the accident in Japan. Would it be possible to receive from NRC some additional information for our own use? Could you give us a contact point at NRC which we can contact by mail or phone? Of course we would forward to NRC any information we received but I believe that all we know you know even better. Thank you very much for your help.

Best regards
Ueli and Georg (Schwarz)

Dr. Ulrich Schmocker
Swiss Federal Nuclear Safety Inspectorate (ENSI)
Industriestrasse 19
CH-5200 Brugg

Ulrich.Schmocker@ensi.ch
www.ensi.ch
Tel. +41 56 460 86 64

My new e-mail address from April 1, 2011 is:
JU.Schmocker@bluewin.ch

JJJ/20

From: [Borchardt, Bill](#)
To: [Ellmers, Glenn](#)
Cc: [Muessle, Mary](#)
Subject: RE: draft EDO Update
Date: Monday, March 14, 2011 3:28:00 PM
Attachments: [EDO draft 2 update March 14 2011 .docx](#)

Please see the attached. I'd still like to get the DEDO's comments.

From: Ellmers, Glenn
Sent: Monday, March 14, 2011 1:49 PM
To: Borchardt, Bill
Cc: Muessle, Mary
Subject: draft EDO Update

I believe that everyone at the agency shares my deep condolences to the enormous number of people in Japan killed or suffering from the effects the earthquake and tsunami. As the Chairman said in his message earlier today, we are closely monitoring the situation and providing whatever assistance is being asked. We have already sent to Japan two staff members who are experts in the reactor technology used at the Fukushima site. We are now preparing to send a larger team of technical assistants to the American embassy in Tokyo to coordinate with 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.

Notwithstanding the significance of what is occurring in Japan, we still have our 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.

Since the question is being raised frequently in the media and elsewhere, let me say a word about what this situation means for nuclear power plants in the United States. In accordance with NRC regulations, every American nuclear power plant is designed with multiple, redundant safety systems to be robust enough to withstand the 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 enforces "defense in depth"—an approach to safety where multiple and redundant layers of protection are used to prevent accidents, mitigate consequences, and reduce uncertainty. While it is impossible to say what would happen to an American nuclear power plant under similar circumstances, we do know that these facilities are among the most robust and well-protected civilian structures in the country.

Let me express my thanks to the staff in the Operations Center who have stayed on top of the situation 24 hours a day 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.

We will keep you informed of any breaking developments.

5/5/21

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

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. As the Chairman said in his message earlier today, we are closely monitoring the situation and providing requested assistance. We have already sent two staff members to Japan who are BWR experts (the technology used at the Fukushima site). We are now sending a larger team of NRC staff to help the American embassy in Tokyo and to coordinate with 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.

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 US nuclear facilities are among the most robust and well-protected civilian structures in the country.

Let me express my thanks to the staff in the Operations Center who have stayed on top of the situation 24 hours a day 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'll keep you informed of ongoing developments.

From: Borchardt, Bill
To: Ellmers, Glenn
Subject: RE: Chairman's earthquake message
Date: Monday, March 14, 2011 12:20:00 PM

I think you can send the Chairman's draft over.

From: Ellmers, Glenn
Sent: Monday, March 14, 2011 12:13 PM
To: Borchardt, Bill
Subject: RE: Chairman's earthquake message

Not yet. Mindy wanted you to see it first. Am drafting your Update now.

From: Borchardt, Bill
Sent: Monday, March 14, 2011 12:05 PM
To: Ellmers, Glenn
Subject: RE: Chairman's earthquake message

Thanks. I assume that you have given it to the Chairman's office.

From: Ellmers, Glenn
Sent: Monday, March 14, 2011 11:08 AM
To: Borchardt, Bill
Subject: Chairman's earthquake message

Bill,

A draft for the Chairman. We thought the Update from you would talk about robustness and design bases in U.S. plants.

--

All of us are aware of the tragic earthquake and tsunami that struck northern Japan last week, killing thousands of people, destroying massive amounts of infrastructure, and knocking out large portions of the electricity grid. In addition, a very serious situation has developed at the Fukushima nuclear reactor site. Of the six reactors at Fukushima, three were operating at the time the earthquake struck, while the other three were undergoing refueling shutdowns. Two of the reactors that were operating have since experienced explosions in the reactor buildings and continue to face challenges to cool the cores. 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 USAID, a part of the State Department that is coordinating the U.S. response and assistance efforts. I will add, however, that the tsunami did not affect any nuclear power plants on the West Coast, and the radiation release at Fukushima does not pose any danger to any part of the United States, including Alaska and Hawaii.

Rest assured that the NRC is closely monitoring the situation. Senior agency managers have been staffing in the Operations Center in rotations on a 24-hour basis since Friday. Over the weekend, we sent two experts on boiling water reactors (the types of reactors at Fukushima) to Japan to provide technical assistance. We are currently in the process of selecting an additional team to

555/100

provide more help.

It is possible that some of you 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. 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.

We will keep you informed if there are any significant new developments.

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

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; Droogitis, Spiros; Flory, Shirley; Franovich, Mike; Gibbs, Catina; Haney, Catherine; Hannah, Roger; Harbuck, Craig; Harrington, Holly; Hasan, Nasreen; Hayden, Elizabeth; Holahan, Gary; Holahan, Patricia; Holian, Brian; Jacobssen, Patricia; Jaczko, Gregory; Jasinski, Robert; Jenkins, Verlyn; Johnson, Michael; Jones, Andrea; Kock, Andrea; Kotzalas, Margie; Ledford, Joey; Lee, Samson; Leeds, Eric; Lepre, Janet; Lew, David; Lewis, Antoinette; Loyd, Susan; Magwood, William; McCrary, Cheryl; McGrady-Finneran, Patricia; McIntyre, David; Mensah, Tanya; Mitlyng, Viktoria; Monninger, John; Montes, David; Nieh, Ho; Ordaz, Vonna; Ostendorff, William; Owen, Lucy; Powell, Amy; Quesenberry, Jeannette; Reddick, Darani; Regan, Christopher; Reyes, Luis; Riddick, Nicole; RidsSecyMailCenter Resource; Riley (OCA), Timothy; Rohrer, Shirley; Samuel, Olive; Satorius, Mark; Schaaf, Robert; Schmidt, Rebecca; Scott, Catherine; Screnci, Diane; Shaffer, Vered; Shane, Raeann; Sharkey, Jeffry; Sheehan, Neil; Sheron, Brian; Siurano-Perez, Osiris; Steger (Tucci), Christine; Svinicki, Kristine; Tabatabai, Omid; Tannenbaum, Anita; Taylor, Renee; Temp, WDM; Thomas, Ann; Uhle, Jennifer; Uselding, Lara; Vietti-Cook, Annette; Virgilio, Martin; Virgilio, Rosetta; Walker-Smith, Antoinette; Weaver, Doug; Weber, Michael; Weil, Jenny; Werner, Greg; Wiggins, Jim; Williams, Evelyn; Zimmerman, Roy; Zorn, Jason

Subject: *RESEND*Press Release: NRC Analysis Continues to Support Japan's Protective Actions

Date: Tuesday, March 15, 2011 2:46:04 PM

Attachments: 11-049.docx

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

Office of Public Affairs

US Nuclear Regulatory Commission

301-415-8200

opa.resource@nrc.gov

553/23



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

Office of Public Affairs

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Washington, D.C. 20555-0001

E-mail: opa.resource@nrc.gov Site: www.nrc.gov

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

No. 11-049

March 15, 2011

NRC ANALYSIS CONTINUES TO SUPPORT JAPAN'S PROTECTIVE ACTIONS

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

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

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

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

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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.

From: Virgilio, Martin
To: Borchardt, Bill; Weber, Michael; Leeds, Eric; Grobe, Jack; Casto, Chuck; Dorman, Dan
Subject: WANO
Date: Tuesday, March 15, 2011 10:21:05 PM

Bill

I spoke with Jim Ellis this evening. I complimented him on the Event Report and the specific actions it requires.

The purpose of the call was to request his support in providing access for our site team members to periodic TEPCO/WANO meetings that where facility status is discussed.

It turns out that the president of WANO international is in town (Atlanta) and Jim will discuss our interest with him. Jim stated that he would call WANO Tokyo if his discussions with the President were not successful.

In closing he noted that INPO should be viewed as the POC for industry. He suggested that having an INPO staff member on our team could both help us and help them stay connected. I told him that we would consider his offer.

I suggested that he call either you or me with the results of his interaction with WANO.

Marty

555/24

From: Rihm, Roger
To: Borchardt, Bill; Virgilio, Martin; Weber, Michael; Ash, Darren
Cc: Landau, Mindy; Muesse, Mary; Andersen, James
Subject: FW: Incoming Congressional Correspondence
Date: Tuesday, March 15, 2011 2:27:49 PM
Attachments: Markey- Capps NRC letter 03 15 11.pdf

FYI, another Markey letter that should be in the e-reader tomorrow.

From: Jaegers, Cathy
Sent: Tuesday, March 15, 2011 2:22 PM
To: Rihm, Roger
Subject: FW: Incoming Congressional Correspondence

From: Champ, Billie
Sent: Tuesday, March 15, 2011 1:12 PM
To: Jaegers, Cathy; Clayton, Kathleen
Subject: FW: Incoming Congressional Correspondence

From: Champ, Billie
Sent: Tuesday, March 15, 2011 1:08 PM
To: Batkin, Joshua; Monninger, John; Sharkey, Jeffrey; Sosa, Belkys; Bubar, Patrice; Nieh, Ho; Burns, Stephen
Cc: Vietti-Cook, Annette
Subject: Incoming Congressional Correspondence

I have attached for your information a letter from Reps. Markey and Capps dated March 15, 2011, requests additional information related to the seismic safety features in nuclear reactors in operation in the U.S.

Billie A. C-Lopes
March 15, 2011

JSJ/as

Congress of the United States
Washington, DC 20515

March 15, 2011

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

Dear Chairman Jaczko:

We write to request additional information related to the seismic safety features that are included in nuclear reactors currently in operation in this country. We are concerned that these reactors may not have the features necessary to withstand the sort of catastrophic earthquake and tsunami that has crippled several reactors in Japan, and caused a meltdown and the release of the highly radioactive materials contained within them.

The 9.0 magnitude earthquake caused a number of Japan's nuclear reactors to shut down automatically. However, a combination of tsunami-related damage and the long duration of the external power outages have subsequently led some of these reactors' emergency diesel generators, and thus cooling systems, to fail. To reduce rising pressure inside the Fukushima reactors, radioactive vapor is being vented, but three explosions have occurred as these pressures grew too high.¹ It appears as though meltdowns are proceeding at these reactors. Now life-threatening levels of radiation are being emitted, a 19-mile evacuation and no-fly zone has been established, a fire at a spent fuel pool at one of the units occurred, and 1,350 of the plant's 1,450 workers have been evacuated. Radioactive materials such as cesium and iodine have been detected as much as 100 miles away from these reactors.²

According to analysis prepared by Rep. Markey (see Appendix A, the map appended to this letter), there are eight nuclear reactors located on the seismically active West Coast of the United States, and twenty-seven nuclear reactors located near the New Madrid fault line in the Midwest.³ There are additionally thirty-one nuclear reactors in

¹ http://www.washingtonpost.com/business/economy/nuclear-crisis-deepens-as-third-reactor-loses-cooling-capacity/2011/03/14/ABk6rQV_story.html

² http://www.msnbc.msn.com/id/42066534/ns/world_news-asia-pacific/

³ See <http://pubs.usgs.gov/fs/2009/3071/pdf/FS09-3071.pdf> In 1811–1812, three major earthquakes (magnitude 7 to 7.7 on the commonly used Richter Scale) occurred near the town of New Madrid, MO. In 1886, a large earthquake (Richter Scale magnitude of about 7) occurred near Charleston, S.C. The United States Geological Survey has estimated that the chance of having an earthquake similar to one of the 1811–12 sequence in the next 50 years is about 7 to 10 percent, and the chance of having a magnitude 6 or larger earthquake in 50 years is 25 to 40 percent.

the United States that are of the same Mark 1 or Mark 2 design as those currently imperiled in Japan, and twelve of these are located in seismically active zones.

The Nuclear Regulatory Commission (NRC)⁴ indicates that safety-significant structures, systems, and components of nuclear reactors must be designed to take into account:

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

According to its website⁵, the San Onofre nuclear power plant, which is located 45 miles from Long Beach, California, is designed to withstand a 7.0 magnitude earthquake. An NRC staff memo⁶ indicates that the Diablo Canyon nuclear power plant, which is located 12 miles from San Luis Obispo, California, is designed to withstand a 7.5 magnitude earthquake. But according to the Southern California Earthquake Center,⁷ there is an 82 percent probability of an earthquake of 7.0 magnitude occurring in the next 30 years, and a 37 percent probability that an earthquake of 7.5 magnitude will occur.

It is not just resilience to the direct effects of an earthquake that raises concerns. While all nuclear power plants are equipped with emergency diesel generators, it is clear from the Japanese catastrophe that these are not themselves infallible, since they all appear to have failed at the Fukushima reactors. These can also fail for other reasons. For example, in 1990,⁸ the Vogtle plant in Georgia experienced a station blackout when a truck knocked over a transmission pole in the switchyard causing a loss of offsite power. The emergency diesel generator started but failed to load. The power plant suffered a complete station blackout, but fortunately power was restored in just over half an hour. NRC regulations only require nuclear power plants to be able to sustain cooling function in a station blackout for 4-8 hours⁹ using back-up battery powered generation capacity.

The vulnerability to the effects of a total station blackout was also noted by the NRC in its 2003 report entitled “Regulatory Effectiveness of the Station Blackout

⁴ <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/fs-seismic-issues.html>

⁵ <http://www.sce.com/PowerandEnvironment/PowerGeneration/SanOnofreNuclearGeneratingStation/publicsafety.htm>

⁶ Research Information Letter 09-001: Preliminary Deterministic Analysis of Seismic Hazard at Diablo Canyon Nuclear Power Plant from Newly Identified “Shoreline Fault”

⁷ <http://www.scec.org/core/public/scecontext.php/3935/13662>

⁸ <http://query.nytimes.com/gst/fullpage.html?res=9C0CEEDF123AF932A35757C0A966958260>

⁹ http://adamswbsearch2.nrc.gov/idmws/DocContent.dll?library=PU_ADAMS^pbntad01&LogonID=ba229e2ba98e61e668d07a5da3c0e726&id=032520158

Rule.”¹⁰ Appendix B of this report (attached to this letter) provides reactor-specific information related to outages experienced, demonstrating that many nuclear reactors in this country have already experienced lengthy power outages. The second column in this table reports the overall risk of core damage frequency as calculated by the plant owners. The third column reports the risk of core damage due to complete station blackout as calculated by the plant owners, which is also expressed as a percentage in column 4. If emergency diesel generators were truly fully reliable, there would be no risk associated with a complete station blackout. Instead, many nuclear reactors are estimated to have a real risk of core damage due to a complete station blackout. The fifth column in this table shows four parameters. The first parameter is the battery coping duration in hours, which can easily be seen to be four hours for most reactors, so some reactors can operate on batteries for eight hours.

Clearly, the risks of core damage to reactors due to a complete power outage are non-trivial and have already been contemplated by the NRC. The 4-8 hour battery generation capacity currently in place at U.S. reactor sites would not have helped mitigate the effects of the Japanese earthquake and subsequent tsunami.

Finally, the spent fuel pools at these nuclear reactors can also fail. If the water that cools these fuel rods drains, the zirconium cladding them can catch fire and lead to another source of melting fuel that can spew high level radioactive materials into the environment. This appears to have already occurred in Japan.

We are concerned that San Onofre, Diablo Canyon, and possibly other nuclear reactors located in seismically active areas are not designed with sufficient levels of resiliency against the sort of earthquakes scientists predict they could experience. We are also interested in more detailed information about just what it means to take the “most severe natural phenomena historically reported for the site and surrounding area” into account when designing the safety related features of nuclear reactors. Consequently, we ask for your prompt response to the following questions and requests for information.

- 1) Please provide the Richter or moment magnitude scale rating for each operating nuclear reactor in the United States. If no such rating information exists, then on what basis can such an assertion be made regarding the design of any single nuclear power plant?
- 2) The San Onofre reactor is reportedly designed to withstand a 7.0 earthquake, and the Diablo Canyon reactor is designed to withstand a 7.5 earthquake. According to the Southern California Earthquake Center,¹¹ there is an 82 percent probability of an earthquake of 7.0 magnitude in the next 30 years, and a 37 percent probability that an earthquake of 7.5 magnitude will occur. Shouldn't these reactors be retrofitted to ensure that they can withstand a stronger earthquake than a 7.5? If not, why not?
- 3) Please provide specific information regarding the differences in safety-significant structures between a nuclear power plant that is located in a seismically active area and one that is not. Please provide, for each operating nuclear reactor in a seismically

¹⁰ See <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1776/sr1776.pdf>

¹¹ <http://www.scec.org/core/public/scecontext.php/3935/13662>

active area, a full list and description of the safety-significant design features that are included that are not included in similar models that are not located in seismically active areas.

- 4) Please fully describe the emergency back-up power requirements that operating nuclear power plants must possess. How long are emergency diesel generators and back-up battery-powered generators required to be able to operate? If different requirements exist for different locations in the United States or for different types of reactors, please also include this information in your response.
- 5) For each operating nuclear power plant, please indicate a) whether the spent fuel pools are located inside or out of the containment structure, b) whether the emergency diesel generators are connected to the cooling and other equipment associated with the spent fuel pools, c) whether the battery-powered generators are connected to the cooling and other equipment associated with the spent fuel pools.
- 6) Please provide a list of all incidents at operating nuclear reactors since 1990 that have involved a) the loss of off-site power, b) a station blackout, or c) a failure of the battery-powered generators at the reactor. For each such incident, please fully describe the circumstances and duration, and impacts or damages, if any.
- 7) In your opinion, can any of the operating nuclear reactors in the United States withstand an earthquake of the magnitude experienced in Japan?

Please provide your response no later than close of business on Friday April 8, 2011. If you have any questions or concerns, please have your staff contact Dr. Michal Freedhoff of the Natural Resources Committee staff or Dr. Ilya Fischhoff of Rep. Markey's staff at 202-225-2836 or Jonathan Levenshus of Rep. Capps' staff at 202-225-3601.

Sincerely,

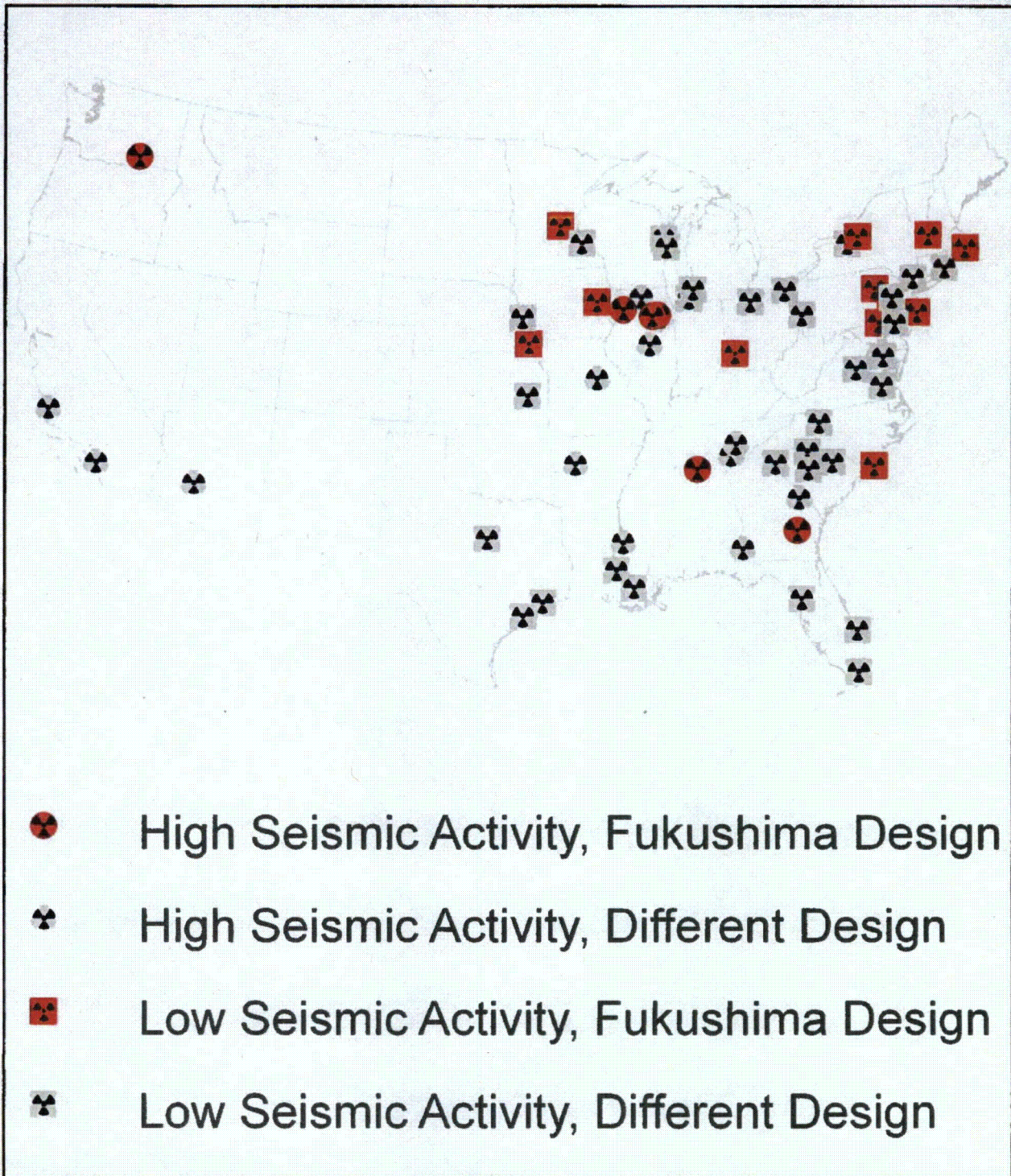


Edward J. Markey
Member of Congress



Lois Capps
Member of Congress

APPENDIX A



APPENDIX B

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-1 Operating pressurized-water reactors

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times ≥ 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Arkansas Nuclear One Unit 1	4.67E-05	1.58E-05	33.8	4/.95/10/1	Added 1 DG and crosstie	3.58E-02	2	1			
Arkansas Nuclear One Unit 2	3.40E-05	1.23E-06	3.6	4/.95/10/1	Added crosstie	5.84E-02	1	1			
Beaver Valley Unit 1	2.14E-04	6.51E-05	30.4	4/.975/60/1	Added crosstie	6.64E-02	2				
Beaver Valley Unit 2	1.92E-04	4.86E-05	25.3	4/.975/60/1	Added crosstie	7.44E-02	1				
Braidwood Units 1&2	2.74E-05	6.20E-06	22.6	4/.95/10/1		4.53E-02	2				
Bryon Units 1&2	3.09E-05	4.30E-06	13.9	4/.95/10/1		4.43E-02					
Callaway	5.85E-05	1.80E-05	30.8	4/.975/-/1		4.60E-02					
Calvert Cliffs Units 1&2	2.40E-04	8.32E-06	3.4	4/.975/60/4	Added 1 EDG and one 1 DG	1.36E-01	3				
Catawba Units 1&2	5.80E-05	6.0E-07	10.3	4/.95/10/1		2.0E-03	1			330	
Comanche Peak Units 1&2	5.72E-05	1.5E-05	26.2	4/.95/-/1							

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-1 Operating pressurized-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times \geq 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Crystal River Unit 3	1.53E-05	3.28E-06	21.5	4/.975/-14	dc load shed. Added nonclass 1E battery	4.35E-01	3				
Davis-Besse	6.6E-05	3.50E-05	53	4/.95/10/2	Added 1 DG	3.50E-02	2	1		1680	
DC Cook Units 1&2	6.2E-05	1.13E-05	18.1	4/.975/-12	dc load shed	4.0E-02	1				
Diablo Canyon Units 1&2	8.8E-05	5.0E-06	5.68	4/.95/-1	Added 1 DG	9.1E-02	1				261 917
Farley Units 1&2	1.3E-04	1.22E-05	9.4	4/.95/10/3	Service water to Aac, auto load shedding	4.70E-02	2				
Fort Calhoun	1.36E-05	NA	—	4/.95/-12	DC load shed	2.17E-01	2				
Ginna	8.74E-05	1.0E-06	1.14	4/.975/-11		3.50E-03	4				
Harris	7.0E-05	1.71E-05	24.4	4/.95/-13	Lighting in several areas, ladder to isolation valve						
Indian Point Unit 2	3.13E-05	4.47E-06	14.3	8/.95/60/2	Added a DG for gas turbine auxiliaries	6.91E-02	2		3	390	

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-1 Operating pressurized-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times ≥ 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Indian Point Unit 3	4.40E-05	4.80E-06	10.9	8/95/60/2		6.80E-02	1				
Kewaunee	6.6E-05	2.64E-05	40	4/95/60/2	Cross-tie to nonsafety power source	4.4E-02					
McGuire Units 1&2	4.0E-05	9.26E-06	23.3	4/95/10/1		7.0E-02	3				
Millstone Unit 2	3.42E-05	1.0E-10	NMN	8/975/60/5	Upgraded unit 1-2 crosstie	9.10E-02	1	1		330	
Millstone Unit 3	5.61E-05	5.10E-06	6	8/975/60/5	Added DG	1.12E-01					
North Anna Units 1&2	7.16E-05	8.0E-06	11.2	4/95/60/4	Added DG, switchgear, crosstie	1.14E-02					
Oconee Units 1, 2&3	2.3E-05	2.57E-06	11.2	4/975/10/1		9.0E-02	2				
Palisades	5.07E-05	9.10E-06	17.9	4/95/-/1	DC load shed, compressed air for ADVs	3.0E-02	3			388	
Palo Verde Units 1, 2&3	9.0E-05	1.91E-05	21.2	4/95/10/2	Added 2 gas turbines	7.83E-02	3			1138	
Point Beach Units 1&2	1.15E-04	1.51E-05	13.1	4/975/60/2	Gas turbine modifications	6.10E-02	4				

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-1 Operating pressurized-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times \geq 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Prairie Island Units 1&2	5.05E-05	3.1E-06	6.14	4/975/10/3	Added 2 EDGs	–	1	2		296 296	
Robinson Unit 2	3.20E-04	2.6E-05	8.13	8/95/60/4	Modified conduit supports in switchgear room	6.1E-02	2			454	
Salem Unit 1	5.20E-05	2.10E-05	40.4	4/975/-/2	EDG compressed air mod	6.0E-02	1				
Salem Unit 2	5.5E-05	1.70E-05	30.9	4/975/-/2	EDG compressed air mod	6.0E-02	2			655	1675
San Onofre Units 2&3	3.0E-05	2.0E-06	6.67	4/95/-/1	DC load shed and crosstie	1.1E-01			2		
St. Lucie Unit 1	2.30E-05	2.65E-06	11.5	4/975/10/5	Added crosstie	1.5E-01	1		3		
St. Lucie Unit 2	2.62E-05	2.64E-06	10.1	4/975/10/5	Added crosstie	1.5E-01					
Seabrook	6.86E-05	1.53E-05	22.3	4/975/-/3	DC load shed	4.93E-02					
Sequoyah Units 1&2	1.70E-04	5.32E-06	3.2	4/975/-/2	DC load shed, added air supply	5.16E-03	2				

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-1 Operating pressurized-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times \geq 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Summer	2.0E-04	4.9E-05	24.5	4/95/-/3	DC load shed, battery mod	7.3E-02			1		
South Texas Units 1&2	4.3E-05	1.46E-05	34.9	4/975/10/5	Procedural cross-tie						
Surry Units 1&2	1.25E-04	8.09E-06	6.47	4/975/10/4	Added DG	7.69E-02					
Three Mile Island Unit 1	4.49E-04	1.57E-05	3.5	4/975/10/3	Modifications to existing DGs	5.68E-02					
Turkey Point Units 3&4	3.73E-04	4.70E-06	1.2	8/95/10/5	Added 2 EDGs and cross-tie	1.7E-01	4	2	7	7950 7908	335
Vogtle Units 1&2	4.9E-05	4.4E-07	11	4/95/-/2	Added 5 circuit breakers and lighting	6.6E-04					
Waterford Unit 3	1.80E-05	6.24E-06	34.7	4/975/-/4	DC load shed. Added portable air compressors for EDGs	3.6E-02					
Watts Bar Unit 1	8.0E-05	1.73E-05	21.6	4/975/-/1		3.64E-02					
Wolf Creek	4.2E-05	1.88E-05	44.8	4/95/-/1		5.12E-02					

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-2 Operating boiling-water reactors

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times \geq 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Browns Ferry Units 2&3	4.80E-05	1.30E-05	27	4/.95/-/1	dc load shed	1.12E-01					
Brunswick Units 1&2	2.70E-05	1.80E-05	66.7	4/.975/60/5	Modified controls for existing crosstie	7.40E-02	3				1508 814
Clinton	2.66E-05	9.8E-06	36.8	4/.95/10/1	Added gas fans for selected room cooling	8.40E-02					
Cooper	7.97E-05	2.77E-05	34.8	4/.95/-/2		3.50E-02					
Dresden Units 2&3	1.8E-05	9.30E-07	5.03	4/.95/60/2	Added 2 DGs	1.12E-01	3	1		240	
Duane Arnold	7.84E-06	1.90E-06	24.2	4/.975/-/2	dc load shed, RCIC insulation & main control room lighting	1.17E-01			1		
Fermi	5.70E-06	1.3E-07	NMN	4/.95/60/1		1.88E-01					
FitzPatrick	1.92E-06	1.75E-06	NMN	4/.95/-/1	dc load shed, instrumentation and power supply mods	5.70E-02					
Grand Gulf	1.77E-05	7.46E-06	36.8	4/.95/-/2	dc load shed	6.80E-02					

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-2 Operating boiling-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times \geq 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Hatch Unit 1	2.23E-05	3.30E-06	14.8	4/.95/60/2	Replaced battery chargers	2.20E-02					
Hatch Unit 2	2.36E-05	3.23E-06	13.7	4/.95/60/2	Replaced battery chargers	2.20E-02					
Hope Creek	4.63E-05	3.38E-05	73	4/.95/-/2	Valve modifications	3.4E-02					
LaSalle Units 1&2	4.74E-05	3.82E-05	80.6	4/.975/-/1	dc load shed, New batteries	9.60E-02	1				
Limerick Units 1&2	4.30E-06	1.0E-07	NMN	4/.95/60/3	Upgraded cross-ties	5.9E-02					
Monticello	2.60E-05	1.20E-05	46.2	4/.95/-/1	dc load shed	7.90E-02					
Nine Mile Point Unit 1	5.50E-06	3.50E-06	NMN	4/.975/-/1	dc load shed, added two safety related batteries	5.00E-02	4			595	
Nine Mile Point Unit 2	3.10E-05	5.50E-06	17.7	4/.975/-/1	dc load shed	1.20E-01					

Plant-Specific Station Blackout Information by Reactor Type and Operating Status

Table B-2 Operating boiling-water reactors (Cont.)

Plant	Plant CDF	SBO CDF	Percent SBO CDF of Plant CDF	Coping time in hours/EDG reliability/Aac access time in minutes/ extremely severe weather	Modification summary including dc load shed procedural modifications	SBO factors					
						PRA LOOP initiating event frequency	Number of LOOP events at power since commercial operation			LOOP event recovery times ≥ 240 minutes	
							Plant	Weather	Grid	Power	Shutdown
Oyster Creek	3.90E-06	2.30E-06	NMN	4/.975/60/1	Added crosstie & reactor pressure indication	3.26E-02	3				240
Peach Bottom Units 2 & 3	5.53E-06	4.81E-07	8.7	8/.975/60/3	Cross-tie to hydro unit	5.9E-02					
Perry	1.30E-05	2.25E-06	43.4	4/.95/10/1	Replaced selected cables	6.09E-02					
Pilgrim	5.80E-05	1.0E-10	NMN	8/.975/10/4	Alarms to line-up Aac	6.17E-01	1	5			1263 534
Quad Cities Units 1&2	1.2E-06	5.72E-07	NMN	4/.95/60/1	Added 2 DGs	4.81E-02	2				
River Bend	1.55E-05	1.35E-05	87.5	4/.95/-/2	Minor structural mod	3.50E-02	1				
Susquehanna Units 1&2	1.7E-05	4.2E-11	NMN	4/.975/-/2	dc load shed	-	1				
Vermont Yankee	4.30E-06	9.17E-07	21.3	8/.975/10/4	Modified incoming line and controls	1.0E-01	2			277	
Washington Nuclear Plant Unit 2	1.73E-05	1.07E-05	61.1	4/.95/-/1	dc load shed, replaced inverters	2.46E-02					

From: OST01 HOC
Sent: Tuesday, April 26, 2011 2:26 AM
To: Johnson, Michael; FOIA Response.hoc Resource
Subject: FW: NRC's Daily Assessment of Conditions at Fukushima Daiichi
Attachments: NRC Daily Assessment of Daiichi - 4-26-11.pdf

From: Moore, Carl
Sent: Tuesday, April 26, 2011 2:24 AM
To: Jaczko, Gregory
Cc: Borchardt, Bill; Weber, Michael; Virgilio, Martin; Casto, Chuck; Leeds, Eric; Reynolds, Steven; RST01 Hoc; OST01 HOC
Subject: NRC's Daily Assessment of Conditions at Fukushima Daiichi

Dear Chairman

The attached is the NRC Japan Team's Daily Assessment of conditions at the Fukushima Daiichi nuclear power plants and spent fuel pools. There are no changes to the daily assessment chart for today.

If you have any questions, please don't hesitate to ask.

Best regards,
Carl Moore
NRC Japan Team

JJJ/26

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NRC's Daily Assessment of Conditions at Fukushima Daiichi Nuclear Power Plant

<u>Unit 1</u>		Today	Yesterday		<u>Unit 3</u>		Today	Yesterday
Vessel	Cooling	Challenged	Challenged		Vessel	Cooling	Adequate	Adequate
		↔	↔				↔	↔
	Integrity	Intact	Intact			Integrity	Failed	Failed
		↔	↔				↔	↔
Containment	Flooding	Inc./Needed	Inc./Needed		Containment	Flooding	Challenged	Challenged
		↔	↔				↔	↔
	Integrity	Challenged	Challenged			Integrity	Failed	Failed
		↔	↔				↓	↓
Spent Fuel Pool	Cooling/Level	Adequate	Adequate		Spent Fuel Pool	Cooling/Level	Challenged	Challenged
		↔	↔				↔	↔
	Integrity	Intact	Intact			Integrity	Challenged	Challenged
		↔	↔				↔	↔
<u>Unit 2</u>		Today	Yesterday		<u>Unit 4</u>		Today	Yesterday
Vessel	Cooling	Challenged	Challenged		Spent Fuel Pool	Cooling/Level	Challenged	Challenged
		↔	↔				↔	↔
	Integrity	Failed	Failed			Integrity	Challenged	Challenged
		↔	↔				↑	↑
Containment	Flooding	Inc./Needed	Inc./Needed				Today	Yesterday
		↔	↔					
	Integrity	Failed	Failed		Protective Measures	Exposure Risk	Low	Low
		↔	↔				↔	↔
Spent Fuel Pool	Cooling/Level	Adequate	Adequate					
		↔	↔					
	Integrity	Intact	Intact					
		↔	↔					

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April 26, 2011

Methodology for Developing the Fukushima Daiichi Daily Assessment Report

PURPOSE: The report is prepared to provide a qualitative high level assessment of daily conditions at Fukushima Daiichi that the U.S. Ambassador can use to assess the safety of American citizens in Japan.

DISCLAIMER: The development of the daily assessment report includes a number of inputs. Some of these are objective, such as plant data provided by TEPCO, while others are subjective, such as engineering insights from the NRC's reactor and protective measures specialists in Japan. It should be recognized that there are many unknowns and uncertainties associated with having a complete understanding of conditions in each of the Daiichi reactors and spent fuel pools. As such, this tool represents the collective judgment of the NRC staff in Japan based on all available data.

For each of the major plant parameters listed below, the NRC staff assesses its status daily and bins it into one of the three categories listed. The staff uses the listed plant information and conditions in making its assessment. The arrows on the report indicate the relative trend in plant conditions from the previous day.

- | | |
|---|---|
| <ul style="list-style-type: none">1. Reactor Pressure Vessel<ul style="list-style-type: none">a. Cooling – Adequate, Challenged, or Inadequate.<ul style="list-style-type: none">i. Flow or Injection Rateii. Reliability of Injectioniii. Source of Waterb. Integrity – Intact, Challenged, or Failed.<ul style="list-style-type: none">i. Temperature indicationsii. Pressure readings2. Primary Containment<ul style="list-style-type: none">a. Flooding Status – Complete/Not needed, Challenged, or Incomplete/Needed.<ul style="list-style-type: none">i. Water Levelii. Sourcesiii. Injection capacity/rateb. Integrity - Intact, Challenged, or Failed.<ul style="list-style-type: none">i. Pressure readingsii. Bypass evaluationsiii. Temperature indications | <ul style="list-style-type: none">3. Spent Fuel Pools<ul style="list-style-type: none">a. Cooling/Level – Adequate, Challenged, or Inadequate.<ul style="list-style-type: none">i. Flow or Injection Rateii. Reliability of Injectioniii. Source of Waterb. Integrity – Intact, Challenged, or Failed. Due to limited available data, this assessment relies strongly on the NRC team's engineering judgment.4. Protective Measures – Exposure Risk to American citizens in Japan outside the U.S. government's recommended 50-mile evacuation zone.<ul style="list-style-type: none">a. Low – 50-mile recommendation remains sufficientb. Medium – New information has raised questions regarding the sufficiency of the 50-mile recommendation.c. High – 50-mile recommendation is no longer sufficient due to changing plant condition |
|---|---|

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 10:36 AM
To: Weil, Jenny
Cc: Schmidt, Rebecca; Powell, Amy
Subject: RE: Re: California concerns -- another congressional inquiry

OPA is working on a press release to follow a State Department press release. I understand the Chairman wants something on radiation levels. Hopefully it will have something. Stay tuned. I'll add Ethan to the list.

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 10:27 AM
To: Droggitis, Spiros
Cc: Schmidt, Rebecca; Powell, Amy
Subject: Re: California concerns -- another congressional inquiry

Hi Spiros,

Got a call from a staff to Rep. Lynn Woolsey (D-CA) about concerns of potential radioactive "drift" to the West coast, and in particular California. Do we have any update on information from the press releases on that issue?

The leg ass't is Ethan.Rosenkranz@mail.house.gov.

Thanks!

JJJ/27

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 4:23 PM
To: Belmore, Nancy; Quesenberry, Jeannette
Subject: FW: OCA schedule

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 10:59 AM
To: OST02 HOC
Subject: FW: OCA schedule

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 10:58 AM
To: 'osto2.hoc@nrc.gov'
Subject: OCA schedule

Schedule: Tuesday

2:00 – 7:00 Gene Dacus

Wednesday

7:00 – 2:00 Spiros Droggitis

2:00 – 7:00 Tim Riley

Thursday

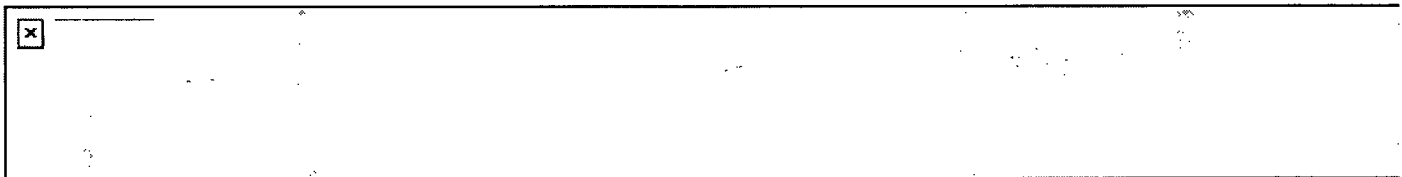
7:00 – 2:00 David Decker

2:00 – 7:00 Raeann Shane

5/5/28

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 5:17 PM
To: Powell, Amy
Subject: FW: CQ Today Extra!

From: CQ Today [mailto:cqtodayextra-owner@cqrollcall.com]
Sent: Tuesday, March 15, 2011 5:01 PM
To: Droggitis, Spiros
Subject: CQ Today Extra!



TOMORROW AT A GLANCE



WEDNESDAY, MARCH 16, 2011

LATE BREAKING DEVELOPMENTS

NEW

New: Rules for Floor Debate

House Rules Committee (Chairman Dreier, R-Calif.) will consider rules for floor debate for pending legislation. *3 p.m., H-313 Capitol*

New: Nuclear Crisis in Japan

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

UPDATED

Updated: Securities Lending and Retirement Plans

Senate Special Aging Committee (Chairman Kohl, D-Wis.) will hold a hearing titled "Securities Lending in Retirement Plans: Why the Banks Win, Even When You Lose." *2 p.m., 216 Hart*

Updated: HELP Nominations Vote; Subcommittee Assignments

Senate Health, Education, Labor and Pensions Committee (Chairman Harkin, D-Iowa) will vote on pending nominations and approve subcommittee assignments. *Time TBA, location off the Senate floor TBA*

POSTPONED

Postponed: Homeland Security and Governmental Affairs Business

Senate Homeland Security and Governmental Affairs Committee (Chairman Lieberman, I-Conn.) will mark up pending legislation. *10 a.m., 342 Dirksen*

MARKUPS

555/29

Airport and Airway Trust Fund Extension; Regulation of Pesticides; 'Views and Estimates'

House Transportation and Infrastructure Committee (Chairman Mica, R-Fla.) will mark up pending legislation and consider its 'Views and Estimates' report to the House Budget Committee. *10 a.m., 2167 Rayburn*

Airport Trust Fund; 'Views and Estimates'

House Ways and Means Committee (Chairman Camp, R-Mich.) will mark up pending legislation and consider its 'Views and Estimates' report to the House Budget Committee. *10 a.m., 1100 Longworth*

New: Rules for Floor Debate

House Rules Committee (Chairman Dreier, R-Calif.) will consider rules for floor debate for pending legislation. *3 p.m., H-313 Capitol*

Updated: HELP Nominations Vote; Subcommittee Assignments

Senate Health, Education, Labor and Pensions Committee (Chairman Harkin, D-Iowa) will vote on pending nominations and approve subcommittee assignments. *Time TBA, location off the Senate floor TBA*

HEARINGS AND MEETINGS

HOUSE COMMITTEES**Military Health System Cost Efficiencies Overview**

Military Personnel Subcommittee (Chairman Wilson, R-S.C.) of House Armed Services Committee will hold a hearing on the military health system and defense health program cost efficiencies. *8 a.m., 2212 Rayburn*

Fiscal 2012 Budget: Department of Energy and NRC

Energy and Power Subcommittee (Chairman Whitfield, R-Ky.) and Environment and the Economy Subcommittee (Chairman Shimkus, R-Ill.) of House Energy and Commerce Committee will hold a joint hearing on the fiscal 2012 budget request for the Department of Energy and the Nuclear Regulatory Commission. *9:30 a.m., 2123 Rayburn*

TSA Oversight

National Security, Homeland Defense and Foreign Operations Subcommittee (Chairman Chaffetz, R-Utah) of House Oversight and Government Reform Committee will hold a hearing titled "TSA [Transportation Security Administration] Oversight." *9:30 a.m., 2154 Rayburn*

Veterans' Groups Legislative Programs

House Veterans' Affairs Committee (Chairman Miller, R-Fla.) and Senate Veterans' Affairs Committee (Chairwoman Murray, D-Wash.) will hold a joint hearing on the legislative recommendations of various veterans' organizations. *9:30 a.m., G-50 Dirksen*

Chesapeake Bay Watershed Issues

Conservation, Energy and Forestry Subcommittee (Chairman Thompson, R-Pa.) of House Agriculture Committee will hold a hearing to review the Chesapeake Bay total maximum daily loads, agricultural conservation practices, and their implications on national watersheds. *10 a.m., 1300 Longworth*

Fiscal 2012 Appropriations: Agriculture, Rural Development, FDA and Related Agencies

Agriculture, Rural Development, FDA, and Related Agencies Subcommittee (Chairman Kingston, R-Ga.) of House Appropriations Committee will hold hearings on proposed fiscal 2012 appropriations for departments, agencies and programs under its jurisdiction. *10 a.m., 2362-A Rayburn*

Fiscal 2012 Appropriations: Commerce, Justice, Science and Related Agencies

Commerce, Justice, Science, and Related Agencies Subcommittee (Chairman Wolf, R-Va.) of House Appropriations Committee will hold hearings on proposed fiscal 2012 appropriations for departments, agencies and programs under its jurisdiction. *10 a.m., H-309 Capitol*

Fiscal 2012 Appropriations: Defense

Defense Subcommittee (Chairman Young, R-Fla.) of House Appropriations Committee will hold hearings on proposed fiscal 2012 appropriations for departments, agencies and programs under its jurisdiction. *10 a.m., H-140 Capitol*

Fiscal 2012 Appropriations: Energy and Water Programs

Energy and Water Development Subcommittee (Chairman Frelinghuysen, R-N.J.) of House Appropriations Committee will hold hearings on proposed fiscal 2012 appropriations for departments, agencies and programs under its jurisdiction. *10 a.m., 2362-B Rayburn*

Fiscal 2012 Appropriations: Homeland Security

Homeland Security Subcommittee (Chairman Aderholt, R-Ala.) of House Appropriations Committee will hold a hearing on fiscal 2012 appropriations for departments, agencies and programs under its jurisdiction. *10 a.m., 2359 Rayburn*

Fiscal 2012 Appropriations: Labor, Health and Human Services, Education, and Related Agencies

Labor, Health and Human Services, Education, and Related Agencies Subcommittee (Chairman Rehberg, R-Mont.) of House Appropriations Committee will hold hearings on proposed fiscal 2012 appropriations for departments, agencies and programs under its jurisdiction. *10 a.m., 2358-C Rayburn*

Fiscal 2012 Appropriations: State, Foreign Operation and Related Programs

State, Foreign Operations, and Related Programs Subcommittee (Chairwoman Granger, R-Texas) of House Appropriations Committee will hold hearings on proposed fiscal 2012 appropriations for departments, agencies and programs under its jurisdiction. *10 a.m., B-308 Rayburn*

Afghanistan Developments and Assessment

House Armed Services Committee (Chairman McKeon, R-Calif.) will hold a hearing on developments in Afghanistan. *10 a.m., 2118 Rayburn*

Exports, Trade and Jobs

Commerce, Manufacturing and Trade Subcommittee (Chairwoman Bono Mack, R-Calif.) of House Energy and Commerce Committee will hold a hearing titled "Made in America: Increasing Jobs through Exports and Trade." *10 a.m., 2322 Rayburn*

Consumer Financial Protection Bureau Oversight

Financial Institutions and Consumer Credit Subcommittee (Chairwoman Capito, R-W.Va.) of House Financial Services Committee will hold a hearing titled "Oversight of the Consumer Financial Protection Bureau." *10 a.m., 2128 Rayburn*

Fiscal 2012 Budget: AID, Millennium Challenge

House Foreign Affairs Committee (Chairwoman Ros-Lehtinen, R-Fla.) will hold a hearing on the fiscal 2012 budget requests for the Agency for International Development and the Millennium Challenge Corporation. *10 a.m., 2172 Rayburn*

Cybersecurity Threat Assessment

Cybersecurity, Infrastructure Protection and Security Technologies Subcommittee (Chairman Lungren, R-Calif.) of House Homeland Security Committee will hold a hearing titled "Examining the Cyber Threat to Critical Infrastructure and the American Economy." *10 a.m., 311 Cannon*

FBI Oversight

House Judiciary Committee (Chairman Smith, R-Texas) will hold an oversight hearing on the Federal Bureau of Investigation. *10 a.m., 2141 Rayburn*

Drilling Moratorium in the Gulf of Mexico

House Natural Resources Committee (Chairman Hastings, R-Wash.) will hold an oversight hearing titled "Obama Administration's De Facto Moratorium in the Gulf of Mexico: Community and Economic Impacts." *10 a.m., 1324 Longworth*

Fiscal 2012 Appropriations: Interior and Environment

Interior, Environment, and Related Agencies Subcommittee (Chairman Simpson, R-Idaho) of House Appropriations Committee will hold hearings on proposed fiscal 2012 appropriations for departments, agencies and programs under its jurisdiction. *1 p.m., B-308 Rayburn*

Small Business Innovation Research Program

House Small Business Committee (Chairman Graves, R-Mo.) will hold a hearing titled "Spurring Innovation and Job Creation: The Small Business Innovation Research (SBIR) Program." *1 p.m., 2360 Rayburn*

Labor Cost in Construction Industry

Regulatory Affairs, Stimulus Oversight and Government Spending Subcommittee (Chairman Jordan, R-Ohio) of House Oversight and Government Reform Committee will hold a hearing titled "Project Labor Agreements and the Cost of Doing Business in the Construction Industry." 1:30 p.m., 2154 Rayburn

Fiscal 2012 Appropriations: Financial Services and General Government

Financial Services and General Government Subcommittee (Chairwoman Emerson, R-Mo.) of House Appropriations Committee will hold hearings on proposed fiscal 2012 appropriations for departments, agencies and programs under its jurisdiction. 2 p.m., 2359 Rayburn

Fiscal 2012 Appropriations: Military Construction, Veterans Affairs and Related Agencies

Military Construction, Veterans Affairs, and Related Agencies Subcommittee (Chairman Culberson, R-Texas) of House Appropriations Committee will hold hearings on proposed fiscal 2012 appropriations for departments, agencies and programs under its jurisdiction. 2 p.m., H-140 Capitol

Amphibious Military Operations

Seapower and Projection Forces Subcommittee (Chairman Akin, R-Mo.) of House Armed Services Committee will hold a hearing on amphibious military operations. 2 p.m., 2118 Rayburn

Job Creation, Capital Formation and Market Stability Issues

Capital Markets and Government Sponsored Enterprises Subcommittee (Chairman Garrett, R-N.J.) of House Financial Services Committee will hold a hearing titled "Legislative Proposals to Promote Job Creation, Capital Formation and Market Certainty." 2 p.m., 2128 Rayburn

Tax Treatment of Abortion Related Expenses

Select Revenue Measures Subcommittee (Chairman Tiberi, R-Ohio) of House Ways and Means Committee will hold a hearing on the proposed changes in the tax treatment of expenses related to abortion services. 2 p.m., 1100 Longworth

Fiscal 2012 Budget: U.S. Cyber Command

Emerging Threats and Capabilities Subcommittee (Chairman Thornberry, R-Texas) of House Armed Services Committee will hold a hearing on the fiscal 2012 budget request for the U.S. Cyber Command. 3:30 p.m., 2212 Rayburn

SENATE COMMITTEES**Situation in Libya**

Senate Foreign Relations Committee (Chairman Kerry, D-Mass.) will hold a closed briefing on the situation in Libya. 9 a.m., SVC-217 Capitol

Veterans' Groups Legislative Programs

Senate Veterans' Affairs Committee (Chairwoman Murray, D-Wash.) and House Veterans' Affairs Committee (Chairman Miller, R-Fla.) will hold a joint hearing on the legislative recommendations of various veterans' organizations. 9:30 a.m., G-50 Dirksen

Modernizing Government Performance

Government Performance Task Force (Chairman Warner, D-Va.) of Senate Budget Committee will hold a hearing titled "Modernizing Performance: Using the New Framework." 10 a.m., 608 Dirksen

Online Consumer Privacy

Senate Commerce, Science and Transportation Committee (Chairman Rockefeller, D-W.Va.) will hold a hearing on the state of online consumer privacy, focusing on commercial practices that involve collecting, maintaining, using and disseminating large amounts of consumer information, some of it potentially very sensitive and private in nature. 10 a.m., 253 Russell

BP Deepwater Horizon Oil Spill

Senate Environment and Public Works Committee (Chairwoman Boxer, D-Calif.) will hold a hearing on the report to the president of the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling. 10 a.m., 406 Dirksen

Health Care Overhaul After One Year

Senate Finance Committee (Chairman Baucus, D-Mont.) will hold a hearing titled "Health Reform: Lessons Learned During the First Year." 10 a.m., 215 Dirksen

U.N. Nomination

Senate Foreign Relations Committee (Chairman Kerry, D-Mass.) will hold a confirmation hearing on the nomination of Joseph M. Torsella to be representative to the United Nations for U.N. Management and Reform, with the rank of ambassador. 10:15 a.m., 419 Dirksen

Fiscal 2012 Appropriations: Defense

Defense Subcommittee (Chairman Inouye, D-Hawaii) of Senate Appropriations Committee will hold hearings on proposed fiscal 2012 appropriations for departments, programs and agencies under its jurisdiction. 10:30 a.m., 192 Dirksen

Fiscal 2012 Appropriations: Interior, Environment, and Related Agencies

Interior, Environment, and Related Agencies Subcommittee (Chairman Reed, D-R.I.) of Senate Appropriations Committee will hold hearing on proposed fiscal 2012 appropriations for departments, programs and agencies under its jurisdiction. 2 p.m., 124 Dirksen

Updated: Securities Lending and Retirement Plans

Senate Special Aging Committee (Chairman Kohl, D-Wis.) will hold a hearing titled "Securities Lending in Retirement Plans: Why the Banks Win, Even When You Lose." 2 p.m., 216 Hart

National Intelligence Estimate on Iran

Senate Armed Services Committee (Chairman Levin, D-Mich.) will meet to receive a close briefing on the updated National Intelligence Estimate on Iran and other matters. 2:30 p.m., SVC-217 Capitol

Situation in Afghanistan

Senate Foreign Relations Committee (Chairman Kerry, D-Mass.) will hold a closed briefing on the current situation in Afghanistan, focusing on progress and expectations. 2:30 p.m., SVC-217 Capitol

Judicial Nominations

Senate Judiciary Committee (Chairman Leahy, D-Vt.) will hold a confirmation hearing on pending nominations. 2:30 p.m., 226 Dirksen

New: Nuclear Crisis in Japan

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

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Editor: Bob Healy

Reporters: The staff of Congressional Quarterly

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Issue-Id: 17651206:cqtodayextra:58

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 3:13 PM
To: Powell, Amy
Subject: FW: OBE SSE question (3).xlsx
Attachments: OBE SSE question (3).xlsx

From: Rihm, Roger
Sent: Tuesday, March 15, 2011 3:11 PM
To: Decker, David; Droggitis, Spiros
Cc: Glitter, Joseph; Mahoney, Michael
Subject: FW: OBE SSE question (3).xlsx

Don't know if it's too late, but I made a couple of fixes – removed “3” and “4” form column headings (those were old footnote references) and spelled out an acronym in the last note at end.

From: Glitter, Joseph
Sent: Tuesday, March 15, 2011 2:45 PM
To: Marshall, Michael; Rihm, Roger
Cc: Mahoney, Michael; Wilson, George
Subject: OBE SSE question (3).xlsx

We're running up some hard copies as well.

555/30

Nuclear Plant Name	Safe Shutdown Earthquake (SSE)	Operating Basis Earthquake (OBE)	Probable Maximum Tsunami OR Maximum Tsunami Water Level
By State/Location	Peak Acceleration, g	Peak Acceleration, g	
Alabama			
Browns Ferry	0.200	0.100	N/A (Non-Coastal)
Farley	0.100	0.050	N/A (Non-Coastal)
Arkansas			
Arkansas Nuclear	0.200		N/A (Non-Coastal)
Arizona			
Palo Verde	0.200	0.100	N/A (Non-Coastal)
California			
Diablo Canyon	0.400	0.200	The design basis maximum combined wave runup is the greater of that determined for near-shore or distantly-generated tsunamis, and results from near-shore tsunamis. For distantly-generated tsunamis, the combined runup is 30 feet For near-shore tsunamis, the combined wave runup is 34.6 feet, as determined by hydraulic model testing. The safety-related equipment is installed in watertight compartments to protect it from adverse sea wave events to elevation +48 feet above MLLW.
San Onofre	0.670	0.340	The controlling tsunami occurs during simultaneous high tide and storm surge produces a maximum runup to elevation +15.6 feet mean lower low water line (mlw) at the Unit 2 and 3 seawall. When storm waves are superimposed, the predicted maximum runup is to
Connecticut			
Millstone	0.170	0.090	18 ft SWL
Florida			
Crystal River	0.050	0.025	N/A (Non-Coastal)
St. Lucie	0.100	0.050	No maximum tsunami level, bounded by PMH surge of +18 MLW wave runup, with plant openings at +19.5 MLW
Turkey Point	0.150	0.050	No maximum tsunami level, bounded by PMH surge of +18.3 MLW water level, site protected to +20 MLW with vital equipment protected to +22 MLW
Georgia			
Hatch	0.150	0.080	N/A (Non-Coastal)
Vogtle	0.200	0.120	N/A (Non-Coastal)
Illinois			
Braidwood	0.200	0.090	N/A (Non-Coastal)
Byron	0.200	0.090	N/A (Non-Coastal)
Clinton	0.250	0.100	N/A (Non-Coastal)
Dresden	0.200	0.100	N/A (Non-Coastal)
LaSalle	0.200	0.100	N/A (Non-Coastal)
Quad Cities	0.240	0.120	N/A (Non-Coastal)
Iowa			
Duane Arnold	0.120	0.060	N/A (Non-Coastal)
Kansas			
Wolf Creek	0.120	0.060	N/A (Non-Coastal)
Louisiana			
River Bend	0.100	0.050	
Waterford	0.100		Floods – 30 feet MSL
Maryland			

Calvert Cliffs	0.150	0.080	14 ft design wave
Massachusetts			
Pilgrim	0.150	0.080	*Storm flooding design basis - 18.3ft
Michigan			
D.C. Cook	0.200	0.100	N/A
Fermi	0.150	0.080	N/A
Palisades	0.200	0.100	N/A
Missouri			
Callaway	0.200		N/A (Non-Coastal)
Mississippi			
Grand Gulf	0.150	0.075	N/A
Minnesota			
Monticello	0.120	0.060	N/A (Non-Coastal)
Prarie Island	0.120	0.060	N/A (Non-Coastal)
Nebraska			
Cooper	0.200	0.100	N/A (Non-Coastal)
Fort Calhoun	0.170	0.080	N/A (Non-Coastal)
New York			
Fitzpatrick	0.150	0.080	N/A (Non-Coastal)
Gienna	0.200	0.080	N/A
Indian Point	0.150	0.100	15 ft msl
Nine Mile Point, Unit 1	0.110	0.060	N/A
Nine Mile Point, Unit 2	0.150	0.075	N/A
New Hampshire			
Seabrook	0.250	0.125	(+) 15.6' MSL Still Water Level (Tsunami Flooding - Such activity is extremely rare on the U.S. Atlantic coast and would result in only minor wave action inside the harbor.)
New Jersey			
Hope Creek	0.200	0.100	35.4 MSL The maximum probable tsunami produces relatively minor water level changes at the site. The maximum runup height reaches an elevation of 18.1 feet MSL with coincident 10 percent exceedance high tide)
Oyster Creek	0.184	0.092	(+) 23.5' MSL Still Water Level (Probable Maximum Tsunami - Tsunami events are not typical of the eastern coast of the United States and have not, therefore, been addressed.)
Salem	0.200	0.100	21.9 MSL (There is no evidence of surface rupture in East Coast earthquakes and no history of significant tsunami activity in the region)
North Carolina			
Brunswick	0.160	0.030	N/A
McGuire	0.150	0.080	N/A (Non-Coastal)
Shearon Harris	0.150		N/A (Non-Coastal)
Ohio			
Davis-Besse	0.150	0.080	N/A
Perry	0.150	0.080	N/A
Pennsylvania			
Beaver Valley	0.130	0.060	N/A (Non-Coastal)
Limerick	0.150	0.075	N/A (Non-Coastal)
Peach Bottom	0.120	0.050	N/A (Non-Coastal)
Three Mile Island	0.120	0.060	N/A (Non-Coastal)
Susquehanna	0.150	0.080	N/A (Non-Coastal)
South Carolina			
Catawba	0.150	0.080	N/A (Non-Coastal)
Oconee	0.150	0.050	N/A (Non-Coastal)
Robinson	0.200	0.100	N/A (Non-Coastal)
V.C. Summer	0.250	0.150	N/A (Non-Coastal)
Tennessee			
Sequoyah	0.180	0.090	N/A (Non-Coastal)
Watts Bar, Unit 1	0.180	0.090	N/A (Non-Coastal)

Texas			
Comanche Peak	0.120	0.060	N/A
South Texas Project	0.100	0.050	N/A
Vermont			
Vermont Yankee	0.140	0.070	N/A
Virginia			
North Anna	0.180		N/A
Surry	0.150	0.080	N/A
Washington			
Columbia	0.250		N/A (Non-Coastal)
Wisconsin			
Kewaunee	0.120	0.060	N/A
Point Beach	0.120		N/A

Definition of Safe Shutdown Earthquake

The safe-shutdown earthquake (SSE) for the site is the ground motion response spectra (GMRS), which also satisfies the minimum requirement of paragraph IV(a)(1)(i) of Appendix S, "Earthquake Engineering Criteria for Nuclear Power Plants," to Title 10, Part 50, "Domestic Licensing of Production and Utilization Facilities," of the Code of Federal Regulations (10 CFR Part 50).

Definition of Operating Basis Earthquake:

To satisfy the requirements of paragraph IV(a)(2)(A) of Appendix S to 10 CFR Part 50, the operating-basis earthquake (OBE) ground motion is defined as follows:

- (i) For the certified design portion of the plant, the OBE ground motion is one-third of the Certified Design Response Spectra (CSDRS).
- (ii) For the safety-related noncertified design portion of the plant, the OBE ground motion is one-third of the design motion response spectra, as stipulated in the design certification conditions specified in design control document (DCD).
- (iii) The spectrum ordinate criterion to be used in conjunction with Regulatory Guide 1.166, "Pre-Earthquake Planning and Immediate Nuclear Power Plant Operator Postearthquake Actions," issued March 1997, is the lowest of (i) and (ii).

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 5:07 PM
To: Weil, Jenny
Subject: RE: Most up-to-date information

I thought he was concerned about radiation. Is it tsunami?

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 5:05 PM
To: Droggitis, Spiros
Subject: RE: Most up-to-date information

Here's a tsunami backgrounder from CRS.

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 5:04 PM
To: Weil, Jenny
Subject: RE: Most up-to-date information

Not very up to date, but best I could come up with. I understand the WH is coming up with 20 pages of Q's & A's which is supposed to address this among other issues, but it has not been fully vetted yet. It will be helpful when it does.

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 5:03 PM
To: Droggitis, Spiros
Subject: RE: Most up-to-date information

Thanks!

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 4:56 PM
To: Ethan.Rosenkranz@mail.house.gov
Cc: Weil, Jenny
Subject: Most up-to-date information

<http://www.whitehouse.gov/blog/2011/03/13/ongoing-response-earthquakes-and-tsunami-japan>

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 3:15 PM
To: Decker, David
Subject: FW: OBE SSE question (3).xlsx

From: Powell, Amy
Sent: Tuesday, March 15, 2011 3:15 PM
To: Droggitis, Spiros
Subject: Re: OBE SSE question (3).xlsx

Sounds more format that substance - if he wants to share with Hill (doubtful) we'll deal with that then.

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

Sent from my Blackberry

From: Droggitis, Spiros
To: Powell, Amy
Sent: Tue Mar 15 15:12:49 2011
Subject: FW: OBE SSE question (3).xlsx

From: Rihm, Roger
Sent: Tuesday, March 15, 2011 3:11 PM
To: Decker, David; Droggitis, Spiros
Cc: Giitter, Joseph; Mahoney, Michael
Subject: FW: OBE SSE question (3).xlsx

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To: Marshall, Michael; Rihm, Roger
Cc: Mahoney, Michael; Wilson, George
Subject: OBE SSE question (3).xlsx

We're running up some hard copies as well.

JJJ/32

From: Droggitis, Spiros
Sent: Monday, April 11, 2011 12:57 PM
To: Combs, Thomas
Subject: FW: COMMISSION E-READER....MONDAY, APRIL 11, 2011
Attachments: Tab A 04-08-11 Sen. Feinstein.pdf; Tab B 04-08-11 Yamauchi 11-0212.pdf; Tab C 04-06-11 Gov. Deval Patrick .pdf; Tab D 04-06-11 Gov Deval Patrick.pdf; Tab E 03-31-11 Sen. Blumenthal .pdf; Tab F 04-08-11 Ltr to Boxer-Carper.pdf; Tab G 04-08-11 Ltr to Boxer-Feinstein.pdf; dailymemos.doc

Did you get these? A lot of good stuff here.

From: Champ, Billie
Sent: Monday, April 11, 2011 12:44 PM
To: Commission E-Reader Distribution; E-Reader Distribution
Subject: COMMISSION E-READER....MONDAY, APRIL 11, 2011

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If there are any questions, please contact SECY.

READING FILE

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April 11, 2011

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- Tab "B" 04/08/11 -- Email from Kiyoshi Yamauchi, concerns Mitsubishi statement on Northeastern earthquake and tsunami in Japan.
- Tab "C" 04/06/11 -- Letter from Gov. Deval Patrick, MA, concerns Pilgrim nuclear power plant.
- Tab "D" 04/06/11 -- Letter from Gov. Deval Patrick, MA, concerns dry cask storage ... Pilgrim nuclear power plant.
- Tab "E" 03/31/11 -- Letter from Sen. Richard Blumenthal, concerns assessment of the safety and viability of U.S. on-site nuclear waste storage facilities.

OUTGOING CORRESPONDENCE

- Tab "F" 04/08/11 -- Letter to Congress, responds to request that the NRC perform a thorough review of nuclear power plants.

- **Tab "G" 04/08/11 -- Letter to Congress, responds to request that NRC perform a thorough review of the Diablo Canyon and San Onofre nuclear power plants.**

PATRICK J. LEAHY, VERMONT
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CHARLES J. HOUY, STAFF DIRECTOR
BRUCE EVANS, MINORITY STAFF DIRECTOR

April 8, 2011

The Honorable Gregory Jaczko
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Chairman Jaczko:

I am writing to ask that you seriously consider regulatory policies that would encourage the movement of nuclear fuel, once sufficiently cool, out of spent fuel pools and into dry cask storage systems. I am concerned that current Nuclear Regulatory Commission policies allow excessive re-racking and densification of radioactive fuel within spent fuel pools. In fact, there are examples in the U.S. where nuclear fuel rods have been stored in spent fuel pools for decades.

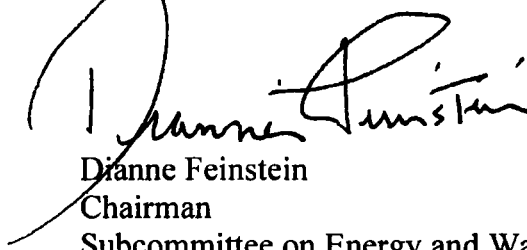
According to "Safety and Security of Commercial Spent Nuclear Fuel Storage," a report published in 2006 by the National Research Council at the request of Congress, dry cask storage systems have inherent safety advantages over spent fuel pool storage. The report highlighted three main differences between these two storage options:

1. **Less spent fuel is at risk in an accident or attack on a dry storage cask than on a spent fuel pool.** An accident or attack on a dry cask facility would likely affect only a few casks at a time. An accident or attack on a spent fuel pool places the entire fuel inventory at risk.
2. **The consequences of an accident or terrorist attack on a dry cask storage facility are lower than those for a spent fuel pool.** If an accident or attack on a dry cask facility resulted in radioactive material being released, the dispersion could likely be contained easier than if a spent fuel pool were compromised.
3. **The recovery from an attack on a dry cask would be much easier than the recovery from an attack on a spent fuel pool.** Containing radiation that could be released from damage to dry casks can be plugged temporarily with radiation-absorbing materials until permanent fixes are available. Containing radiation from a compromised spent fuel pool is likely to be much more difficult, particularly if the overlying building collapsed preventing workers from reaching the pool.

When taken together, these points assert that the risk of a non-recoverable accident decreases when spent nuclear fuel is kept in smaller, easier to manage, containers that are distributed intelligently on a secure site. The continuous re-racking and addition of fuel rods in spent fuel pools appears to be at odds with these safety recommendations. Based on these findings, I ask the NRC to initiate a rulemaking process to immediately require a more rapid shift of spent fuel to dry casks.

The lesson from Japan's disaster is that we must be prepared to respond to unanticipated threats. Therefore, any policy changes that further reduce risks of an unsafe situation catching the industry off guard should be implemented. I look forward to working with you further on this issue.

Sincerely,

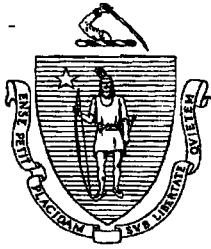
A handwritten signature in black ink, appearing to read "Dianne Feinstein". The signature is fluid and cursive, with a large initial "D" and a long, sweeping underline.

Dianne Feinstein

Chairman

Subcommittee on Energy and Water
Development

DF/mbn/ac



OFFICE OF THE GOVERNOR
COMMONWEALTH OF MASSACHUSETTS
STATE HOUSE • BOSTON, MA 02133
(617) 725-4000

DEVAL L. PATRICK
GOVERNOR

TIMOTHY P. MURRAY
LIEUTENANT GOVERNOR

April 6, 2011

Chairman Gregory B. Jackzo
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Dear Chairman Jackzo:

Thank you for the briefing last week. We share your heightened concern related to the recent incidents at the nuclear facilities in Japan. The NRC is under tremendous pressure as we address this continuing crisis while learning how to reduce the likelihood of a similar tragedy in the future. We hope to continue an open dialogue in the weeks and months ahead.

In the meantime, we write with three requests:

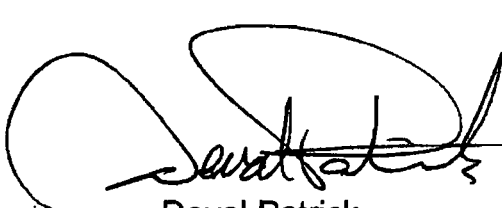
1. As your team offered, please provide a specific list of near term and longer term activities that will occur at Pilgrim to assure that we are continuing to operate the plant safely and learning as much as possible, as quickly as possible, as we can from the tragedy in Japan. As we understand, in the next few weeks this will include self assessments by Pilgrim and inspections from the NRC which MA officials will be invited to participate.

We know we all learned, changed our practices and made new investments to enhance safe operations after the experiences at Three Mile Island, Chernobyl and 9-11 and want to be sure that we learn and act on our new knowledge from the tragedy in Japan at Pilgrim.

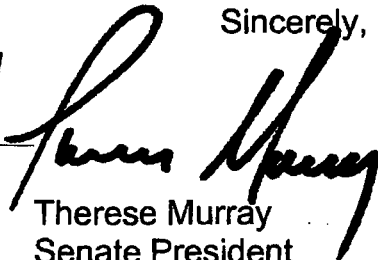
2. The Japan tragedy developments have identified two specific areas of vulnerability we want to make sure we are fully addressing:
 - i. Spent fuel – as we have all known, our temporary storing of spent fuel on site is a major concern. Japan's experiences have dramatically increased this concern. We want your team to look again at the vulnerabilities and alternatives to the current practices at Pilgrim.
 - ii. Seismic vulnerability – we appreciate that mistaken reporting by MSNBC incorrectly identified Pilgrim as the second most vulnerable nuclear core to be damaged in a seismic event and further, that the NRC public statement which excluded Pilgrim in the list of plants in need of further seismic assessment was also incorrect. Also, we understand that the NRC had already engaged the Electric Power Research Institute and the Department of Energy to re-assess nuclear facility specific seismic vulnerabilities and that this study will in fact include Pilgrim. As we understood from the briefing, this study as scheduled may take more than a year to complete. We request that you accelerate the study schedule and to make sure all relevant scientific and engineering input is included,
3. We request that you inform us of all Pilgrim relicensing actions (by all actions, we literally mean all actions, even minor procedural actions) and encourage you to not proceed with any steps towards relicensing until we can all be sure that we have learned what we need to from the experience in Japan.

We will also be forwarding under separate cover specific questions from Massachusetts's legislative leaders and look forward to your response to the above requests as well as the Legislature's questions. Thank you for your time and for your continued service.

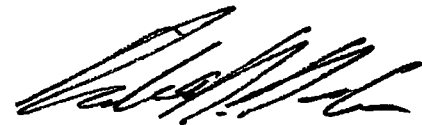
Sincerely,



Deval Patrick
Governor



Therese Murray
Senate President



Robert DeLeo
Speaker

cc: Bill Dean NRC region 1



CHAIRMAN

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 8, 2011

The Honorable Barbara Boxer
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, D.C. 20510

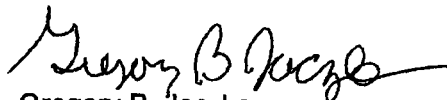
Dear Madam Chairman:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of March 17, 2011. In light of the recent events in Japan, you asked that NRC perform a thorough review of nuclear power plants and posed a number of questions. Detailed responses to the questions contained in your letter are provided in the enclosure.

Regarding a review of the California facilities, the Commission directed the NRC staff to establish a senior level agency task force to conduct a methodical and systematic review of our processes and regulations to determine whether the agency should make additional improvements to our regulatory system. This activity will have both near-term and longer-term objectives. We will keep you and our other stakeholders informed as we proceed.

While the NRC continues to provide assistance to the Japanese government, I want to assure you that we continue to make our domestic responsibilities for licensing and oversight of the U.S. licensees our top priority and that the U.S. plants continue to operate safely. With our near-term evaluation of the relevance of recent events to the U.S. fleet underway, we are continuing to gather the information necessary for us to take a longer, more thorough look at the events in Japan and their lessons for us. Based on these efforts, the agency will take all appropriate actions necessary to ensure the continuing safety of the American public.

Sincerely,


Gregory B. Jaczko

Enclosure: As stated

Identical letter sent to

The Honorable Barbara Boxer
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, D.C. 20510

The Honorable Tom Carper
United States Senate
Washington, D.C. 20510

**Responses to Questions from Senator Barbara Boxer and Senator Tom Carper
Letter of March 17, 2011**

1. Please identify all U.S. nuclear facilities subject to significant seismic activity and/or tsunamis.

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 nuclear plant be designed for site-specific ground motions that may be expected at their locations. In addition, the NRC has specified a minimum ground motion level to which all nuclear plants must be designed. The designation of the general type of seismic zone that may apply at any specific site is subject to interpretation but a conservative interpretation – meaning a larger zone—might include the following plants, based upon a preliminary estimate:

High Seismicity – Diablo Canyon, SONGS

Moderate Seismicity – Brunswick, Robinson, Summer, Vogtle, Hatch, Clinton, Watts Bar, Sequoya, North Anna

Low Seismicity – all other plants

2. U.S. nuclear power plants are designed to be safe based on historical data of the area's maximum credible threat (including earthquakes and tsunamis). What extra safety features does the NRC currently require for facilities that have a credible threat of an earthquake or tsunami? In light of the recent events in Japan, we would also like the NRC to re-examine the assumptions used to determine the maximum credible threat and suggest additional options that could provide a greater margin for safety at plants nationwide that might be subject to challenges similar to this currently being seen in Japan following the earthquake and tsunami.

The NRC requires that each plant be designed to withstand expected ground motion level specific to the site. Our regulations also require designs which consider the potential for a tsunami.

We have also taken advantage of the lessons learned from previous operating experience to implement a program of continuous improvement for the U.S. reactor fleet. This includes a number of new regulatory requirements imposed by the NRC that have enhanced the domestic reactor fleet's preparedness for some of the problems we are seeing in Japan.

The "station blackout" (SBO) rule requires every plant in this country to analyze what the plant response would be if it were to lose all alternating current so that it could respond using batteries for a period of time, and then have procedures in place to restore alternating current to

the site and provide cooling to the core. The hydrogen rule requires modifications to reduce the impacts of hydrogen generated in the event of a severe accident and core damage.

With regard to the type of containment design used by the most heavily damaged plants in Japan, the NRC initiated a Boiling Water Reactor (BWR) Mark I Containment Improvement Program in the late 1980. This led to installation of hardened vent systems for containment pressure relief, as well as enhanced reliability of the automatic depressurization system.

Additionally, following the 9/11 events, reactor licensees have been required to develop strategies to maintain and restore core cooling, containment, and spent fuel pool cooling capabilities under the circumstances associated with the loss of large areas of the plant due to explosions or fire. Licensees are required to develop strategies for fire fighting, operations to mitigate fuel damage, and actions to minimize radiological release

As a result of the events in Japan, the Chairman, with the full support of the Commission, has directed the NRC staff to establish a senior level agency task force to conduct a methodical and systematic review of our processes and regulations to determine whether the agency should make additional improvements to our regulatory system. This activity will have both near-term and longer-term objectives.

For the near term effort, we have begun a 90-day review. This review will evaluate all of the available information from the Japanese events to identify immediate or near-term operational or regulatory issues potentially affecting the 104 operating reactors in the U.S., including their spent fuel pools. Areas of investigation will include protection against earthquake, tsunami, flooding, hurricanes; station blackout and a degraded ability to restore power; severe accident mitigation; emergency preparedness; and combustible gas control. Over this 90-day period, we will develop recommendations, as appropriate, for changes to inspection procedures and licensing review guidance, and recommend whether generic communications, orders, or other regulatory requirements are needed.

The task force's longer-term review will begin as soon as the NRC has obtained sufficient technical information concerning the events in Japan. The longer term review will evaluate all technical and policy issues related to those events to identify additional potential research, generic issues, changes to the reactor oversight process, rulemakings, and adjustments to the regulatory framework that should be pursued by the NRC. We will also evaluate interagency issues, such as emergency preparedness, and examine the applicability of any lessons learned to non-operating reactors and materials licensees. We expect to seek input from stakeholders during this process. A report with appropriate recommendations will be provided to the Commission within 6 months of the start of this evaluation. Both the 90-day and final reports will be made publicly available.

3. Which U.S. nuclear power plants share similar design features with the affected Japanese reactor facilities? Do these facilities have design vulnerabilities that should be addressed to ensure their cooling systems do not fail when confronted by stresses

including those similar to what we have seen in Japan following the earthquake and tsunami?

Thirty-five of the 104 operating nuclear power plants in the U.S. are BWRs, as are the reactors at Fukushima. Twenty-three of the U.S. BWRs have the same Mark I containment as the Fukushima reactors. Four of the U.S. BWRs are early designs which are similar to Fukushima Unit 1. Nineteen U.S. BWRs are similar to Fukushima Unit 3.

BWR Mark I containments have different designs than other containments. However, the staff does not view the differences in design as vulnerabilities. For example, Mark I designs have relatively small volumes in comparison with most pressurized water reactor (PWR) containments. This makes the BWR Mark I containment relatively more susceptible to containment failure given a core meltdown severe enough to cause the reactor vessel to fail and to breach the containment boundary. On the positive side, BWRs have more ways of adding water to the core than PWRs. This includes the provision of two water injection sources which do not rely on AC electric power. For example these systems include Reactor Core Isolation Cooling (RCIC) and High pressure coolant injection (HPCI).

The NRC initiated a Boiling Water Reactor (BWR) Mark I Containment Improvement Program in the late 1980s. This led to installation of hardened vent systems for containment pressure relief, as well as enhanced reliability of the automatic depressurization system. These changes mitigate the small containment volume of the Mark I design.

The NRC task force will be looking at the sequence of events and status of equipment during the events in Japan and will consider based on our review whether revisions to our regulatory framework are needed..

4. How comprehensive is the radiation monitoring system in Japan? Would the U.S. take a similar monitoring approach if a serious accident were to occur here? What increased risk is associated with exposure to mixed oxide fuel?

The NRC does not currently have sufficient information to describe in detail the radiation monitoring system in Japan. In addition to the radiation monitoring that is required to be performed by all U.S. reactor licensees, the U.S. Environmental Protection Agency conducts environmental monitoring of radiation. Questions concerning the EPA's monitoring systems and actions should be directed to the EPA.

Mixed oxide (MOX) fuel involves the use of plutonium as a fuel, in addition to enriched uranium. Plutonium, like uranium is a long-lived alpha emitter, and they present similar biological risks. All commercial reactors produce plutonium from uranium during operation regardless of whether the material was there to begin with. Regarding exposure to mixed oxide fuel, in Japan, prompt evacuation has minimized radiation exposure to the public, so long-term public health consequences from radiation exposure resulting from the events, whether due to MOX or uranium fuel, are expected to be small. NRC has evaluated the use of MOX fuel and concluded

that the design basis accidents consequences were within the acceptance criteria and the differences between MOX and uranium fuel were within the dose consequences calculation uncertainties. The staff has concluded that the presence of a small number of MOX fuel assemblies in Fukushima Daiichi Unit 3 constitutes an insignificant change from non-MOX fuel in core operating conditions and accident consequences.

5. Given what has happened at the Japanese facilities, please describe how the NRC currently ensures the safety of spent fuel pools at U.S. facilities and identify additional steps the NRC could take to better address the vulnerabilities of spent fuel pools at plants in the U.S.

Information concerning the circumstances and specific sequence of events at the Fukushima plants is incomplete at this time, and the lessons to be learned from those events remain to be determined. The NRC's regulatory focus is to ensure that cooling capability, both for reactors and for spent fuel pools, is maintained in order to prevent fuel damage. This has been accomplished at U.S. plants by redundant and/or diverse capabilities to provide forced cooling and water addition

The NRC task force will be looking at a range of issues, including station blackout and severe accident mitigation at spent fuel pools.

6. Has the NRC modeled what could happen if the U.S. had multiple nuclear accidents simultaneously? If so, how would the NRC respond to such a disaster?

In general, the NRC applies the Commission's safety goals on a per-reactor basis. However, in security assessments of two dual-unit sites in the 2002-2004 timeframe, the NRC considered the potential consequences of events simultaneously involving both reactors. The study found that the reactor containments and spent fuel pools are robust structures and resistant to a terrorist attack. The study also found that radiological releases are delayed and smaller than those predicted in past studies. Subsequently, additional mitigation measures were required (10CFR50.44(hh)) to further enhance safety. All U.S. nuclear power plant licensees are required to develop plans to deal with emergencies at their facilities, including the loss of offsite power. In addition, site-specific offsite emergency preparedness plans are required to be developed and exercised on a regular basis, to provide reasonable assurance that adequate protective measures can and will be taken in the event of an emergency. While these capabilities and plans are site-specific, they would apply as well in the event of a broader emergency involving multiple sites.

With regard to the NRC's response to a disaster, the NRC has experience in responding to national events affecting multiple facilities including major hurricanes and regional power blackouts such as the 2003 Northeast blackout. The NRC maintains an emergency operations center that is staffed 24/7. In addition to this emergency response center, the NRC has a backup operations center. Operation of the emergency response centers are tested regularly during facility and national emergency response drills.

Originating Office: EDO
REF: CORR-11-0042
Commission Correspondence

GBJ – Approved/edit
KLS – Approved/edit
GEA – Approved
WDM – Approved/edit
WCO – Approved/edit

ADAMS Accession No.:

OFC	SECY	OCA	OCM/GBJ	OCM/GBJ	
NAME	SMcKelvin		JMonninger	GBJaczko	
DATE	04/08/2011	04/ /2011	04/ /2011	04/ /2011	

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

CHAIRMAN

April 8, 2011

The Honorable Barbara Boxer
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, D.C. 20510

Dear Madam Chairman:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of March 16, 2011. In light of the recent events in Japan, you asked that we perform a thorough review of the Diablo Canyon and San Onofre nuclear power plants and posed a number of questions. Detailed responses to the questions contained in your letter are provided in the enclosure.

Regarding a review of the California facilities, the Commission directed the NRC staff to establish a senior level agency task force to conduct a methodical and systematic review of our processes and regulations to make recommendations to the Commission whether the agency should make additional improvements to our regulatory system. This review will include an assessment of any regulatory issues in the areas of earthquakes and emergency preparedness mentioned in your letter. This activity will have both near-term and longer-term objectives. We are also pursuing limited actions that appear to be prudent, including inspection activities to look at the readiness of plants to deal with both design basis and beyond design basis accidents. We will keep you and our other stakeholders informed as we proceed.

While the NRC continues to provide assistance to the Japanese government, I want to assure you that the NRC continues to make its domestic responsibilities for licensing and oversight of the U.S. licensees its top priority and that the U.S. nuclear power plants continue to operate safely. With the near-term evaluation of the relevance of recent events to the U.S. fleet underway, the NRC is continuing to gather the information needed for us to take a longer, more thorough look at the events in Japan and their lessons for the NRC. Based on these efforts, the agency will take all appropriate actions necessary to ensure the continuing safety of the American public.

Sincerely,

A handwritten signature in black ink, reading "Gregory B. Jaczko".

Gregory B. Jaczko

Enclosure: As stated

Identical letter sent to:

The Honorable Barbara Boxer
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, D.C. 20510

The Honorable Dianne Feinstein
United States Senate
Washington, D.C. 20510

**Responses to Questions from Senator Barbara Boxer and Senator Dianne Feinstein
Letter of March 16, 2011**

Plant Design and Operations

- 1. What changes to the design or operation of these facilities have improved safety at the plants since they began operating in the mid-1980s?**

We have taken advantage of the lessons learned from previous operating experience to implement a program of continuous improvement for the U.S. reactor fleet. We have learned from experience across a wide range of situations, including, most significantly, the Three Mile Island accident in 1979. As a result of those lessons learned, we significantly revised emergency planning requirements and emergency operating procedures for licensees, and made substantive improvements in NRC's incident response capabilities. We also addressed many human factors issues regarding control room indicators and layouts, added new requirements for hydrogen control to help prevent explosions inside of containment, and created requirements for enhanced control room displays of the status of pumps and valves.

Two significant changes after Three Mile Island (TMI) were the expansion of the Resident Inspector Program and the incident response program. Today, there are at least two Resident Inspectors at each nuclear power plant. The inspectors have unfettered access to all licensees' activities, and serve as NRC's eyes and ears at the power plant. The NRC Headquarters Operations Center and regional incident response centers are prepared to respond to all emergencies, including any resulting from operational events, security events, or natural phenomena. Multidisciplinary teams in these centers have access to detailed information regarding licensee facilities, and access to plant status information through telephonic links with the Resident Inspectors, an automated emergency response data system, and directly from the licensee through the emergency notification system. In the case of a significant event the NRC's response would include the dispatch of a site team to augment the Resident Inspectors on site, and integration with the licensee's emergency response organization at its Emergency Offsite Facility. The NRC's incident response program is designed to provide an independent assessment of events, to ensure that appropriate actions are taken to mitigate the events, and to ensure that State officials have the information they would need to make decisions regarding protective actions.

Further, a number of new regulatory requirements were imposed by the NRC following the TMI accident, which enhanced the domestic fleet's preparedness to cope with some of the problems have seen seeing in Japan. For example, the "station blackout" rule requires every plant in this country to analyze what the plant response would be if it were to lose all alternating current so that it could respond using batteries for a period of time, and then have procedures in place to restore alternating current to the site and provide cooling to the core.

Another post-TMI requirement, the hydrogen rule, required modifications to reduce the impacts of hydrogen generated for beyond-design basis events and core damage. In addition, there are equipment qualification rules that require equipment, including pumps and valves, to remain operable under the kinds of environmental temperature and radiation conditions that you would see in a beyond-design basis accident. With regard to the type of containment design used by the most heavily damaged plants in Japan, the NRC implemented a Boiling Water Reactor Mark I Containment Improvement Program. This program led to installation of hardened vent systems for containment pressure relief, as well as enhanced reliability of the automatic depressurization system.

Emergency planning and preparedness was also augmented substantially following the TMI accident, with the adoption of additional regulatory requirements and the conduct of mandatory emergency planning exercises on a biennial basis, including participation by state and local government officials. The NRC's emergency preparedness and planning requirements provide ongoing training, testing, and evaluations of licensees' emergency preparedness programs. In coordination with our federal partner, the Federal Emergency Management Administration (FEMA), these activities include extensive interaction with state and local governments, as those programs are coordinated with state and local officials and are evaluated and tested on a periodic basis.

As a result of the events of September 11, 2001, we identified important pieces of equipment that, regardless of the cause of a significant fire or explosion at a plant, licensees have available and staged in advance, as well as new procedures, training requirements, and policies that would help deal with a severe situation.

Since Diablo Canyon went into commercial service, many specific changes in design or operation have been implemented at the plant. These include the following:

- Added sixth on-site emergency diesel generator
- Increased volume of diesel generator fuel oil tanks to supply 7 days of fuel
- Added capacitor banks to the 230 kV offsite power source to improve reliability of offsite power source
- Replaced 500 kV offsite power source circuit breakers with new design that has increased earthquake resistance
- Replaced offsite power source transformers
- Replaced the reactor heads for the reactor vessels with a new design that has improved resistance to corrosion
- Replaced steam generators with new design that has improved resistance to corrosion
- Increased the capacity of the 4 kilovolt system circuit breakers
- Replaced plant process computer
- Replaced low pressure turbine rotors with a new design that is more resistant to turbine blade failure

- Replaced the water cooled positive displacement pumps for core injection with air cooled centrifugal charging pumps
- Replaced main feedwater pump control system to digital based control system
- Upgraded residual heat removal system piping to reduce potential flow induced erosion following an accident
- Replaced emergency core cooling system flow orifices to reduce potential potential flow blockage following an accident
- Replaced the containment sump strainer with a new design that is five times larger to minimize susceptibility to clogging
- Removed material from inside containment that could become a potential debris source following a loss of coolant accident
- Developed additional procedures to address potential natural and manmade disasters
- Implemented significant site changes to improve plant security
- Implemented procedures and training to improve human performance and reduce errors
- Implemented procedures and training to increase use of industry nuclear plant operating experience to improve plant safety

Changes in design or operation at San Onofre (SONGS) have included the following:

- Replaced steam generators with new design that has improved resistance to corrosion
- Developed additional procedures to address potential natural and manmade disasters
- Replaced the containment sump strainer with a new design that is five times larger to minimize susceptibility to clogging
- Removed material from inside containment that could become a potential debris source following a loss of coolant accident
- Implemented significant site changes to improve plant security
- Implemented procedures and training to improve human performance and reduce errors
- Implemented procedures and training to increase use of industry nuclear plant operating experience to improve plant safety
- Replaced all Emergency Planning Zone alert notification sirens in 2005 and 2006, and added paging capability.
- Replaced plant process computer
- Replaced low pressure turbine rotors with new design that is more resistant to turbine blade failure and stress corrosion cracking
- Replaced main feedwater pump control system to digital based control system
- Replaced service air compressors with modern model, and add cross-tie to instrument air
- Added vent to HPSI line to ensure ECCS system free of gas

- Increased safety related battery capacity (1200-1800 amp hours)
- Added degraded grid undervoltage relays to 1E 4KV buses
- Added a portable generator for steam generator water level indication in order to facilitate steam driven pump manual operation during beyond design basis blackout scenarios

2. What emergency notification systems have been installed at California nuclear power plants? Has there ever been a lapse of these systems during previous earthquakes or emergencies?

An Early Warning System (EWS) is installed to provide prompt alerting of the public in the event of an emergency at both Diablo Canyon and SONGS. The EWS consists of 131 sirens positioned out to 22 miles from the plant at Diablo Canyon, and 50 sirens spanning 10 miles at SONGS. The EWS is used in conjunction with radio and TV broadcasts, and allows instructions, information, and necessary actions to be immediately communicated to the public. The sirens are equipped with battery or solar-powered back-up capability. This redundancy in power source was upgraded in the 2005-2006 timeframe. The sirens are tested daily, bi-weekly, quarterly, and annually. The sirens are monitored 24/7 with alarms for system failures.

For Diablo Canyon, prior to installing the power-back up capability, some sirens lost power during the December 2003 San Simeon earthquake. The sirens were not used during that earthquake but back-up route alerting was set up if the need for public alerting warranted. The SONGS EWS sirens have not been affected by past seismic activity.

3. What safety measures are in place to ensure continued power to California reactors in the event of an extended power failure?

U.S. plants are required to meet 10 CFR Part 50 Appendix A General Design Criterion 17, "Electric Power System." Reactor units must have two physically independent offsite power supplies capable of placing the units in a safe shutdown condition. Additionally, all plants are required to have onsite power supplies that are also independent and capable of placing the units in a safe shutdown condition assuming a worst case single failure. All U.S. plants (except Oconee which has an alternate system) have emergency diesel generators and battery backup systems. Most U.S. plants with diesels have two diesels per unit (Diablo Canyon has 3). The regulations do not specify the length of time that the diesels and batteries must be able to operate following a loss of offsite power. The required amount of time is dependent on the plant's site recovery strategy and is based on providing sufficient capacity to assure that the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.

If Diablo Canyon experiences a loss of power from the 500 kV and 230 kV offsite power switchyards, three emergency diesel generators (EDGs) are available to supply onsite power in each of the units. A unit can be safely shutdown utilizing any single

EDG. There are two-50,000 gallon diesel fuel oil tanks, sufficient to operate an EDG for seven days. The EDGs are located at an elevation of 85 feet, well above the maximum expected tsunami elevation.

In addition, Emergency Operating Procedures (EOPs) are in place that include procedures to cope with the loss of all vital AC power. For example, there are Casualty Procedures in place that have pre-planned actions in the event of earthquakes, tsunami warnings and fires. There are Severe Accident Management Guidelines in place that contain actions to take in extreme conditions that require coolant injection to the reactor core, mitigation of hydrogen flammability in containment, and coolant to flood-up containment and cover the reactor core. There are Extreme Damage Mitigation Guidelines (EDMGs) in place that postulate extensive plant damage due to a natural disaster or terrorist event. The EDMGs are invoked when the control of the plant cannot be established from the Main Control Room or there is no communication with the Main Control Room. The Extreme Damage event is assumed to disable all electric power. The EDMGs provide a procedure to perform multiple actions (if needed) to continue to cool the reactor core, cool the spent fuel pool, and minimize radiation release.

SONGS is similar to Diablo Canyon with 2 EDGs per unit and the EDGs are located 30 feet above sea level. SONGS also has a physical cross-tie ability such that the EDGs on one unit can be used to safely shutdown the other unit in the event that either unit loses both of its EDGs. The comments provided above concerning emergency procedure improvements at Diablo Canyon (i.e., EOPs, Severe Accident Mitigation Guidelines, and EDMGs) apply as well to SONGS.

Type of Reactor

- 1. What are the differences and similarities between the reactors being used in California (pressurized water reactors) and those in Japan (boiling water reactors), as well as the facilities used to house the reactors, including the standards to which they were built and their ability to withstand natural and manmade disasters?**

The two types of light-water reactors in operation in the United States are pressurized (PWR) and boiling (BWR) water reactors. The PWRs use a two-stage system where the water in the reactor is maintained at a high pressure, and an additional coolant loop is used to transfer heat from that system to produce steam to drive the turbines, while BWRs use a single-stage system that allows water in the reactor to boil to produce steam to drive the turbines directly. The NRC is not yet fully aware of all of the attributes of the specific BWR reactors in question in Japan and how they are different from or similar to BWRs or other reactors in operation in the U.S. Many changes have been made over the years in the design and operation of U.S. nuclear power plants through our program of safety improvement (as described in our response to Question #1 above), which may or may not have been made to reactors operating in Japan.

We have, since the beginning of the regulatory program in the United States, used a philosophy of Defense-in-Depth, which recognizes that nuclear reactors require the highest standards of design, construction, operation, and oversight, and does not rely on any single layer to protect public health and safety. We begin with designs for every individual reactor that take into account site-specific factors and include a detailed evaluation for any credible natural event, such as earthquakes, tornadoes, hurricanes, floods, and tsunamis, as they relate to that site. There are multiple physical barriers to the release of radiation in every reactor design. Additionally, there are both diverse and redundant safety systems that are required to be maintained in operable condition and are frequently tested to ensure that the plant is in a high condition of readiness to respond to any scenario.

Looking at basic design differences between the Japanese BWRs and the California plants, the following can be noted:

- The Japanese reactors have containments that are part of the reactor design and the buildings in which they are placed are not containment structures. By contrast, the California reactors have significantly larger volume containment buildings that house the reactors. This reduces the chance of exceeding the containment design pressure or having a hydrogen explosion inside containment following a natural or manmade disaster that can result in a release of radioactive material to the environment.
- In the event of the loss of power at a U.S. PWR, the reactor core can be cooled using natural circulation of water (without pumps) in the primary coolant loop to transfer heat from the reactor core to the secondary loop. The secondary loop in a PWR can be used to remove the primary loop heat (without power) by pumping non-radioactive water in the secondary loop into heat exchangers (steam generators) with a steam driven pump and releasing non-radioactive steam to the atmosphere via manually operated valves or spring operated safety relief valves. By contrast, venting steam from the Japanese BWRs resulted in a release of radiation to the reactor building from which it escaped to the environment. In addition, there are multiple other pre-planned methods available to provide on-site stored water to the reactor core and to the steam generators to ensure continued core cooling after a disaster.
- The spent fuel pool at a U.S. PWR is contained in a separate building, instead of being contained above the primary containment structure as in a Japanese BWR.
- There are multiple on-site stored water sources and pre-planned measures in place to provide water to the spent fuel pools.

Earthquakes and Tsunamis

1. **We have been told that both Diablo Canyon and San Onofre Nuclear Generating Station are designed to withstand the maximum credible threat at both plants, which we understand to be much less than the 9.0 earthquake that hit Japan. What assumptions have you made about the ability of both plants to withstand an**

earthquake or tsunami? Given the disaster in Japan, what are our options to provide these plants with a greater margin for safety?

All U.S. nuclear power plants are built to withstand external hazards, including earthquakes, flooding, and tsunamis, as appropriate. Regarding earthquakes, nuclear plants, are designed based on ground motion levels, not earthquake magnitudes. Ground motion is a function of both the magnitude of an earthquake and the distance from the fault to the site. The existing nuclear plants in the U.S. were designed based on a "deterministic" or "scenario earthquake" basis that accounted for the largest earthquakes that could reasonably be expected in the area around the plant. A margin is further added to the predicted ground motions to provide added robustness. The NRC's Generic Issue 199 (GI-199) project is using the latest probabilistic techniques used for new nuclear plants to review the safety of existing plants.

Both Diablo Canyon and SONGS are known to have a tsunami hazard. As such, they are designed to withstand the maximum predicted tsunami with coincident wave action.

It is too early to tell what the lessons from this earthquake are. The NRC will look closely at all aspects of the plants' response to the earthquake and tsunami to determine if any actions need to be taken in U.S. nuclear plants and if any changes are necessary to NRC regulations.

- 2. Have new faults been discovered near Diablo Canyon or San Onofre Nuclear Generating Station since those plants began operations? If so, how have the plants been modified to account for the increased risk of an earthquake? How will the NRC consider information on ways to address risks posed by faults near these plants that is produced pursuant to state law or recommendations by state agencies during the NRC relicensing process?**

A new Shoreline fault zone near Diablo Canyon was discovered in late 2008. In 2009 and 2010 Pacific Gas and Electric (PG&E) acquired, analyzed, and interpreted new data to better assess the seismic hazard from the Shoreline fault zone. PG&E submitted the final Shoreline fault zone report to the NRC on January 7, 2011. PG&E has concluded that maximum ground motions at the site from local faults are bounded by ground motions for which the plant had been previously evaluated. PG&E has also stated that the tsunami hazard threat from the Shoreline fault zone is relatively small since it is a strike-slip fault rather than a reverse fault and, therefore, the tsunami hazard is not expected to exceed the plant's design-basis tsunami characteristics.

The NRC staff is evaluating the tsunami hazard and is conducting an independent deterministic seismic hazard analysis of the Shoreline fault based on the information provided by the licensee to confirm the licensee's conclusions regarding the safe operation of the plant. In this regard, the staff has reviewed interim seismic studies related to the Shoreline fault zone. The staff is also in the process of reviewing PG&E's final Shoreline

fault zone report to determine whether any licensee or regulatory action may be needed. In addition to these specific efforts, the staff plans to continue discussions with PG&E on a possible license amendment to codify a Long Term Seismic Program methodology for the management of new geotechnical seismic information.

For SONGS, no new active faults have been discovered.

With regard to studies performed by other entities, such as the State of California, the NRC reviews each study's results for any new information and design challenges. The State of California is funding a new seismic study that is currently in the planning and draft phase. Licensees are required through their Technical Specifications to notify the NRC at any time during a review or study should evidence of a design challenge be identified.

The NRC considers seismic hazards to be an ongoing regulatory concern; therefore, we address seismic hazards as part of our reactor oversight process for operating reactors whenever a significant change is recognized. As a result, the NRC does not separately re-analyze seismic hazards for the license renewal process. The license renewal review is focused on managing the effects of aging and not a re-review of the current licensing basis.

3. What are the evacuation plans for both plants in the event of an emergency? We understand that Highway 1 is the main route out of San Luis Obispo, what is the plan for evacuation of the nearby population if an earthquake takes out portions of the highway and a nuclear emergency occurs simultaneously?

Each U.S. nuclear power plant has an emergency plan for ensuring the health and safety of members of the public who live within the emergency planning zone. Emergency plans contain contingencies for alternate evacuation routes, alternate means of notification, and other backup plans in the event of a natural disaster that damages the surrounding infrastructure.

FEMA reviews off-site emergency plans formally every 2 years during a biennial emergency preparedness exercise. The NRC evaluates on-site emergency plans during the same exercise, as well as on an annual basis. Population studies are conducted every 10 years, and evacuation time estimates are re-evaluated at that time. FEMA reviews the offsite emergency plans and evacuation time estimates, and determines whether there is a reasonable assurance that adequate protective measures can and will be taken in the event of an emergency at a nuclear power plant.

Evacuation of members of the general public is the responsibility of San Luis Obispo County for Diablo Canyon and San Diego County for SONGS, working in conjunction with the State of California, and would be carried out in accordance with their prearranged plans. The areas to be evacuated and specific evacuation routes would depend on the meteorological conditions and route viability at the time of the accident. PG&E and Southern California Edison (SCE) would act in an advisory capacity, giving technical assessments of the

conditions at the plants and the probabilities for a potential off-site release as well as other pertinent information. This information, along with the licensee's recommended protective actions, would be assessed by responsible county and state officials in determining appropriate actions to be taken.

For Incidents of National Significance where the critical infrastructure is severely damaged, DHS has a lead role as a coordinating agency to orchestrate Federal, State, and local assets. The Nuclear/Radiological Incident Annex to the National Response Framework provides for the NRC to be a coordinating agency for incidents involving NRC-licensed materials.

The main route out of San Luis Obispo is Highway 101. The main route for SONGS is Highway 5. For both sites, evacuation studies are conducted by demography specialists and provide information on various evacuation scenarios that could take place. The studies' results consider normal road conditions, time of day, degraded weather/visibility, and road condition.

4. What is the NRC's role in monitoring radiation in the event of a nuclear accident both here and abroad? What is the role of EPA and other federal agencies?

A number of U.S. agencies are involved in domestic monitoring and radiation assessment, including the EPA, Department of Energy, and NRC. NRC regulations require nuclear power plants to report any radiation levels detected at the plant that could be harmful to the public. This would include radiation levels generated by the plant or by an external source. EPA and DOE are responsible for more comprehensive domestic radiation monitoring.

The EPA utilizes its existing nationwide radiation monitoring system, RadNet, to continuously monitor the nation's air, and it regularly monitors drinking water, milk, and precipitation for environmental radiation.

5. What monitoring systems currently are in place to track potential impacts on the U.S., including California, associated with the events in Japan?

See response to Question #4 above. All U.S. plants are required to have a Radiological Environmental Monitoring Program (REMP) in the surrounding communities that are monitored at specific intervals and analyzed in a laboratory as part of a normal offsite monitoring and sampling program.

In addition, Diablo Canyon and SONGS have near-site radiation monitoring systems in place utilizing pressurized ion chambers (radiation detectors). The facilities' pressurized ion chambers are owned and operated by the EPA and are a part of the RadNet system. The EPA monitors the real-time data from these monitors on a continuous basis. The EPA is able to share their data with other agencies during emergency situations. Questions

regarding the details of specific monitoring systems of EPA and other federal agencies should be directed to those agencies.

- 6. Which federal agency is leading the monitoring effort and which agencies have responsibility for assessing human health impacts? What impacts have occurred to date on the health or environment of the U.S. or are currently projected or modeled in connection with the events in Japan?**

See response to Question #4 above. The EPA, working with the NRC, DOE and others, has the lead for radiation monitoring activities and regularly samples air, water, and milk. An interagency advisory team that includes the NRC, the Departments of Energy, Health and Human Services, Agriculture, and others, has been established under EPA's leadership and is regularly evaluating potential health and environmental impacts from events in Japan.

Only trace amounts of radioactive material have been identified through U.S. monitoring; those trace amounts are far below levels of natural background radiation and are not of public health concern. The NRC does not expect any U.S. states or territories to experience harmful levels of radioactivity as a result of the events in Japan.

- 7. What contingency plans are in place to ensure that the American public is notified in the event that hazardous materials associated with the events in Japan pose an imminent threat to the U.S.?**

Under the Nuclear/Radiological Incident Annex to the National Response Framework, the U.S. EPA is the federal lead for plumes that come across our borders. In such situations, EPA would proceed in accordance with its established processes and procedures to work with state and local governments to protect public health and safety.

If an event requiring protective measures were to occur, U.S. residents would be advised to listen to their state and county authorities who are responsible for making protective action decisions for public health and safety. If necessary and, as appropriate, protective action decisions could include: preventing contaminated food from reaching the marketplace, recommending that all local produce be thoroughly rinsed prior to consumption, or sheltering or evacuating affected citizens. The NRC will continue to work with its local, state, and federal partners to ensure that appropriate emergency response procedures are prepared, reviewed, and exercised in accordance with NRC regulations.

Originating Office: EDO
REF: CORR-11-0041
Commission Correspondence

GBJ – Approved/edit
KLS – Approved/edit
GEA – Approved/edit
WDM – Approved/edit
WCO – Approved/edit

ADAMS Accession No.:

OFC	SECY	OCA	OCM/GBJ	OCM/GBJ	
NAME	SMcKelvin		JMonninger	GBJaczko	
DATE	04/08/2011	04/ /2011	04/ /2011	04/ /2011	

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DEVAL L. PATRICK
GOVERNOR

TIMOTHY P. MURRAY
LIEUTENANT GOVERNOR

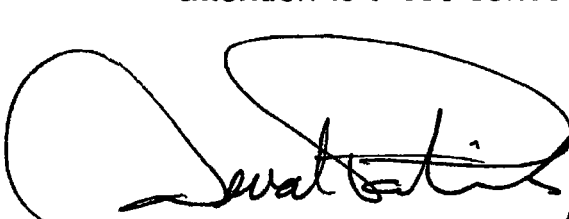
April 6, 2011


Chairman Gregory B. Jackzo
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

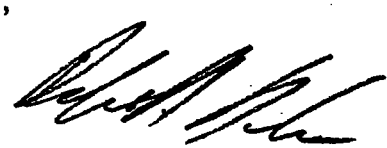
Dear Chairman Jackzo:

As referenced in our previous letter of April 6, 2011, please see the attached questions from Massachusetts's legislative leaders. We look forward to your response. Again, thank you for your time and attention to these concerns.

Sincerely,


Deval Patrick
Governor


Therese Murray
Senate President


Robert DeLeo
Speaker

Enc.

Questions:

1. Are there any plans for relocation of the spent nuclear material currently held at the plants, which are over-capacity? Will dry storage be considered? Why is dry storage not the preferred method considering its 'passive' maintenance requirement?
2. Will the NRC and DOE consider seeking changes to the law if necessary to allow for the use of the Nuclear Waste Fund for accelerated dry cask storage and or the licensing of an interim national repository?
3. Are there any plans for future spent nuclear material?
4. For how long does the NRC anticipate that spent fuel will be stored on-site at Pilgrim? What about the other New England facilities?
5. Are there plans for storing spent fuel generated by any of the New England plants off-site?
6. Current understanding is that all the spent material is in the upper levels of the Pilgrim plant and is very susceptible to an aerial attack; are their plans to strengthen/protect the structure from air or relocate the wet pool to a different, more secure location?
7. Japan reprocesses and reuses spent nuclear material, what are the pros and cons of this approach and are there any plans to implement it in the US?
8. The cables powering the Pilgrim plant are not made for a moist environment, though they have spent 40 years in such a situation; what inspection/repair/replacement system is in place to ensure the cables remain in working condition?
9. Will the NRC allow independent experts with security authorization to see studies they used to conclude further on-site spent material storage was safe?
10. Will the NRC provide access to documents it previously has refused to disclose regarding its analysis of the safety and security of our commercial nuclear reactors and spent fuel pools?
11. Pressure build-ups can cause explosions in the Mach 1 core design as was seen in Japan, what adjustments have been made to Seabrook and Vermont Yankee to deal with this design flaw? Germany uses a steam release which is then filtered, is this the best option?
12. What emergency planning adjustments will be made?

13. Is the 10 mile evacuation zone still accurate? Americans were recommended to evacuate any area within 50 miles of the Fukushima plant.
14. Any plans for dealing with people on Cape Cod in an emergency situation considering the prevailing winds travel in that direction?
15. Any potassium iodine pill stockpiling precautions planned?
16. Current evacuation reception centers can only deal with 20% of the intended population, are there plans for more/larger centers?
17. Are there any plans to ensure emergency workers have the proper equipment and communication devices (i.e. interoperable radios)?
18. Are there any plans to install air radiation monitors around plants to more accurately identify radiation plume direction in the case of a release? What about meteorological monitors?
19. What is the purpose of the President's 90 day review of our commercial facilities? Will there be an opportunity for the public or interested states to provide input?
20. With no solution to the long-term disposal of spent fuel and in light of the disaster in Japan, will the NRC commit to re-evaluating its current rules and regulations regarding the on-site storage of spent fuel with public input?
21. What assurances can the NRC provide to the Commonwealth that Pilgrim and VT Yankee not just meet current NRC rules and regulations for safety and security but that there are material differences in the way the plans were designed, upgraded and regulated that will reduce the risk of what is happening in Japan, as they are being re-licensed?
22. Can you provide us with an estimated yearly cost to Massachusetts consumers and taxpayers for the current on-site storage of this spent fuel instead of it being stored off-site?

United States Senate

WASHINGTON, DC 20510

March 31, 2011

The Honorable Gregory B. Jaczko
Chairman
U.S. Nuclear Regulatory Commission
Mail Stop O-16G4
Washington, DC 20555-0001

Dear Chairman Jaczko:

I am writing to ask for your assessment of the safety and viability of America's on-site nuclear waste storage facilities.

As you know, 1019 spent fuel assemblies are currently stored in 43 dry storage casks at the former Connecticut Yankee nuclear site in Haddam Neck, CT. Several hundred fuel assemblies are also stored in 19 dry storage casks at Connecticut's Millstone Power Station, and nearly two thousand additional spent fuel assemblies are stored in the facility's spent fuel pool. The costs associated with this storage are considerable; Connecticut's utility ratepayers spend millions of dollars each year on waste storage—\$8 million for the storage of approximately 412 tons at Haddam Neck alone.

As Congress awaits the preliminary recommendations of the President's Blue Ribbon Commission on America's Nuclear Future, the American public and people of Connecticut deserve to have the answers to several serious questions relating to the storage of our nuclear waste:

- Has the NRC determined how long nuclear waste can safely be stored at reactor sites until a long-term storage solution is identified?
- Does the NRC have data about how much spent nuclear fuel is currently stored at various sites across the United States, in both dry storage and spent fuel pools? How often is this data updated?
- What steps has the NRC taken to ensure that these on-site storage facilities, such as the one located in Haddam Neck, are properly maintained and secured against natural disasters or man-made catastrophes, including terrorist attacks?

Thank you for your attention to this request and for your continuing work to ensure that America's nuclear industry operates in a safe and reliable manner.

Sincerely,



Richard Blumenthal
United States Senate

United States Senate

WASHINGTON, DC 20510

March 16, 2011

The Honorable Gregory Jaczko
Chairman
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Chairman Jaczko:

The unfolding nuclear disaster in Japan has raised questions about the safety of nuclear power plants here in the U.S. As Senators from California, we are particularly interested in the safety of San Onofre Nuclear Generating Station, located in San Clemente, and the Diablo Canyon Nuclear Power Plant near San Luis Obispo, both of which are near earthquake faults.

Roughly 424,000 live within 50 miles of the Diablo Canyon and 7.4 million live within 50 miles of San Onofre Nuclear Generating Station. Although many safety measures have been taken to address potential hazards associated with these facilities, we need to ensure that the risk is fully evaluated.

For example, a 2008 California Energy Commission report presented very clear warnings of potential threats at both of these plants. This report found that the San Onofre plant could experience "larger and more frequent earthquakes" than the maximum 7.0 magnitude earthquake predicted when the plant was designed. It is our understanding that the NRC has not taken action to address these warnings in the report. It is also our understanding that the 2008 report found that there is an additional fault near the Diablo Canyon plant that should be taken into consideration as part of NRC's relicensing process. We want to know if the NRC will address all of the threats, including seismic threats, described in the 2008 report at these facilities.

We ask that the Nuclear Regulatory Commission (NRC) perform a thorough inspection at these two plants to evaluate their safety and emergency preparedness plans.

3/17....To EDO to Prepare Response for Chairman's Signature....Date due Comm:
April 8...Cpy to: RF, OCA to Ack....11-0127 COMMISSION CORRESPONDENCE

In addition, we ask the NRC to answer the questions below regarding plant design and operations, type of reactor, and preparedness to withstand an earthquake or tsunami and other potential threats.

Plant Design and Operations

1. What changes to the design or operation of these facilities have improved safety at the plants since they began operating in the mid-1980s?
2. What emergency notification systems have been installed at California nuclear power plants? Has there ever been a lapse of these systems during previous earthquakes or emergencies?
3. What safety measures are in place to ensure continued power to California reactors in the event of an extended power failure?

Type of Reactor

1. What are the differences and similarities between the reactors being used in California (pressurized water reactors) and those in Japan (boiling water reactors), as well as the facilities used to house the reactors, including the standards to which they were built and their ability to withstand natural and manmade disasters?

Earthquakes and Tsunamis

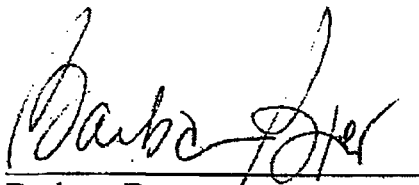
1. We have been told that both Diablo Canyon and San Onofre Nuclear Generating Station are designed to withstand the maximum credible threat at both plants, which we understand to be much less than the 9.0 earthquake that hit Japan. What assumptions have you made about the ability of both plants to withstand an earthquake or tsunami? Given the disaster in Japan, what are our options to provide these plants with a greater margin for safety?
2. Have new faults been discovered near Diablo Canyon or San Onofre Nuclear Generating Station since those plants began operations? If so, how have the plants been modified to account for the increased risk of an earthquake? How will the NRC consider information on ways to address risks posed by faults near these plants that is produced pursuant to state law or recommendations by state agencies during the NRC relicensing process?

3. What are the evacuation plans for both plants in the event of an emergency? We understand that Highway 1 is the main route out of San Luis Obispo, what is the plan for evacuation of the nearby population if an earthquake takes out portions of the highway and a nuclear emergency occurs simultaneously?
4. What is the NRC's role in monitoring radiation in the event of a nuclear accident both here and abroad? What is the role of EPA and other federal agencies?
5. What monitoring systems currently are in place to track potential impacts on the U.S., including California, associated with the events in Japan?
6. Which federal agency is leading the monitoring effort and which agencies have responsibility for assessing human health impacts? What impacts have occurred to date on the health or environment of the U.S. or are currently projected or modeled in connection with the events in Japan?
7. What contingency plans are in place to ensure that the American public is notified in the event that hazardous materials associated with the events in Japan pose an imminent threat to the U.S.?

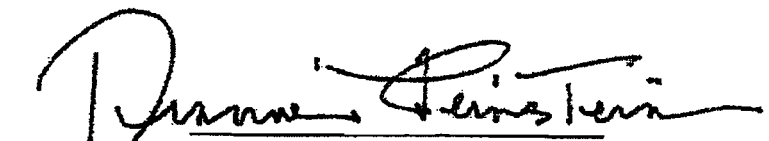
The NRC was created in the mid-1970s specifically to ensure the protection of public health and safety with regard to civilian nuclear power. The Commission plays an essential role ensuring that we learn from nuclear accidents and near misses. We hope you agree that we must identify whatever lessons are to be learned from the disaster in Japan in order to make facilities in the United States as safe as possible.

We look forward to working with you to ensure the safety of our nation's nuclear power plants and to make the changes necessary to ensure a nuclear tragedy does not occur in this country.

Sincerely,



Barbara Boxer



Dianne Feinstein

From: kiyoshi_yamauchi@mnes-us.com [mailto:kiyoshi_yamauchi@mnes-us.com]
Sent: Friday, April 08, 2011 3:54 PM
To: Jaczko, Gregory
Cc: frank_gillespie@mnes-us.com; masayuki_fujisawa@mnes-us.com; shinji_kawanago@mnes-us.com
Subject: Mitsubishi Statement on Northeastern Earthquake and Tsunami in Japan

U.S. Nuclear Regulatory Commission
Honorable Chairman
Dear Mr. Gregory B. Jaczko

I highly appreciate the efforts taken by the strong leadership of the NRC to support current nuclear energy fleet with high safety and reliability following the Fukushima Daiichi event caused by the northeastern Japan earthquake and resulting tsunami.

We at Mitsubishi Nuclear Energy Systems(MNES),subsidiary to Mitsubishi Heavy Industries(MHI), posted our statement on our home page attached below (<http://www.mnes-us.com/>) expressing our sympathies to all victims affected by the disaster and also describing Mitsubishi contribution our technology and experience wherever possible to help resolve the situation at the Fukushima Daiichi site. It is noted that Mitsubishi is also continuing to give complete technical support to the clients of the 24 PWR units in Japan, which Mitsubishi supplied, in order to immediately implement the new highest safety measures required by the Japanese government.

We also emphasize that we have formed the "MNES Response & Support Team for Fukushima Event", collecting and sharing related information, investigating US-APWR design considering the NRC instructions, supporting US customers and enhancing public relations.

We think co-operation with the same direction between US and Japan to overcome this event is quite important not only in the area of government but also in the area of industries. Lessons learned should be shared timely and good results should be obtained as the best practice by the co-operated activities.

Our responsibility is quite large in continuing to provide the highest level of safety and reliable nuclear plants

here in the USA.

We will be pleased to be advised if you have any comments or you need any support.

Best Regards, Kiyoshi Yamauchi
 President and CEO
 Mitsubishi Nuclear Energy Systems, INC.
 1001 19th Street North, Suite 2000
 Arlington, VA 22209
 Tel:703.908.4340
 Cell:703.587.3404
 Fax:703.908.4399

cc:Frank Gillespie, MNES
 Shinji Kawanago, MNES
 Masayuki Fujisawa, MNES

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MNES Statement on North Eastern Earthquake and Tsunami in Japan

We at Mitsubishi Heavy Industries (MHI) and Mitsubishi Nuclear Energy Systems (MNES) send our deepest sympathies to all victims affected by the earthquake and the resulting tsunami that devastated the coast of northeastern Japan on Friday, March 11th.

Since the day of the events, the Japanese Government and Tokyo Electric Power Company have been making every possible effort to ensure plant safety for the Fukushima Daiichi site that was severely impacted by the earthquake and tsunami.

As an expression of our grave concern and strong desire to offer our utmost assistance at this tragic time, MHI, which is a leading pressurized water reactor (PWR) nuclear power plant supplier, and its group companies including MNES pledged on Monday, March 14th, to contribute an amount equivalent to \$6 million to support relief and recovery efforts in the affected areas.

Mitsubishi will continue to contribute our technology and experience wherever possible to help resolve the situation at the Fukushima Daiichi site. In addition, on Thursday, March 30th, the Japanese government ordered all utilities operating nuclear power plants in Japan to implement emergency safety measures by the end of April based on the Fukushima incidents. Mitsubishi has supplied 24 PWR units in Japan and although these units were not impacted by the earthquake and tsunami, Mitsubishi is continuing to give its complete technical support to its client utilities in order to immediately implement the new emergency safety measures.

Through these activities, MNES, as MHI's U.S. affiliate, will ensure that US-APWR plants planned for construction in the United States are of the highest level of safety and reliability.

###

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Patrick@longbottomcommunications.com

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JOHN BOOZMAN, ARKANSAS

United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

WASHINGTON, DC 20510-6175

BETTINA POWERS, MAJORITY STAFF DIRECTOR
RUTH VAN METER, MINORITY STAFF DIRECTOR

March 17, 2011

The Honorable Gregory Jaczko
Chairman
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Chairman Jaczko:

The loss of life and physical damage that Japan sustained in last week's devastating earthquake and subsequent destructive tsunami is catastrophic and heartbreaking. Our thoughts and prayers, as well as those of the American people, go out to all citizens of Japan and especially to the families of the thousands of disaster victims.

As this tragedy continues to unfold, we encourage the Nuclear Regulatory Commission and other U.S. agencies to continue to coordinate fully with the Japanese government to assess the status of public safety in light of the reactors' failures and to provide all technical assistance required.

The earthquake and tsunami that struck Japan are chilling reminders that we are all vulnerable to unexpected disasters, whether they are an act of nature or a terrorist attack. While we cannot predict with any certainty when or where the next major disaster will occur, we know that adequate preparation and response planning are absolutely vital to minimize injury, death, and destruction when it does happen.

As the Committee with oversight responsibilities on nuclear safety, we believe it is important to assist Japan to ensure that this nuclear disaster is contained as quickly and effectively as possible. For the long term, the multiple simultaneous failures of backup coolant systems at nuclear reactors in Japan are a clear warning that we must step up efforts to ensure that every precaution is taken to safeguard the American people from a similar incident at a U.S. nuclear facility.

Therefore, we call on the NRC to conduct a comprehensive investigation of all nuclear facilities in the United States to assess their capacity to withstand catastrophic natural or man-made disasters including scenarios that may be considered remote like the recent events in Japan. These domestic nuclear reactors must be fully evaluated to ensure that they are as safe and resilient as possible, that worst case scenarios are examined and addressed, and that personnel training and equipment for emergency responses are in place and up-to-date. Special and immediate attention should be given to those U.S. nuclear reactors that share similar characteristics as the failing reactors in Japan, including similar designs or located near a coastline or seismic fault line.

3/17....To EDO to Prepare Response for Chairman's Signature...Date due Comm:
April 8....Cpy to: RF, OCA to Ack...11-0126... COMMISSION CORRESPONDENCE

In addition to updating the EPW Committee on a regular basis, we also request that the NRC supply information to the committee as soon as possible regarding the following issues:

1. Please identify all U.S. nuclear facilities subject to significant seismic activity and/or tsunamis.
2. U.S. nuclear power plants are designed to be safe based on historical data of the area's maximum credible threat (including earthquakes and tsunamis). What extra safety features does the NRC currently require for facilities that have a credible threat of an earthquake and/or tsunami? In light of the recent events in Japan, we would also like the NRC to re-examine the assumptions used to determine the maximum credible threat and suggest additional options that could provide a greater margin for safety at plants nationwide that might be subject to challenges similar to those currently being seen in Japan following the earthquake and tsunami.
3. Which U.S. nuclear power plants share similar design features with the affected Japanese reactor facilities? Do these facilities have design vulnerabilities that should be addressed to ensure their cooling systems do not fail when confronted by stresses including those similar to what we have seen in Japan following the earthquake and tsunami?
4. How comprehensive is the radiation monitoring system in Japan? Would the U.S. take a similar monitoring approach if a serious accident were to occur here? What increased risk is associated with exposure to mixed oxide fuel?
5. Given what has happened at the Japanese facilities, please describe how the NRC currently ensures the safety of spent fuel pools at U.S. facilities and identify additional steps the NRC could take to better address the vulnerabilities of spent fuel pools at plants in the U.S.
6. Has the NRC modeled what could happen if the U.S. had multiple nuclear accidents simultaneously? If so, how would the NRC respond to such a disaster?

Safety is always our number one priority, and therefore it is vital that the NRC immediately evaluate the risks posed to nuclear reactors in the United States. We look forward to working with you to ensure that the nuclear energy industry and NRC regulators are adequately prepared to prevent accidents and to fully address the risks of serious events in the future.

Sincerely yours,



Barbara Boxer
Chairman
Committee on Environment and
Public Works



Tom Carper
Chairman
Subcommittee on Clean Air and
Nuclear Safety

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 5:17 PM
To: OCA Distribution
Subject: Hearing and Briefing information

Fiscal 2012 Budget: Department of Energy and NRC

Energy and Power Subcommittee (Chairman Whitfield, R-Ky.) and Environment and the Economy Subcommittee (Chairman Shimkus, R-Ill.) of House Energy and Commerce Committee will hold a joint hearing on the fiscal 2012 budget request for the Department of Energy and the Nuclear Regulatory Commission. 9:30 a.m., 2123 Rayburn

New: Nuclear Crisis in Japan

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

555/34

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 1:32 PM
To: jeff.baran@mail.house.gov; abigail.pinkele@mail.house.gov;
mary.neumayr@mail.house.gov; david.mccarthy@mail.house.gov;
JohnM@mail.house.gov; maryam.brown@mail.house.gov;
michael.beckerman@mail.house.gov; chris.sarley@mail.house.gov;
kathy_dedrick@epw.senate.gov; ruth_vanmark@epw.senate.gov;
annie_caputo@epw.senate.gov; laura_haynes@carper.senate.gov;
Brian_Clifford@barrasso.senate.gov; elizabeth_craddock@landrieu.senate.gov;
Doug_clapp@appro.senate.gov; Carrie_apostolou@appro.senate.gov;
Taunja.berquam@mail.house.gov; Rob.blair@mail.house.gov;
Karen.Wayland@mail.house.gov; Bettina_Poirier@epw.senate.gov;
mary.frances.repko@mail.house.gov; chris_miller@reid.senate.gov;
jay.cranford@mail.house.gov; Neil_Chatterjee@mccconnell.senate.gov;
Isaac_Edwards@energy.senate.gov; Jonathan_Epstein@bingaman.senate.gov; Eden_J.
_Murrie@nss.eop.gov; michal.freedhoff@mail.house.gov; Ali_Nouri@webb.senate.gov;
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March 15, 2011

NRC ANALYSIS CONTINUES TO SUPPORT JAPAN'S PROTECTIVE ACTIONS

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

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

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

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

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Droggitis, Spiros

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 8:58 AM
To: Schmidt, Rebecca; Powell, Amy; Droggitis, Spiros; Dacus, Eugene; Decker, David; Shane, Raeann; Riley (OCA), Timothy
Subject: FYI: Transcript of Chairman's briefing with WH press corps

Yesterday's briefing.

THE WHITE HOUSE
Office of the Press Secretary

For Immediate Release

March 14, 2011

PRESS BRIEFING
BY PRESS SECRETARY JAY CARNEY,
NUCLEAR REGULATORY COMMISSION CHAIRMAN GREG JACZKO
AND DEPUTY SECRETARY OF ENERGY DAN PONEMAN

James S. Brady Press Briefing Room

Please see below for a correction (marked with asterisks) to the transcript.

DEPUTY SECRETARY PONEMAN: Thank you, Mr. Chairman. Thank you, Jay.

We have been working very closely with our colleagues throughout the interagency process here at the Department of Energy. We've been ***led by Secretary Chu -- I just came from speaking with him on this matter and we've been speaking continuously throughout the weekend.

1:07 P.M. EDT

MR. CARNEY: Good afternoon, everyone. Over the weekend, as you know, the President was briefed multiple times on the situation in Japan in the wake of the tragic earthquake and tsunami there. USAID is leading our humanitarian assistance effort with the Department of Energy, the Department of Health and Human Services, the Nuclear Regulatory Commission and others.

Here at the White House, Homeland Security Advisor John Brennan is coordinating an interagency process with regards to Japan and engaging with relevant officials from across the government. Because we knew that you would have a lot of questions about the situation in Japan, especially with regard to nuclear issues, I brought with me today, asked to come

today, Greg Jaczko, who is the chairman of the Nuclear Regulatory Commission. He can answer questions people have about the safety of American citizens in Japan, as well as he can just generally update Americans about the impact of the accident -- or rather the aftermath of the tsunami and earthquake.

And then I also have Dan Poneman, who is our Deputy Secretary of Energy, and he can outline everything that we are doing to assist Japan as it deals with the aftermath.

With that, I'll ask these two gentlemen to speak. If you could address the questions related to their areas to them, and then we'll let them get out of here and get back to work. And I will take questions on other issues. Thanks very much.

CHAIRMAN JACZKO: If I could just start with just a few points. First and foremost, based on the type of reactor design and the nature of the accident we see a very low likelihood, really a very low probability that there's any possibility of harmful radiation levels in the United States or in Hawaii, or in any other U.S. territories.

Right now, based on the information we have, we believe that the steps that the Japanese are taking to respond to this crisis are consistent with the approach that we would use here in the United States. And most importantly, we advise Americans in Japan to listen to and to follow the instructions of the Japanese government with regard to the nuclear facilities.

The agency has been providing technical assistance to the Japanese government as they are requesting, and in particular, we have dispatched two technical experts to Japan and are continuing to assemble a team of experts that would be dispatched in the near future.

So with that, I will then turn to Dan.

DEPUTY SECRETARY PONEMAN: Thank you, Mr. Chairman. Thank you, Jay.

We have been working very closely with our colleagues throughout the interagency process here at the Department of Energy. We've been ***led by Secretary Chu -- I just came from speaking with him on this matter and we've been speaking continuously throughout the weekend. John Brennan has been coordinating matters interagency. We have had frequent meetings in person, we've had frequent meetings over the telephone, as we are trying to respond to all of the data that we are taking in.

We've also been in very, very close, continuous consultation, all hours of the day, with Ambassador John Roos -- and hats off to him for the incredible job he and the country team have been doing as they've been coordinating the American response. And as appropriate, given their independent regulatory status, we're making sure we share information as appropriate with Chairman Jaczko and our colleagues over at the NRC.

We have focused our efforts on consulting very, very closely with our Japanese colleagues. We also have dispatched subject matter experts -- both reactor experts and an expert on emergency response. We are in consultation with them and we will make sure that any requirement that they have we are prepared to meet. And we are talking with them even on a real-time basis as that proceeds. So we have technical expertise already there on the ground. We have additional capabilities if and as needed. Of course, the Japanese government has tremendous capabilities on their own, but because a matter of this nature requires all of our best efforts, we stand ready to assist as required.

MR. CARNEY: What I'll do is I'll go ahead and call on people. Ben, why don't you start?

Q Thank you. Chairman Jaczko, can you give us a sense of how President Obama is getting briefed about this nuclear crisis in Japan and the risk to the people there? And also, in the plainest terms you can, can you describe sort of the nature of what we're seeing and just how bad it is?

CHAIRMAN JACZKO: Well, I would turn to one of the others about the President's briefings.

MR. CARNEY: Let me just say, Ben, if I could, the President was briefed multiple times over the weekend. He has been briefed this morning and is being updated throughout the day. John Brennan, the Assistant to the President for Homeland Security, is taking a lead on that and gathering information and coordinating the briefings the President gets with all the relevant officials in the government.

CHAIRMAN JACZKO: It terms of the second part of your question, it is a serious situation certainly in Japan. The efforts right now of the Japanese government, with our assistance where they've requested it, is to continue to look for ways to provide the ability to keep the reactors cool. And that is a process that has been ongoing now for some time, and we continue to provide assistance where we can. In particular, they have asked for additional types of equipment that will help provide water and other resources to ensure that the reactors continue to be cool.

Q Has there been a partial meltdown in any of these reactors there?

CHAIRMAN JACZKO: At this time, we don't really have detailed information about the nature of the core in the reactor itself. But it is a situation in which there has been a loss of the normal type of cooling mechanisms to the reactor. So as the situation continues to develop we'll get better information. But right now, the focus has been to do everything possible to ensure that the reactor continues to be cooled.

Q And this incident leading to any safety concerns at nuclear facilities here in the United States?

CHAIRMAN JACZKO: Well, as I said, from the NRC's perspective, we are always focused on the safety and security of nuclear power plants in this country. That will always be something that we do. Whenever there's any new information, we always take that information into consideration and make changes if necessary. But right now we continue to believe that nuclear power plants in this country operate safely and securely.

I'll stop at that point.

MR. CARNEY: Jill.

Q Following up on that, is there any attempt, though, at this stage to assess, carry out a study of the ability of these plants in the United States to withstand an earthquake? Because after all, you have California. And also at least one of the reactors in jeopardy apparently in Japan uses that MOX fuel. Is there more concern about that, heightened -- any situation with the venting?

CHAIRMAN JACZKO: Well, with regard to the U.S. power plants, the U.S. power plants are designed to very high standards for earthquake effects. All our plants are designed to withstand significant natural phenomena like earthquakes, tornadoes and tsunamis. So we believe we have a very solid and strong regulatory infrastructure in place right now. But of course, as we always do, as an independent regulatory agency, we will continue to take new information and see if there are changes that we need to make with our program.

With regard to the MOX fuel, again, we are providing assistance to the Japanese where they request our assistance. And at this time, they have not asked for any specific information with regard to the MOX fuel.

Q You just talked about how the high standards are here in the United States domestically. What are the differences in safety standards between what Japan has and what the United States does have?

CHAIRMAN JACZKO: Well, right now as I said, our focus is always on keeping the nuclear power plants in this country secure. We are also putting a strong focus right now on providing technical expertise to the Japanese as they request it. Questions about exactly the differences and what changes we might want to consider and look at in this country is something we'll deal with down the road. But bottom line right now, we believe that the plants in this country continue to be designed to a very high standard for seismic and tsunami-type events.

Q There's already been calls -- this might be more for Jay, but there are already calls for moratoriums in the United States. For example, Congressman Markey called for that. Does the President know about these calls for changes in U.S. handling of this issue? And you said you were reviewing, but what is the timeline for that? This is obviously something that Americans are concerned about.

CHAIRMAN JACZKO: Again, as an independent regulatory agency, we will always take whatever steps are necessary to ensure the safety and security of nuclear power plants in this country. But right now we believe we have a very strong program in place. As we get more information from Japan, as this immediate crisis ultimately comes to an end, we will look at whatever information we can gain from this event and see if there are changes we need to make to our system.

I would just add as a similar scenario, following the 2004 tsunami, we did review tsunami requirements for nuclear power plants, and, in fact, went and made sure that our plants would be able to deal with that type of event.

MR. CARNEY: Chip.

Q Would plants in the United States be able to withstand a quake of this magnitude?

CHAIRMAN JACZKO: Again, I don't want to speculate on anything like that at this point.

Q But are they planned to be able to -- I know they try to estimate what they would be able to withstand. I know in Japan, for example, this one I believe was only built to withstand a 7.9 or something like that. In the United States, are they built to withstand a quake of this magnitude, of an 8.9?

CHAIRMAN JACZKO: At this point what I can say is we have a strong safety program in place to deal with seismic events that are likely to happen at any nuclear facility in this country. As we get past this immediate crisis where we continue to provide support to the Japanese, we'll gather information about the specifics of the event. But I don't want to speculate too much about what exactly were the relevant factors in Japan at this point.

Q And one other question. You said that there's a "very low likelihood," I believe were your words, of harmful radiation making it to Hawaii or the West Coast. Is that based on the condition of those plants right now, or is that based on a partial meltdown or, heaven forbid, a total meltdown? Could that change your assessment?

CHAIRMAN JACZKO: The information about harmful -- the lack of any harmful impacts to the U.S. is simply based on the nature of these reactors and the large distances, obviously, between those and any U.S. territory. So you just aren't going to have any radiological material that by the time it traveled those large distances could present any risk to the American public.

Q Even in a worst-case scenario, even with a meltdown, you're not going to have harmful radiation reach Hawaii or the West Coast?

CHAIRMAN JACZKO: Again, I don't want to speculate on various scenarios, but based on the design and the distances involved, it is very unlikely that there would be any harmful impacts.

MR. CARNEY: Mike.

Q Do you gentlemen worry about perhaps an overreaction in this country, seeing a nuclear problem in another country, in terms of policymakers running away from nuclear energy?

CHAIRMAN JACZKO: I would defer to Dan.

DEPUTY SECRETARY PONEMAN: I think you just heard very clearly from Chairman Jaczko that we place safety paramount when it comes to the regulation of our nuclear power plants, and we always will. That having been said, we have to have an energy policy and a direction in this country that's driven by our overall assessment of our country's best interest.

In that respect, we are going to continue to seek to diversify our energy supplies. We're going to continue to make sure that each and every one of those sources is as safe as is humanly possible. And we will continue to take all learnings into account as we proceed from episodes that happened, from hypothetical that we might be able to come up with. It's a matter -- it's nothing new about it. It's a matter of our continuous approach to our own development of our safety resources -- our energy resources to make sure that they're done continuously and safely. Each event as it occurs is taken into account, but we don't sort of change from day to day our overall approach to the desire to diversify our overall energy posture.

Q And nuclear is a key component in your interest in diversification, correct?

DEPUTY SECRETARY PONEMAN: Nuclear power has been a critical component to the U.S. energy portfolio. We have 104 operating reactors -- that's 20 percent of the electricity of this country; 70 percent of the carbon-free electricity in this country comes from nuclear power. So we do see nuclear power as continuing to play an important role in building a low-carbon future. But be assured that we will take the safety aspect of that as our paramount concern.

And under the independent regulatory authority, going back to 1974, the NRC, which is independent and is, therefore, at arms' length, will ensure that we live up to exactly those kinds of high standards that the President expects us to use in operating those plants.

Q And quickly, it is critical to reaching your mission goals, correct -- nuclear energy?

DEPUTY SECRETARY PONEMAN: We view nuclear energy as a very important component to the overall portfolio we're trying to build for a clean energy future.

Q I want to follow up on a question and see if we can get Jay to answer on this -- the moratoria issue. I think it was Senator Lieberman said over the weekend that what's gone on in Japan should cause us to put the brakes for the moment on nuclear power plant development in America. Does the administration agree with that?

DEPUTY SECRETARY PONEMAN: I'm happy to start and others can supplement.

As I said, going back decades, every experience that we have with respect to our nuclear plants we take fully into account. Certainly back in March 1979 at the time of the Three Mile Island episode, there were a tremendous amount of learnings that we applied to the improvement of safety in our fleet. Our reactors are much safer today because of all those learnings that have been applied.

We continually hypothesize new scenarios of different types and never stop our efforts to continue to exercise our capabilities, to assess the possibilities, and to ensure that our reactors can operate as safely as possible. We'll continue to do that. We'll continue to seek to improve. We'll certainly take the learnings out of this experience and apply those as well. And we know, because of the independence of the Nuclear Regulatory Commission, that in terms of operating our reactors only if they can operated safely, that is a responsibility that is properly reposed in the Nuclear Regulatory Commission.

Q So a pause isn't necessary?

DEPUTY SECRETARY PONEMAN: From a policy perspective, we will continue to operate our reactors and seek to operate them safely. We will continue to seek to build nuclear into a part of a responsible energy future, and we will repose our confidence in the NRC to make sure that we only do so to the extent that it can be done safely.

MR. CARNEY: Athena, I would just add that we have the plants that we have already in operation that provide 20 percent of the electricity in the United States. And information is still coming in from Japan, so as we evaluate that information, these gentlemen have made clear that they will incorporate that into how we view safety and security of nuclear energy as a resource.

But it remains a part of the President's overall energy plan when he talks about reaching a clean energy standard it's a vital part of that. And as we get more information about Japan and what happened there, that can be incorporated. But right now, we remain committed to the clean energy standard and the other aspects of the President's energy plan.

Q Mr. Chairman, do you have NRC people in Japan now?

CHAIRMAN JACZKO: We currently have two NRC technical experts in Japan. They are working to provide information to the U.S. embassy, as well as to interface with their colleagues in the Japan regulatory authority.

Q And from your understanding of the situation now with the Japanese reactors, is it as bad as it's going to get, or might it get worse?

CHAIRMAN JACZKO: Again, I don't want to speculate on how this may progress. I would say it is a serious situation, and we continue to provide whatever assistance is requested from us and is necessary -- assistance requested or necessary by the Japanese government. And I would it is a -- Japan is a technically advanced nuclear country and they possess significant technical resources and capability on their own.

Q Jay, so there's nothing -- the President hasn't seen anything in Japan that will lead him to change his position that the U.S. should continue to get power from nuclear sources and increase that amount in the future?

MR. CARNEY: Dan, from a policy point of view -- but again, this is a -- information is still coming in. I think these gentlemen have addressed the issues of safety and security of the American nuclear energy program. And as more information comes in, obviously it will be evaluated. But 20 percent of our electricity is generated by nuclear power. It is already a major component of our energy here in the United States.

CHAIRMAN JACZKO: If I could add, just again to reiterate I think the point that's been made, that we are an independent regulatory authority and we always keep focus on a day-to-day basis on the safety and security of nuclear reactors in this country. So if we do get information that would cause us to take action, we will take that action. But at this time, we don't have any information that would cause us to do anything different with our approach with the current reactors. But we will review information as it becomes available.

MR. CARNEY: A couple of more.

Q Mr. Chairman, of those two technical advisors you have there, are they in Tokyo? Are they up near the facility? Are they getting information from the Japanese government? And how would you describe the Japanese government's description of what's going on? Are they being forthcoming with both the public and with you?

CHAIRMAN JACZKO: Well, our two experts are in Tokyo and they are providing assistance to both the U.S. embassy as well as an interface with our Japanese counterparts. And we continue to work to provide resources and assistance as we can.

Q Are they getting information, technical information from the Japanese? Are they watching press reports about what they're seeing going on? To what extent are they really hearing what's going on?

CHAIRMAN JACZKO: Right now, they're providing a very valuable resource to us to give us direct information from Japan about what's going on. And that's coming from a variety of sources, including interaction with counterparts in their regulatory --

Q Has the government of Japan been very cautious about what it's putting out publicly? They didn't have much urgency at the beginning and it's gotten more and more urgent.

CHAIRMAN JACZKO: Again, from what I've seen, we continue to see a very aggressive effort to deal with what is a very difficult situation in Japan right now.

DEPUTY SECRETARY PONEMAN: Can I just supplement that by saying that we've been in consultation through Ambassador Roos. He's been in continuous consultation with Chief Cabinet Secretary Edano. And we have two subject matter experts over there as well, and they are in communication with their counterparts.

Q Have you supplied any actual equipment to the Japanese? Have they requested anything?

DEPUTY SECRETARY PONEMAN: Well, we are ready to provide equipment. We have talked to them about what they have. As of this morning, there may be some additional information that Chairman Jaczko may wish to comment on. But what we are making sure of is, A, of course they have a lot of equipment on their own, but, B, such equipment as we have -- and we have equipment that can do aerial monitoring of ground deposition -- that's available. We have emergency response equipment. That's available. We're not starting from a blank slate, though, because the Japanese already have a lot of equipment, and we're just making sure we've got what we need to supplement.

MR. CARNEY: Why don't we -- one question from the Japanese media and then we'll wrap this part up.

Q With the accident at the nuclear plant over the weekend, has there been any direct impact from that on the U.S. support teams that are already in the area? Have they had to alter their plans at all as a result?

CHAIRMAN JACZKO: I would defer that question to AID, I believe. They have better information about the teams. The two NRC officials who are in Tokyo have not experienced any issues that I'm aware of. But, obviously, their safety -- their personal safety is important to us. But in Tokyo, there is no direct impact from the nuclear incident itself.

Q Can you talk then more generally about the logistical challenges of going into an area with such unprecedented damage?

CHAIRMAN JACZKO: Again, I would defer some of those broader questions to the folks at AID that we've been working with very closely to help provide that logistical support.

DEPUTY SECRETARY PONEMAN: I would just add to that, our DOE people have not been impaired in their ability to reach out to their Japanese counterparts. And in fact, at the Ambassador's request, we're sending another technical expert to join the team so they've got more subject matter expertise there.

In the context of the coordination that Mr. Brennan has been doing from the homeland perspective, we are making sure and working very closely with our colleagues in the Pentagon to make sure that any assets from a U.S. government perspective that need to be brought in there, we make available whatever assets we have through them, working with AID, as well.

Q Can I ask about nuclear waste, please? It's very important.

MR. CARNEY: I want to let these guys go for now.

Q Can we ask you about it?

MR. CARNEY: We'll take one question on nuclear waste, Connie.

Q Thank you. Is the U.S. reviewing its policy now on nuclear waste? And what are the Japanese doing in the midst of this crisis with their nuclear waste?

DEPUTY SECRETARY PONEMAN: I would segregate what they're doing in the middle of this crisis with respect to their nuclear waste. The first focus in the crisis, obviously, is getting the coolant to the cores of the affected reactors. And of course, there is spent fuel present at the reactors and making sure that that used fuel remains cooled properly and so forth.

From a U.S. perspective, we are still very closely evaluating our options. And the principal mechanism here, as you well know, is that President Obama asked Secretary Chu to convene a high-level panel of very distinguished Americans, chaired by Mr. Lee Hamilton, former congressman, and retired general Brent Scowcroft. And that group is going to be looking at all the options having to do with the back end of the fuel cycle for the United States of America, and by July will be coming back with some interim views on the options we ought to think about going forward. I'm sure they're going to be taking all of these experiences, data coming out of this experience into account.

Q Are you confident that Japanese nuclear waste is safe now?

DEPUTY SECRETARY PONEMAN: In terms of Japanese regulation of Japanese nuclear waste, I would refer you to the Japanese regulatory authorities.

MR. CARNEY: Thank you, gentlemen, very much. I appreciate it. We'll move on to the rest of the briefing. Thank you for coming.

Thanks for holding in abeyance your questions on other issues. Ben.

Q Two quick ones, Jay. I know that the President's concern first and foremost is about health and safety as it relates to this disaster. But is he also concerned about the impact the Japan natural disaster could have on the world economy?

MR. CARNEY: Ben, we have full confidence in the capacity of Japan to address the economic challenges during these exceptionally difficult times. We're monitoring, as we do always, the global economic environment, but we stand ready to assist the Japanese who are our friends and allies in any way that we can. And it's important to remember that the Japanese have demonstrated a great resiliency and ability to pull together during times of adversity, and we are confident that they will overcome this challenge and recover from this tragedy.

Q And on one other topic, on the meeting that the President is having with General Petraeus, could you just tell us a bit about why he's here? And specifically, is this a meeting at which he -- the General plans to talk about troop withdrawal plans in Afghanistan?

MR. CARNEY: Well, the General, as you know, is here. He is testifying on the Hill this week, and he is here meeting with the President today -- well, they meet with some regularity -- but to brief him on the progress we're making in Afghanistan. And as part of that discussion, yes, I believe they will discuss the President's plan to being a transition process in July of 2011, which will begin a process that will lead to turning over the security lead to the Afghan security forces by the end of 2014.

Q Jay, I saw the statement this morning about Bahrain and Saudi Arabia and the other GCC countries, but if this is the case that you have Saudi Arabia sending its forces into Bahrain, isn't that a gross violation of the sovereignty of another country?

MR. CARNEY: Well, we're aware of those reports and that other GCC countries are considering doing that. We urge all of our GCC partners to show restraint and to respect the rights of the people of Bahrain, and to act in a way that supports dialogue instead of undermining it. The important factor here is that our overall principles apply to Bahrain and all the countries in the region, which is that we urge restraint. We urge nonviolence in response to nonviolent protesters; the respect for the universal rights of people in the region to gather peacefully, to voice their opinions, to have their grievances heard by their governments, and to have greater participation in the political process.

We have long believed and the President has expressed for a long time now that stability in the region will be brought about by dialogue and political reform. And it is counterproductive to that goal to in any way repress the expression of those desires that the people of Bahrain, in this case, and other countries, have.

Q Jay, that's a very diplomatic way of saying that the U.S. is unhappy about what's going on. But if another country, if Iran had decided to go into another country because they felt it was the right thing to do, what would the United States be saying? And I know it's a hypothetical, but this appears to be pretty serious.

MR. CARNEY: Well, again, I think you have to understand what -- I mean, we've seen the reports that you're talking about. This is not an invasion of a country.

Q Right, but there are security forces.

MR. CARNEY: It is -- correct. And we urge the government of Bahrain, as we have repeatedly, as well as other GCC countries to exercise restraint, and not to meet the nonviolent protests of people legitimately expressing their concerns and asking to have their voices heard with any kind of physical violence. So we -- that -- we call on, again, the government of Bahrain as well as other countries in the region that -- to hear this message.

Steve.

Q Did you get any advance warning that this was going to happen, the Saudis moving in?

MR. CARNEY: I don't have anything on that for you, Steve. As far as

--

Q As far as you know -- okay.

MR. CARNEY: I don't know. I don't have anything for you on that.

Q Are we calling on the Saudis to leave?

MR. CARNEY: We are calling on the Saudis, the other members of the GCC countries, as well as the Bahraini government, to show restraint; and that we believe that political dialogue is the way to address the unrest that has occurred in the region, in Bahrain and in other countries, and not to in any way suppress it.

Yes.

Q Over the weekend you sent out a statement responding to the Arab League's endorsement of a no-fly zone, but you didn't obviously indicate whether the United States supports that or not. Knowing that all options

are still on the table, isn't it approaching a situation where it might be too little, too late, in Libya to enact this no-fly zone?

MR. CARNEY: As you know, we have discussions going on at the United Nations in New York regarding various options, military options, as well as non-military, and specifically a no-fly zone option. We have, as you know, tomorrow and then Wednesday at NATO, a process by which the plans that were being reviewed and refined that address a no-fly option will be presented to the NAC on Wednesday. And so we are, as we have said, constantly reviewing our options, refining our options, and this process is moving along.

The situation in Libya -- we continue to condemn the use of violence against the Libyan people by the Qaddafi regime, and we are encouraged by the international condemnation of that and by the actions taken by the Arab League, for example, because we believe that whatever actions we do take should be international and especially should represent the will of the people in the region and the countries in the region. And that's why the Arab League's voice on this is so important.

Q Knowing that you are -- could potentially be -- could be moving forward on this this week, but doesn't that -- there's been some voiced concern from foreign counterparts that that might nullify the goal of a no-fly zone, to enact it a little too late. Is there no concern --

MR. CARNEY: Well, Sunlen, again, I would say that the -- to go back to things we've talked about last week, the speed of the international reaction here has been quite remarkable and we are not letting up on our pressure, as the President made clear on Friday. I would note that, as you probably know, Secretary Clinton is in Paris where she will meet with opposition leaders, Libyan opposition leaders, as well as G8 counterparts to discuss some of these issues.

So we are moving with a great deal of haste and in coordination with our international partners, again with the kind of deliberation and speed that the situation requires, mindful of the fact that the decisions we're talking about here are significant ones and need to be made with everyone's eyes open to what they mean and what the goals are -- and I mean that with regard to a variety of possible options.

Chip.

Q Jay, following up on the no-fly zone, my understanding is there are now about five ships off the coast of Libya, three U.S. submarines off the coast, presumably with cruise missiles, plus you've got plenty of NATO aircraft at bases in the vicinity. Is the hardware now in place where if the President and other leaders were to give the order, that they could pull the trigger on a no-fly zone right now?

MR. CARNEY: Chip, what I would say, first of all, for the technical requirements to impose a no-fly zone, I would refer you to NATO, to the Defense Department. But what I think Secretary Gates has made clear and

others have made clear is that this has never been a case about what our capabilities are. Obviously the United States of America has the capacity with its international partners to engage -- activate a no-fly zone, as well as take a variety of other potential measures.

The issue is making sure that the policy decisions we make, we make collectively with our international partners, because it is very important that the response be an international one and not just an American one, and that we are cognizant of what the goals are and whether they're achievable, and what the impacts of that decision will be.

Q But there's no big lag period? If they decide Tuesday, Wednesday to --

MR. CARNEY: Again, I don't have specifics on what technical requirements have to be met in order to begin to implement an option like that. I would refer you to NATO probably for that.

Q Just one more question. Following up on Ben's when he asked you about the global economic impact here, you basically responded with your confidence in the resiliency of Japan. But even if Japan does respond as well as could possibly be expected, this could still have a significant effect on the global economy. In discussions back there that you've been a part of or are aware of, have you heard economic advisors for the administration suggest that what could happen here is the same thing that happened last year with the Greek crisis, delaying the economic recovery? Could this have that same kind of effect on the economic recovery again?

MR. CARNEY: Well, I would just say, Chip, that these are still early days, but that we remain confident that Japan and, therefore, the world can deal with this crisis and respond and rebuild in a way that is good for Japan and good for the world. So we have that confidence and we therefore believe that -- the resiliency of the Japanese people, the resiliency of the Japanese economy are very important factors in the capacity of Japan to handle this, and therefore the world working with Japan to handle it as well.

Q The recovery is safe?

MR. CARNEY: Again, I would just refer you to what I said.

Q A quick one on the gun laws. President Obama wrote an op-ed over the weekend and he said, "None of us should be willing to remain passive in the face of violence or resigned to watching helplessly as another rampage unfolds on television." So the question is what is the administration prepared to do actively, to actively support legislation-wise? For instance, Representative McCarthy's bill to ban high-round magazines -- is that something that the President or administration officials will come out in support for?

MR. CARNEY: Well, what I've said in the past still holds, which we will review proposed legislation as it comes up. I don't have any

announcements for what we would support. But I would also say that the Department of Justice has reached out to stakeholders on all sides of this issue and they're going to be holding a series of discussions as a first step, and that some of those meetings are happening this week.

So we are -- the President made his views known in the op-ed that you referred to. And the Department of Justice is continuing this process by meeting with stakeholders on all sides of the issue to look at ways that we can find common ground to take some common-sense measures that respect Americans' Second Amendment rights, but also deal in a common-sense way with Americans' safety and security.

Q So the administration wouldn't put forth legislation on its own or spearhead a plan?

MR. CARNEY: Well, I don't want to speculate about what we may or may not do legislatively, except to say that we are engaged in this process.

Yes, Carol.

Q Sort of on what Chip was talking about, is there -- how much aid is the United States willing to give to Japan? And have there been discussions in the administration about financial assistance and what that amount might look like? Have the Japanese made any specific requests?

MR. CARNEY: I think we are now in the phase of dealing with the immediate crisis, and we are offering any and all assistance that we can provide that the Japanese request and need to help them deal with it. They are a very close ally and we stand ready to assist them in any way that we can. Long term, obviously, we'll have to evaluate what the needs are and how we can help. But we're committed to helping Japan recover from this.

Q Have there been any discussions about that internally, in terms of what --

MR. CARNEY: Not that I'm aware of, because we are literally dealing with the aftermath, the considerable aftermath of a terrible situation caused by this earthquake and tsunami.

Q Just one quick thing on education -- and obviously that's an area where the White House sees room for compromise and bipartisanship -- would you consider Race to the Top an area where you have consensus? Or is that an area where the White House thinks that they might need to do some work in order to get consensus?

MR. CARNEY: Well, we are consulting with our partners on Capitol Hill of both parties on education reform regularly. And Race to the Top already has received a great deal of bipartisan support. We think it's been a very effective program and a good model for education reform. And we expect that bipartisan support to continue -- which doesn't mean we take it for granted. And in the process of improving the law, we'll be

working with Republicans and Democrats going forward, but we do expect it to happen this year.

Yes, sir.

Q Jay, on a funding bill, does it look to the White House as though you will get a three-week extension before the end of the week?

MR. CARNEY: I don't want to put timing on it, Mark. But we -- the cuts that have been outlined in that temporary measure are ones that we have already identified as acceptable. So we believe that we should be able to get something done. But again, we are focused on the process of achieving a resolution for the full fiscal year. Those conversations and negotiations are ongoing and that is our primary focus.

As the President said on Friday, because of the time it took to allow the process in the Senate to take place where the Senate voted on the Republican measure that emerged from the House and the Senate Democratic measure, it became necessary to give us the breathing space to negotiate the final CR for the fiscal year. But that remains our focus. And we remain absolutely committed to the idea that we need to get this done, last year's business done as soon as possible so we can focus on some of these other big challenges that we face.

Q And Vice President Biden will be taking the lead on that now that he's back from Europe?

MR. CARNEY: Well, this is a team effort. Vice President Biden is back from his trip and I'm sure he will be very much engaged in that process going forward.

Peter.

Q Thank you, Jay. If the U.S. wants -- believes that the legitimate grievances of Bahraini people need to be met, why not call upon Saudi forces to withdraw?

MR. CARNEY: Peter, I don't have anything more for you on that. We are calling on the countries in the region to show restraint and pointing to the fact that the dialogue that can bring about political reform is essential for the stability of the countries in the region and their continued economic prosperity. Because we believe, as the President has said going back to his speech in Cairo, that it is -- the unrest that we have seen is a result of the lack of dialogue and the lack of engagement with the peoples in the region in their governments and in the political process.

Q And also, you mentioned in Egypt that the -- Mubarak was on this wrong side of history. Is that Bahraini monarchy also on the wrong side of history?

MR. CARNEY: Well, we have called on the Bahraini government to -- as we have others in the region -- to have a dialogue with their people, to listen to their grievances, to adopt political reforms, to respect the universal rights of their people. And I think, broadly speaking, in the countries of the region, the leaders in the region will be judged by how they deal with this process. And we think it's important for the future of the region, for the peoples in these countries, that their voices be heard and their legitimate aspirations be addressed.

April.

Q Going back to the op-ed of President Obama on gun control -- the President talked about the mental competency of the gunman in Arizona, how he could not get into the U.S. military, how he could not get into a college, but yet he still purchased a gun. Is that President looking at any -- what kind of ways does the President want there to be issues of judging mental competency in purchasing a gun? Or is that something that he's looking for in anything -- any gun control measures that come along?

MR. CARNEY: That level of specificity, I don't have, April. But I think that his point that he's making is that we can honor our Second Amendment rights while still ensuring that, as you noted, that someone with a criminal record shouldn't be able to check out a gun seller; that an unbalanced man shouldn't be able to buy a gun so easily. I mean, there is room for us to have reasonable laws that uphold liberty, ensure citizen safety, respect the Second Amendment, and that we should be able to find some common ground on some of those measures. I don't want to detail what those measures are or what he has in mind, specifically. The conversations are beginning along those lines at the Department of Justice.

Q Do conversations include gun shows, purchases at gun shows?

MR. CARNEY: Again, I don't have -- I don't want to narrowly define specific measures that may or may not be proposed. We're looking at possible legislation and we're having conversations with stakeholders on all sides of the issue.

Chris.

Q Thanks, Jay. I have some questions for you on marriage. Last week, the Maryland statehouse recommitted a bill legalizing same-sex marriage to committee because proponents didn't feel like they had enough votes for passage. The measure is effectively dead for this year even though Democrats have control of the chamber. By not supporting same-sex marriage, is the President, as head of the Democratic Party, giving cover to Democrats in that chamber who don't support the bill?

MR. CARNEY: Chris, the President's position on gay marriage is well known. He addressed this in December at the press conference and I don't have anything new for you on that.

Q So is the President not concerned that this measure failed to progress in that chamber?

MR. CARNEY: I don't have anything for you on that either.

Q One last question, one last question. The proponents of this bill said they're going to try again in 2012. You said he's grappling with the issue of same-sex marriage. The President said he's wrestling with it. Is he going to pin down support for marriage equality and make an announcement before next year in time for these efforts --

MR. CARNEY: I don't have any timing for you on that either.

Yes.

Q Moroccan King has delivered a speech in which the government will change the reform (inaudible) constitution to give more power for the prime minister and lose more freedom. So does the White House have any comments on Morocco speech?

MR. CARNEY: I'm not sure if we have anything specifically on that. We encourage political reforms that liberalize the governments there, that allow for greater participation and representative government, and that applies across the region.

Q Jay, I have two questions, one a follow-up. Is it safe to assume that the GCC countries have not coordinated or informed the United States about their move to enter Bahrain, considering that they're close allies of the United States? And second, the Turkish Prime Minister said that it's counterproductive to have military intervention in Libya by NATO or any other country. Does this complicate your effort or all-options-on-the-table kind of approach?

MR. CARNEY: Regarding the no-fly zone and other options, nothing has changed since I last addressed this question five minutes or so ago. So the -- and with regards to Bahrain, we've made clear that we call on the nations in the region to show restraint and to honor the peaceful protestors by not using force against them. We make that -- call on the Bahraini government and the GCC countries as well.

Q So they haven't informed you? You don't know anything --

MR. CARNEY: I don't have anything on that.

Yes.

Q Jay, last week, Robert Einhorn over at State had a comment on Iran's nuclear program. He said that the U.S. believes that Iran intends to get to the brink of a nuclear capability but won't go to breakout. Can you talk about the extent to which that's been the subject of the conversation here at the White House by the President?

MR. CARNEY: I don't have anything -- any new information on that since the last time we addressed -- Ron, if you can talk to State about those particular comments.

Q Is that going to change his calculus at all?

MR. CARNEY: Well, we've made very clear that we are very concerned about Iran's pursuit. We and a lot of our international partners maintain that concern, so I think that still holds.

Yes.

Q Secretary Clinton last week told Congress that she wasn't sure that a no-fly zone would actually be effective. She cited Iraq and Kosovo. Was she stating administration policy?

MR. CARNEY: Well, as I've made clear from this podium and others have made clear, too, that it is very important -- no matter what options we choose -- that we are aware of what is entailed in applying them, enforcing them, and that we are confident that the goals we set out for them are achievable.

The fact that, as Secretary Gates and others have said, that a no-fly zone is a serious matter and with costs associated and risks associated doesn't mean that it's off the table. It's still very much on the table. I think the purpose of having Secretary Clinton or Secretary Gates or others make people aware of the seriousness of a measure like that is simply that; so that we all are aware going into this process should that decision be made -- or other decisions be made -- that we know what we're talking about and what we would be pursuing.

Q But she said it doesn't work. So why would it be on the table?

MR. CARNEY: No -- well, I don't want to parse her words. I think -- but what I have made clear and others have made clear is that we need to know -- we would in any process, any decision like this we would make, we would have a plan, which I think elements are being developed at NATO about what a no-fly zone plan would look like and its implementation would look like should that be chosen. And it would obviously include within it discussion about its presumed effectiveness, the impact it would have, the risks associated with it and the potential costs associated with it.

Q Have you run any numbers on that as to cost?

Q She said it didn't get rid of the leader --

MR. CARNEY: I don't have any -- no, I don't.

Q She said it didn't get rid of the leader. It didn't stop the violence. So what would be the point?

MR. CARNEY: Again, making -- she's making an observation about a past exercise. Before we take any action, we would evaluate what that action would mean if it were applied in the specific case at hand.

Q Can I follow up, Jay?

MR. CARNEY: Yes.

Q Thanks, Jay. I don't want to ask about what the U.S. is ready to do or not ready to do, and I have lot of sympathy towards caution, but my question is about what would the U.S. accept others to do? Would it be conceivable that somebody else who seems to be much more eager to call for a no-fly zone, like France, like Arabic states, could you accept that they are taking the lead and say, okay, if France want to do it, together with Egypt, it's fine with us? Or would the U.S. prefer to be in control of the process because the consequences would also be consequences for the position of the U.S. in the region?

MR. CARNEY: Well, I think I have made clear that we feel it's very important that this -- the actions we take in response to the situation in Libya be international actions, that we work in concert with our international partners. So, quite the contrary; this is not about the United States dictating what happens working with our international partners. So the consultations continue with the French and the British and others about what other measures we can take together.

So I don't -- I think we welcome the fact that there is so much international approbation and international unity in condemning what the Qaddafi regime is doing, and so much discussion with our international partners about all the different measures that we could do together to continue to put pressure on Qaddafi, to get him to cease and desist what he's doing against his people, and ultimately to remove him from power.

Q Could it also happen without involvement of the United States?

MR. CARNEY: Well, right now we're discussing at the United Nations, in Brussels at NATO, with our international partners what the various options are. We're very engaged in that discussion and continue to have that specific option on that the table.

Q Just two questions, Jay.

MR. CARNEY: Okay, I'm going to wrap it up here. Thank you very much.

Q When does he fill out his bracket? When is the Andy Katz exclusive?

MR. CARNEY: Stay tuned.

END

1:58 P.M. EDT

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Droggitis, Spiros

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 6:07 PM
To: Schmidt, Rebecca; Powell, Amy; Droggitis, Spiros; Dacus, Eugene; Decker, David; Shane, Raeann; Riley (OCA), Timothy
Subject: FYI: Press Briefing by Press Secretary Jay Carney, 3/15/2011

Questions from the WH press corps on Japan. I cut out non-earthquake/tsunami-related questions.

From: White House Press Office
Sent: Tuesday, March 15, 2011 4:54 PM
To: Weil, Jenny
Subject: Press Briefing by Press Secretary Jay Carney, 3/15/2011

THE WHITE HOUSE
Office of the Press Secretary

For Immediate Release

March 15, 2011

PRESS BRIEFING
BY PRESS SECRETARY JAY CARNEY

James S. Brady Press Briefing Room

2:18 P.M. EDT

MR. CARNEY: Good afternoon. I apologize for the fact that we're running a little late here today. Before I get started, I'd just like to give you a short update on the response to the situation in Japan.

The United States is continuing to do everything in its power to help Japan and American citizens who were there at the time of these tragic events. USAID is coordinating the overall U.S. government efforts in support of the Japanese government's response, and we are currently directing individuals to www.usaid.gov for information about response donations.

The President is being kept up to date and is constantly being briefed by his national security staff. The national security staff in the White House is also coordinating a large interagency response with experts meeting around the clock to monitor the latest information coming out of Japan.

We have offered our Japanese friends disaster response experts, search and rescue teams, technical advisors with nuclear expertise, and logistical support from the United States military. Secretary Chu announced earlier today that the Department of Energy has offered and Japan has accepted an aerial measuring system capability, including detectors and analytical equipment used to provide assessments of contamination on the ground. In total, the DOE team includes 34 people.

To support our citizens in Japan, the embassy is working around the clock. We have our consular services available 24 hours a day to determine the whereabouts and well-being of all U.S. citizens in Japan. A short while ago the Nuclear Regulatory Commission and the State Department each issued an update on the ongoing situation at the nuclear plant in question in Japan. The guidance, once again, was that after careful analysis of data, radiation levels and damage assessments to all units at the plant, our independent experts at the NRC are in agreement with the response and measures taken by Japanese technicians, including their recommended 20-kilometer radius for evacuation and additional shelter-in-place recommendations out to 30 kilometers.

Both the NRC and the State Department are continuing to ask American citizens in Japan to listen to the local Japanese officials for the very latest information regarding the situation there.

With that, I will take your questions. Julie.

Q I know you just said that you're urging Americans in Japan to listen to the local officials there. We are starting to see, though, some other governments -- China, France, Austria -- taking steps to either urge their citizens or recommend their citizens leave Tokyo. Does the U.S. feel like its citizens in Tokyo are safe at this point?

MR. CARNEY: The assessment that I just mentioned made by the NRC is that the actions and recommendations taken by the Japanese government are the same that we would take in the situation and therefore they support and are recommending to American citizens that they listen to and follow the instructions of the Japanese government or local Japanese officials.

Q So taking into account all of the possible options that could happen at this point, there's no recommendation that U.S. citizens leave Tokyo at this point?

MR. CARNEY: There is not that I'm aware of. I refer you -- obviously the State Department issues those kinds of advisories, but again, I would refer you to what the NRC has just put out.

Q Given that the situation at this plant took a turn for the worse overnight, do your comments from yesterday that there is no threat to Hawaii or the West Coast of the U.S. -- do those comments still stand?

MR. CARNEY: Well, as you know, those comments were not mine, because I'm not the expert, but the chairman of the Nuclear Regulatory Commission, which is an independent agency charged specifically with safety regarding our nuclear industry. And he -- Chairman Jaczko made clear that he believes based on his analysis and the NRC's analysis that there is no threat posed by --

Q Actually he said "highly unlikely." He didn't say no. They later sent out --

MR. CARNEY: Let me actually -- I have language precisely what he said. "You aren't going to have any radiological material that, by the time it traveled those large distances, could present any risk to the American public." That's a quote from yesterday.

So I will defer to him as he is the expert on this.

Q But as far as you know, that comment stands, even given the developments overnight?

MR. CARNEY: Again, I think the NRC has put out additional information today, but on that issue, yes.

Yes, Jake.

Q How satisfied is President Obama with the information coming from Japanese authorities? Does the U.S. government, does the White House feel that you are getting all the information when it -- as soon as the Japanese officials know it? I say this because on Friday President Obama, when I asked him about the nuclear threat in Japan, offered reassuring words, I could say, as conveyed from the Prime Minister. Obviously, the situation seems a little more dire today.

MR. CARNEY: What I can point you to, Jake, is the statement that the NRC has put out. And it's -- you have to remember that the NRC has its own independent experts on the ground there making assessments about the situation in Japan, determinations about advice that American citizens in Japan should follow. And we have an overall team, the number of which I gave you, on the ground there that is making its own assessments and working very closely with Japanese officials to make those assessments.

Q But that -- I appreciate the fact that we have our own independent experts there, but that wasn't the question. The question is how comfortable is the President with -- that the information the Japanese are giving to the U.S. from Prime Minister Kan to him and below is accurate and not just best-case scenarios and hopes and wishes?

MR. CARNEY: Again, Jake, I would point you to the fact that we have a certain amount of expertise in this area. We have people on the ground there. We are working with Japanese officials who are providing us information, and we are making our independent assessments with our own experts, as well as consulting with the Japanese.

And I just want to point to you right now, our focus is on helping the Japanese, helping our good friends and allies deal with this terrible tragedy that they've encountered -- the combination of an earthquake, a tsunami, and now the nuclear reactor problem that they have.

So we are obviously, in the ways that I mentioned at the top, coordinating very closely with the Japanese and offering assistance that's being accepted; our expertise that they can tap when they need it; and giving advice when it's solicited. So there's a great deal of coordination, and right now our focus obviously is on American citizens in the country, and those assessments are being made, and then also focus very closely on what we can do to help Japan deal with this series of really tragic events.

Q Are our independent experts there at least in part because we don't trust the assessments being made by the Japanese?

MR. CARNEY: No, Jake, they're there because we are a close ally and friend to Japan, and we are coordinating with the Japanese to assist them in any way that we can and in any way that they request in dealing with this terrible tragedy and historic tragedy. We are obviously, because we have expertise in this area, making independent assessments, and using them to evaluate decisions we make about advising American citizens in Japan and obviously about advising Americans on American soil about any impact they may face because of this, which is what Chairman Jaczko was talking about yesterday.

Q So just to button it -- the President is satisfied with the information he's been getting from the Japanese government? Yes?

MR. CARNEY: I have no reason to say that he's not, Jake. The coordination is deep in many ways. I would refer you for details on how that works and who's talking to whom to the NRC, the Department of Energy, the State Department, and the Embassy in Tokyo.

Chip.

Q Jay, could you clarify -- Secretary Chu -- and I'm not asking you to be a brilliant scientist here -- but he said two things that seemed a bit in contradiction. First of all, he said that the reactors in the U.S. are designed above what would be required to withstand a worst-case earthquake scenario. But he also said that the United States can learn from this to strengthen and -- strengthen the safety at its 104 reactors. So why do you need to strengthen the safety of the reactors if they're all designed above a worst-case scenario?

MR. CARNEY: I think as Chairman Jaczko made clear from this podium yesterday, that independent agency exists in order to ensure that the highest safety standards are met by the nuclear reactors that are part of the energy industry in this country. And it is -- part of their procedure is to constantly review information and data that comes in, to review incidents that happen around the world. I believe Chairman Jaczko even mentioned that they'd performed a review of safety measures in the wake of the tsunami in Indonesia and made evaluations based on that in terms of the safety and security of our facilities here in the United States.

So it simply stands to reason that you make models for various scenarios and every time there is new information that comes in from an actual event you take that data and you analyze it and you examine whether or not it affects the models you have for safety and security of your facilities.

To suggest that everything is static forever obviously would be wrong, because there obviously -- there's new information to be gleaned from incidents. And I'm sure that's what Secretary Chu, a far wiser man than I, was talking about.

Q On nuclear energy in this country, Congressman Markey is calling for a moratorium on new reactors that could be built in seismically sensitive areas. Does the President believe that's an overreaction?

MR. CARNEY: I think, Mike, as you know, we have a program, a loan-guarantee program at the Department of Energy. I believe that's what some of the calls for a moratorium would address because those are -- that is the program through which potentially new reactors are being assisted through a loan-guarantee program that is conditional.

And right now we have one conditional loan commitment to one nuclear project, and there are several others that are under consideration. It's a conditional loan agreement precisely because there are conditions attached, and one of those conditions is that any license would have to be granted by, of course, the Nuclear Regulatory Commission, the independent agency that ensures the safety and security of our nuclear reactors. And they would not issue that license if they felt that a proposed plant were not safe and secure to operate in the United States.

So that is the process we follow. The agency in question here, the NRC, as Chairman Jaczko said yesterday, focuses day to day, including prior to the events in Japan -- for days, weeks, months and years -- day to day on the safety and security of the nuclear facilities in the United States. And that would certainly apply going forward.

Q Is the President worried about an overreaction here in Washington as you view the events in Japan when it comes to nuclear energy and how it may affect U.S. energy policy?

MR. CARNEY: The President sees what's happening in Japan and feels, as most Americans do, a great -- he is -- I believe I heard him use the phrase today -- heartbroken by what he sees unfolding in Japan and the effect on the Japanese people. He is, every day, concerned about the safety and security of the American people.

He believes that our energy future will be best served by the approach that he's taking, which is to take an all-of-the-above approach

in terms of our goals to reaching a clean energy standard, and that includes wind, solar, biofuels. It includes responsible drilling in the deepwater areas that, even in the wake of the deep -- of the Gulf spill -- I think as I mentioned the other day, we have issued our first permit several weeks ago since the Gulf spill for deepwater drilling, then just several days ago issued the second permit.

And we were able to do that because we're committed to responsible drilling because we need it for our energy demands, but we insist, in the wake of that spill, which demonstrated a weakness in our system and the dangers associated with that, with a terrible spill, that any industry that get a permit demonstrate that it can contain the kind of spill that we saw in the Gulf. And those permits are now being issued to those industries that demonstrate that capacity.

So, more broadly, I would just say that he is committed to a multidimensional or multisource approach to our energy needs in the future. Nuclear is one of those sources. And he believes that we need to proceed responsibly with the safety and security of the American people in mind, and if we do that, that nuclear can continue to be an element in our energy arsenal.

Q -- any sort of -- on that? On Japan, there is a pharmaceutical -- this run on potassium iodide that's taking place. One of the pharmaceutical companies here in the United States that makes it, the oral solution, says that the national stockpile of this actually begins expiring in April of 2011. Has there been any decision by the administration to look into that and make sure all of that is up to date, order more of it, if necessary, especially now that suddenly there's obviously a worldwide run on this right now?

MR. CARNEY: Well, let me refer to HHS for specifics about the program and the stockpiling of that. I would take this opportunity to remind you and the American people that this is an accident and a situation that's happening in Japan and not in the United States, and the chairman of the Nuclear Regulatory Commission made clear yesterday his belief, based on the NRC's analysis, that there are no harmful effects that can come from any radiation spillage -- that's probably not the word -- but radiation emissions that might come from the reactors that had been damaged in Japan; any harm that could come to Americans on American soil, because of the great distances involved here.

Q To follow up on Jake's question, every single independent nuclear expert that we've talked to seems to think that this is at such a catastrophic level that the Japanese -- they don't have the capacity anymore to handle this on their own, that there needs to be a ton of international support.

Has the NRS -- has the NRC come to that same conclusion, that this is now beyond the scope of what the Japanese government can handle?

MR. CARNEY: Well, let me refer you to the NRC for questions to the NRC. But I would say that the NRC's role is tailored to its expertise. The Department of Energy, as I mentioned, is very engaged in this and has experts also on the ground, and we are participating in international assistance to the Japanese to help them deal with this tragedy, both the -

Q But dealing with the nuclear reactor itself, that this is -- they don't have the capacity anymore --

MR. CARNEY: Well, I don't know about the assessments of Japanese capacity except, of course, they do have a certain amount of expertise and -- a large amount of expertise. Again, I'm telling you what I know based on talking to those experts including the one who heads the NRC.

However, this is a huge event, and it requires the kind of concerted international response that we're seeing and which we are participating in a robust way. Because Japan is a close friend and ally, and we will do everything we can to help them in this situation.

Q Very quickly to follow up on Chip's question which is this -- safety at our own nuclear plants. Does the President not need to order a review of safety plans because they're constantly going on? Is that what you're trying to imply here?

MR. CARNEY: He doesn't have to order a review because they're constantly going on. He has, however -- I spoke with him about this within the last couple of hours -- asked, requested the NRC to evaluate the situation, the lessons learned from Japan as that information comes available and to incorporate it in its overall reviews of the safety and security of the reactors here in the United States.

Now, as we learned from Chairman Jaczko yesterday, that is what they do in any case. The President has added his voice, which is a singular and substantial voice, to the call for the need to do that today.

Yes, Jonathan.

Q Follow-up on Chuck's point. When the BP -- when Deepwater Horizon, when the President ordered a moratorium on new permitting while he did a review on response on that, in that case, there exactly was a planned incident response to a deepwater disaster. In the case of nuclear meltdowns, there is no such thing. There are seven different agencies, no clear lines of command.

MR. CARNEY: I disagree with that, Jonathan. I think that obviously there are a variety of incidents that could happen with a nuclear facility, including, as I believe Chairman Jaczko discussed, maybe Secretary Poneman discussed yesterday, the reviews that were done in the

wake of 9/11 in terms of the security of our nuclear facilities and other potentially vulnerable facilities to terrorist attack.

That is one incident and would require a response by -- with a different lead, perhaps -- a different agency in response. There could be the kind of meltdown, I guess, like occurred -- partial meltdown that occurred at Three Mile Island, and that would -- another agency might have the lead -- because they would have the expertise, so they would have the lead in responding to that. And then you have the natural disaster possibility that we've seen in Japan.

We have very specific and detailed plans in how response would be coordinated and which agencies would take the lead. Depending on what kind of incident we're discussing here, you would not -- there is not a one-size-fits-all response, we believe, and that's why we take the approach we take.

Q And in 2002, in the wake of 9/11, there was an amendment passed by Congress that ordered the distribution of potassium iodide to a 20-mile radius around all nuclear plants. The Bush administration ignored it and Markey sent a letter to President Obama. It's been ignored by the Obama administration as well. Is there any effort to follow the law and begin distributing potassium iodide on a 20-mile radius?

MR. CARNEY: Jonathan, I don't have any information on that law or how the previous administration or this one has handled it. I would just say that, again, this incident happened in Japan, not in the United States. It is not in a place in the world where it could have harmful effects -- according to the independent NRC -- it could harmful effects on Americans, on American soil.

And we -- the NRC has as its mission to constantly review the safety and security of the facilities we have here in the United States.

Juliana.

Q When you were speaking with the President earlier, was there any specific mention of reviewing older nuclear facilities, and that those should be an area that you might want to inspect in the wake of what we're seeing in the aftermath?

MR. CARNEY: Not in any conversation I had with him. But I would just refer you to the NRC and the Department of Energy for this. And again, the NRC is responsible for all the facilities and for the licensing and permitting the evaluations of their safety standards and the upgrade of their safety procedures if they so deem it necessary. And again, it would be -- if the NRC decided that a facility was no longer safe, either because of something that had happened in that facility or because of new information, it has the authority to take the steps necessary to suspend activity at that facility or to shut it down.

So these procedures -- this agency is in place precisely for this reason, and the procedures are in place so that they can be followed if that contingency occurred.

Q Is there any response to what we saw in Germany earlier today where **Chancellor Merkel has ordered the -- I think it was all pre-1980s plants to be shut down -- I think it was seven nuclear plants to be shut down, pending a review of their safety**, until June? Does the administration have any response to that, or did the President talk about that at all?

MR. CARNEY: Well, I don't have a response to actions taken by other countries. What we know and what we're responsible for is the safety and security of those facilities in the United States. And that responsibility lies with the Nuclear Regulatory Commission. They have made the judgment that our facilities are safe and secure. They are constantly, as Chairman Jaczko said, evaluating their standards, their procedures, taking in new information, and making adjustments accordingly. And that would apply to old reactors as well as newer ones.

Questions and Answers for Chairman Jaczko

Japan Earthquake/Tsunami Aftermath
As of 10 p.m. 3/15/2011

Current Status of Events in Japan

1. What damage was caused by the earthquake and/or tsunami at each of the Japanese plants?

On March 31st at approximately 2:46pm local time, a magnitude 8.9 earthquake occurred off the coast of Honshu, Japan. The earthquake knocked out offsite power to the three operating Fukushima Daiichi nuclear power plants (Units 1, 2 and 3). As designed, the nuclear reactors shutdown and on-site emergency diesel generators started up to power emergency safety systems that cool the reactor fuel. Subsequently, at approximately 3:41pm, a tsunami, resulting from the underwater earthquake, struck the site knocking out the emergency diesel generators. After depleting its battery power, the nuclear power plants lost the ability to provide cooling water to the reactor fuel. The best information currently available indicates that fuel damage has occurred Units 1, 2, and 3 but that the primary containment structures have remained intact and only limited releases of radiation have occurred.

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

The NRC is monitoring the Japanese efforts to stabilize conditions at the affected reactors, and those actions are in line with what would be done in the United States. The NRC continues to monitor information on the status of the reactor core, the reactor vessel and the containment structure – all three areas are important to controlling the situation and protecting the public.

Additional technical information:

The explosions affected the secondary containment buildings for Units 1 and 3 of the reactor plant. The primary containment was unaffected by the explosion. This does expose the spent fuel pools to atmosphere but should not affect the integrity of the spent fuel pool. With the integrity of the Secondary Containment breached it is more essential to maintain Primary Containment intact.

To provide additional protection to Primary Containment, US reactors of the containment type similar to Fukushima Unit 1 installed a hardened vent line from primary containment directly to the vent stack. A hardened vent provides a release path which would prevent an overpressurization of containment as experienced at Fukushima Unit One. Venting from the hardened vent is typically a manual operation that is controlled by the Emergency Operating Procedures as a last resort to protect the containment from failure. This vent path can be directly from the upper containment or from the torus (the preferred vent path due to scrubbing effect of the torus water).

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

In short, nuclear power plants are designed to be safe. To prevent the release of radioactive material, there are multiple barriers between the radioactive material and the environment, including the fuel cladding, the heavy steel reactor vessel itself and the containment building, usually a heavily reinforced structure of concrete and steel several feet thick.

Additional technical information:

The melted core may melt through the bottom of the vessel and flow onto the concrete containment floor. The core may melt through the containment liner and release radioactive material to the environment.

555/38

4. What should the American public know about the incident in Japan?

The events unfolding in Japan are the result of a catastrophic series of natural disasters. These include the fifth largest earthquake in recorded history and the resulting devastating tsunami. Despite these unique circumstances, the Japanese appear to have taken reasonable actions to mitigate the event and protect the surrounding population. 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.

5. What happens next in Japan? How long will it take to assess the damage to the reactors?

The current focus is ensuring that adequate cooling of the reactor fuel at each of the affected Japanese reactors is established and maintained. In the days, weeks, and months that follow, there will be adequate time to assess the damage and determine next steps.

6. Why did the seawater fail to cool the reactor?

Based on information available to the NRC, it appears that the seawater has been effective at providing some cooling for the reactor. While it appears that some fuel damage has occurred, there will be plenty of time once this crisis is resolved to determine the effectiveness of the measures taken in response to this event.

7. If Chernobyl was a 7 and Three Mile Island was a 5, when does this event move from the 4 level?

The International Atomic Energy Agency (IAEA) rates nuclear events in accordance with its International Nuclear and Radiological Event Scale (INES). IAEA has assigned the events in Japan an INES rating of 4, "Accident with Local Consequences." This rating is subject to change as events unfold and additional information becomes available. INES classifies nuclear accidents based on the radiological effects on people and the environment and the status of barriers to the release of radiation. IAEA determinations regarding the INES rating of events are made independently.

Three Mile Island was assigned an INES rating of 5, "Accident with Wider Consequences," due to the severe damage to the reactor core.

8. What is the worst case scenario for the plant?

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. As time goes on, does the chance for a meltdown increase?

Not necessarily. Each passing hour the fuel rods will become cooler. If adequate cooling can be established and maintained, the risk of a meltdown will be mitigated.

NRC Support/Response to the Events in Japan

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

We are closely following events in Japan, working with other agencies of the federal government, and have been in direct contact with our counterparts in that country. We have sent a total of 11 staff to Tokyo

in response to the Japanese government's request for assistance. Two of those NRC staff members, knowledgeable about boiling water reactors, are already in Japan participating in the USAID team.

Additional technical information:

We are taking the knowledge that the staff has about the design of the US nuclear plants and we are applying this knowledge to the Japan situation. For example, this includes calculations of severe accident mitigation that have been performed. Tony Uises and Jim Trapp are in-country. Team led by Chuck Casto is enroute from various locations.

11. What resources are the Japanese asking for?

The Japanese have formally requested equipment needed to cool the reactor fuel. This includes such things as pumps, fire hoses, portable generators, and diesel fuel. The NRC is coordinating with General Electric, which has plant design specifications, to ensure any equipment provided will be capable of meeting the needs of the Japanese.

12. Are we providing additional KI to the Japanese?

The Japanese government has requested KI from the United States. The NRC is working with our federal partners to support any requests of assistance.

Similarities/Impact on U.S. Nuclear Power Plants

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

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

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

Additional technical information:

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

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

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

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

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

Additional technical information:

U.S. nuclear plants have procedures in place to address a variety of accident scenarios, including abnormal operating procedures, emergency operating procedures, severe accident management guidelines and emergency plans. Additionally, the NRC activates Incident Response centers in Headquarters and individual Regions as necessary for the event to provide technical monitoring and support.

The NRC is capable of providing access to many external agencies (i.e., FEMA, Homeland Security, Military, etc.) to provide any additional help that individual plant sites may need. Additionally, the NRC has access to real-time plant information through the ERDS System for each site in the US and can monitor the status anytime.

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

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

Additional technical information:

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

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

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

No.

Additional technical information:

Diablo Canyon Units 1 and 2 were the only US plants to declare any type of an emergency classification. The site entered an "unusual event" based on a tsunami warning from the State, NOAA, NWS, Coast

Guard or System Dispatcher following the Japanese earthquake. They have since exited the "unusual event" declaration, based on a downgrade to a tsunami advisory.

17. What magnitude earthquake are US plants designed to?

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

Additional technical information:

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

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

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

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

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

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

Thirty-five of the 104 operating nuclear power plants in the U.S. are boiling water reactors (BWRs), as are the reactors at Fukushima. Twenty-three of the U.S. BWRs have the same Mark I containment as the Fukushima reactors.

Four of the U.S. BWRs are early designs which are similar to Fukushima Unit 1.

Nineteen U.S. BWRs are similar to Fukushima Unit 3.

Additional technical information:

Fukushima Unit 1 is a BWR-3 with a Mark 1 containment similar to Oyster Creek, Nine Mile Point Unit 1, and Dresden Units 2 and 3.

Fukushima Unit 3 is a BWR-4 with a Mark 1 containment and a Reactor Core Isolation Cooling (RCIC) system. The remaining 31 U.S. BWRs use a Reactor Core Isolation Cooling (RCIC) system instead of an isolation condenser. Nineteen of those 31 reactors have a Mark 1 containment, while the remainder are more recent designs.

21. What could you say about the dangers to the American public from our nuclear plants?

As the events in Japan continue to unfold, the NRC is focused on supporting the Japanese government and people in bringing this crisis to closure in the safest manner possible. The NRC remains convinced that U.S. nuclear power plants are designed and operated in a manner that protects public health and safety. The time will come, after this crisis is behind us, to evaluate what, if any, changes are needed at U.S. nuclear power plants. We will assess all the available information and, as we have done with previous natural disasters, such as the 2007 earthquake in the Sea of Japan and the 2004 tsunami in the Indian Ocean, evaluate whether enhancements to U.S. nuclear power plants are warranted.

22. Compare this incident to the Three Mile Island. What are the similarities?

The events at Three Mile Island in 1979 were the result of an equipment malfunction that resulted in the loss of cooling water to the reactor fuel. Subsequent operator actions compounded the malfunction ultimately resulting in the partial core meltdown. While details are still developing, the events in Japan appear to be the result of an earthquake and subsequent tsunami that knocked out electrical power to emergency safety systems designed to cool the reactor fuel. In both events the final safety barrier, the containment building, contained the majority of the radioactivity preventing its release to the environment.

23. Is our battery backup power less effective than the Japanese?

We currently do not have sufficient information to compare the differences in design requirements and performance characteristics of nuclear-grade batteries in the U.S. and Japanese nuclear power plants. However, in the U.S., nuclear power plants utilize redundant nuclear-grade (i.e., Class 1E, safety-related) batteries that are designed and constructed using rigorous standards and are routinely tested in accordance to ensure adequate capacity and capability exists to perform their intended safety functions. These batteries are located in structures that can withstand natural phenomena such as earthquakes, tornadoes, tsunami, and floods in accordance with NRC regulations. For U.S. nuclear power plants, the typical design duty cycles for safety grade batteries range from 1-8 hrs.

24. What are US plants required to have for backup power? More than what the Japanese reactors did?

The NRC requires U.S. nuclear power plants need to have 2 independent power supplies. All US (except Oconee) plants have diesels and battery backup systems. Most of the U.S. plants with diesels have two diesels per unit and those that have only one dedicated diesel have a swing diesel available. The regulations do not specify the length of time that you need to have the diesels and batteries operate following a loss of offsite power (most sites plan to run the diesels for multiple days and have battery backup capability for 8 hours). Instead the amount of time is dependent on the site recovery strategy and is based on providing sufficient capacity to assure that the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.

25. Some in the media and in Hill briefings are suggesting that Mark I containment is flawed. What are the concerns about this type of containment? Are the US plants with this safe?

The NRC considers BWRs with Mark I containment designs to be safe. BWR Mark I containments have smaller volumes than PWR containments. This makes the BWR Mark I containment more susceptible to containment failure given a core meltdown severe enough to (1) fail the reactor vessel and also (2) severe enough so that the core melt reaches the containment boundary. However, BWRs have more

ways of adding water to the core than PWRs. This includes 2 water injection sources which do not rely on AC electric power. These systems include Reactor Core Isolation Cooling (RCIC) and High pressure coolant injection (HPCI).

26. Any quick-hit info about how the Southeast Reactors performed during Katrina? What damage did the flood water do? Any power loss?

The reactors performed as designed.

Additional technical information:

Waterford 3 (near New Orleans, LA) did not have damage to any safety equipment during, or shortly after Katrina. They shut down on August 28, 2005, in advance of the hurricane strike. The flooding did affect local infrastructure, including communications and power distribution. However, the plant successfully used their emergency diesel generators to furnish plant power. Access was maintained to the plant throughout the event. On September 9, 2005, after a comprehensive review by FEMA and the NRC, the plant was authorized to restart.

River Bend Station (30 miles north of Baton Rouge, LA) did not experience damage to any safety related equipment and only minimal damage to emergency planning equipment (one siren) during and after Hurricane Katrina. The station reduced power to 70 percent core thermal power on August 28, 2005, due to reduced electrical grid loads. Access was maintained to the plant throughout the event. On September 2, 2005, the plant returned to 100% power.

Also, in 1992 the eye of Hurricane Andrew, a category 5 hurricane, passed directly over the Turkey Point nuclear plant. The plant was shut down prior to the hurricane making landfall and an assessment of the plant following the hurricane demonstrated that the plant sustained very little damage and all of the safety equipment was intact. (Most of the damage was to the security fences being blown down).

Protecting U.S. Citizens

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

The NRC continues to believe 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.

Additional technical information:

NRC is working with DHS, EPA and other federal partners to ensure monitoring equipment for confirmatory readings is properly positioned, based on meteorological and other relevant information.

28. Why is KI administered during nuclear emergencies?

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

Additional technical information:

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

29. Are any Americans in danger – armed forces, citizens in Tokyo?

The NRC, in consultation with the White House and U.S. Embassy, has advised United States citizens in Japan to follow the protective measures recommended by the Japanese government. These measures appear to be consistent with steps the United States would take. The Department of Defense has personnel trained in radiation protective measures and is responsible for providing guidance to U.S. armed forces. Inquiries regarding U.S. citizens in Japan should be directed to the State Department, Consular Services at 202-647-7004.

30. 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.

31. It has been reported that the Japanese have expanded their protective actions out to 30km (~19 miles). Does the Japanese decision to expand their protective actions call into question NRC requirements for Emergency Planning Zones out to 10 miles?

The NRC remains confident that the EPZs around U.S. nuclear reactor plants are adequate to protect public health and safety during a nuclear accident. Nevertheless, the NRC will certainly be looking closely at this incident and the effects on the Japanese nuclear power plant in the future to see if any changes are necessary to NRC regulations.

Future NRC Actions/Evaluations

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

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

Additional technical information:

We expect that there would be lessons learned, etc. It appears that the sites did not have any critical damage due to the earthquake from the fact that the emergency diesel generators initially responded to provide power to the site. The tsunami and consequential site flooding was responsible for the complete loss of power to the site, including the diesel generators which resulted in a Station Blackout.

33. Will this incident affect new reactor licensing?

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

Additional technical information:

This event could potentially call into question the NRC's seismic requirements which could require the staff to re-evaluate the staff's approval of the AP1000 and ESBWR design and certifications.

34. How will the events in Japan impact ongoing NRC licensing actions such as power updates and license renewals and NRC inspections at operating reactors?

The NRC remains committed to its mission to protect public health and safety. The NRC staff is dedicated to that mission and applies a strong safety and security focus to each of our licensing action reviews. The time will come, after this crisis is behind us, to evaluate what, if any, changes are needed. We will assess all the available information from this event and, as we have done with previous natural disasters, such as the 2007 earthquake in the Sea of Japan and the 2004 tsunami in the Indian Ocean, evaluate whether enhancements to our licensing processes or U.S. nuclear power plants are warranted. In the meantime, we will continue to implement our rigorous inspection and oversight activities at operating U.S. nuclear power plants. It would be premature to speculate about any potential changes to our inspection, licensing or oversight activities.

35. With NRC moving to design certification, at what point is seismic capability tested – during design or modified to be site-specific? If in design, what strength seismic event must these be built to withstand?

The regulations related to seismic requirements are contained in 10 CFR 50 Appendix A criterion 2.

During design certification, vendors propose a seismic design in terms of a ground motion spectrum for their nuclear facility. This spectrum is called a standard design response spectrum and is developed so that the proposed nuclear facility can be sited at most locations in the central and eastern United States.

The vendors show that this design ground motion is suitable for a variety of different subsurface conditions such as hard rock, deep soil, or shallow soil over rock. Combined License and Early Site Permits applicants are required to develop a site specific ground motion response spectrum that takes into account all of the earthquakes in the region surrounding their site as well as the local site geologic conditions. Applicants estimate the ground motion from these postulated earthquakes to develop seismic hazard curves. These seismic hazard curves are then used to determine a site specific ground motion response spectrum that has a maximum annual likelihood of 1×10^{-4} of being exceeded. This can be thought of as a ground motion with a 10,000 year return period. This site specific ground motion response spectrum is then compared to the standard design response spectrum for the proposed design. If the standard design ground motion spectrum envelopes the site specific ground motion spectrum then the site is considered to be suitable for the proposed design. If the standard design spectrum does not completely envelope the site specific ground motion spectrum, then the COL applicant must do further detailed structural analysis to show that the design capacity is adequate. Margin beyond the standard design and site specific ground motions must also be demonstrated before fuel loading can begin.

From: Powell, Amy
Sent: Tuesday, March 15, 2011 8:38 AM
To: Droggitis, Spiros; Schmidt, Rebecca
Subject: FW: NRC q&A
Attachments: Chairman Jaczko QA6 031311.docx

Importance: High

Here is an "old" version of the doc I was referencing.

JJJ/39

Questions and Answers for Chairman Jaczko

March 11, 2011 Japan Earthquake/Tsunami Aftermath
As of 2 pm, 3/13/2011

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

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

Additional technical, non-public information:

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

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

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

Additional technical, non-public information:

The explosion affected the secondary containment of the reactor plant. The primary containment was not affected by the explosion. This does expose the spent fuel pools to atmosphere but should not affect the integrity of the spent fuel pool. With the integrity of the Secondary Containment breached it is more essential to maintain Primary Containment intact.

To provide additional protection to Primary Containment, US reactors of the containment type similar to Fukushima Unit 1 installed a hardened vent line from primary containment directly to the vent stack. A hardened vent provides a release path which would prevent an overpressurization of containment as experienced at Fukushima Unit One. Venting from the hardened vent is typically a manual operation that is controlled by the Emergency Operating Procedures as a last resort to protect the containment from failure. This vent path can be directly from the upper containment or from the torus (the preferred vent path due to scrubbing effect of the torus water).

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

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

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

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

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

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

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

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

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

Additional, technical, non-public information:

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

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

Public Answer: In short, nuclear power plants in the United States are designed to be safe. To prevent the release of radioactive material, there are multiple barriers between the radioactive material and the environment, including the fuel cladding, the heavy steel reactor vessel itself and the containment building, usually a heavily reinforced structure of concrete and steel several feet thick.

Additional, technical, non-public information:

The melted core may melt through the bottom of the vessel and flow onto the concrete containment floor. The core may melt through the containment liner and release radioactive material to the environment.

8. Why is KI administered during nuclear emergencies?

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

Additional, technical non-public information.

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

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

Public Answer: No

Additional, technical non-public information: Diablo Canyon Units 1 and 2 were the only US plants to declare any type of an emergency classification. The site entered an “unusual event” based on a tsunami warning from the State, NOAA, NWS, Coast Guard or System Dispatcher following the Japanese earthquake. They have since exited the “unusual event” declaration, based on a downgrade to a tsunami advisory.

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

Additional, technical, non-public information.

We expect that there would be lessons learned, etc. It appears that the sites did not have any critical damage due to the earthquake from the fact that the emergency diesel generators initially responded to provide power to the site. The tsunami and consequential site flooding was responsible for the complete loss of power to the site, including the diesel generators which resulted in a Station Blackout.

11. Will this incident affect new reactor licensing?

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

Additional, technical non-public information:

This event could potentially call into question the NRC’s seismic requirements which could require the staff to re-evaluate the staff’s approval of the AP1000 and ESBWR design and certifications.

12. What magnitude earthquake are US plants designed to?

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

Additional, technical non-public information:

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

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

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

Additional, technical non-public information: No additional.

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

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

Additional, technical non-public information: None

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

Public answer: Thirty-five of the 104 operating nuclear power plants in the U.S. are boiling water reactors (BWRs), as are the reactors at Fukushima.

Four of the U.S. BWRs are early designs which are similar to Fukushima Unit 1.

Nineteen U.S. BWRs are similar to Fukushima Unit 3.

Additional Information

Fukushima Unit 1 is a BWR-3 with a Mark 1 containment and an isolation condenser. Oyster Creek, Nine Mile Point Unit 1, and Dresden Units 2 and 3 are BWRs with Mark 1 containments and isolation condensers.

Fukushima Unit 3 is a BWR-4 with a Mark 1 containment and a Reactor Core Isolation Cooling (RCIC) system. The remaining 31 U.S. BWRs use a Reactor Core Isolation Cooling (RCIC) system instead of an isolation condenser. Nineteen of those 31 reactors have a Mark 1 containment, while the remainder are more recent designs.

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 11:48 AM
To: Powell, Amy
Subject: RE: revised press release

I'm ready to send it. I was hoping to get a copy with NRC letterhead, but in the absence, I'll go with what I have.

From: Powell, Amy
Sent: Tuesday, March 15, 2011 11:46 AM
To: Droggitis, Spiros
Subject: revised press release

Would you send the revised press release to the Japan list? I am concerned about list fidelity if I try to relay it to Jeannette at this point...

Thanks
AP

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

555/40

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 5:13 PM
To: Weil, Jenny
Subject: RE: Most up-to-date information

No, Gino spelled me at 2. Going back tomorrow at 7. We have been relieved of our midnight shift though.

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 5:11 PM
To: Droggitis, Spiros
Subject: RE: Most up-to-date information

I'll get on it. Must be a report somewhere. Are you there till 7 p.m.?

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 5:10 PM
To: Weil, Jenny
Subject: RE: Most up-to-date information

How about a radioactive tsunami?

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 5:08 PM
To: Droggitis, Spiros
Subject: RE: Most up-to-date information

No, you were spot on. Just thought to pass some time, you might be interested in the report.

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 5:07 PM
To: Weil, Jenny
Subject: RE: Most up-to-date information

I thought he was concerned about radiation. Is it tsunami?

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 5:05 PM
To: Droggitis, Spiros
Subject: RE: Most up-to-date information

Here's a tsunami backgrounder from CRS.

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 5:04 PM
To: Weil, Jenny
Subject: RE: Most up-to-date information

Not very up to date, but best I could come up with. I understand the WH is coming up with 20 pages of Q's & A's which is supposed to address this among other issues, but it has not been fully vetted yet. It will be helpful when it does.

555/41

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 5:03 PM
To: Droggitis, Spiros
Subject: RE: Most up-to-date information

Thanks!

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 4:56 PM
To: Ethan.Rosenkranz@mail.house.gov
Cc: Weil, Jenny
Subject: Most up-to-date information

<http://www.whitehouse.gov/blog/2011/03/13/ongoing-response-earthquakes-and-tsunami-japan>

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 8:43 AM
To: Burnell, Scott
Subject: FW: NRC q&A
Attachments: Chairman Jaczko QA6 031311.docx

Importance: High

It is the update of this information that OCA is looking for for the murderboard. Hope this helps and thanks for the help.

From: Powell, Amy
Sent: Tuesday, March 15, 2011 8:38 AM
To: Droggitis, Spiros; Schmidt, Rebecca
Subject: FW: NRC q&A
Importance: High

Here is an "old" version of the doc I was referencing.

555/42

Questions and Answers for Chairman Jaczko

March 11, 2011 Japan Earthquake/Tsunami Aftermath
As of 2 pm, 3/13/2011

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

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

Additional technical, non-public information:

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

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

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

Additional technical, non-public information:

The explosion affected the secondary containment of the reactor plant. The primary containment was not affected by the explosion. This does expose the spent fuel pools to atmosphere but should not affect the integrity of the spent fuel pool. With the integrity of the Secondary Containment breached it is more essential to maintain Primary Containment intact.

To provide additional protection to Primary Containment, US reactors of the containment type similar to Fukushima Unit 1 installed a hardened vent line from primary containment directly to the vent stack. A hardened vent provides a release path which would prevent an overpressurization of containment as experienced at Fukushima Unit One. Venting from the hardened vent is typically a manual operation that is controlled by the Emergency Operating Procedures as a last resort to protect the containment from failure. This vent path can be directly from the upper containment or from the torus (the preferred vent path due to scrubbing effect of the torus water).

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

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

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

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

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

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

Additional technical, non-public information:

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

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

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

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

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

Additional technical, non-public information:

U.S. nuclear plants have procedures in place to address a variety of accident scenarios, including abnormal operating procedures, emergency operating procedures, severe accident management guidelines and emergency plans. Additionally, the NRC activates Incident Response centers in Headquarters and individual Regions as necessary for the event to provide technical monitoring and support.

The NRC is capable of providing access to many external agencies (i.e., FEMA, Homeland Security, Military, etc.) to provide any additional help that individual plant sites may need. Additionally, the NRC has access to real-time plant information through the ERDS System for each site in the US and can monitor the status anytime.

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

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

Additional, technical, non-public information:

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

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

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

Public Answer: In short, nuclear power plants in the United States are designed to be safe. To prevent the release of radioactive material, there are multiple barriers between the radioactive material and the environment, including the fuel cladding, the heavy steel reactor vessel itself and the containment building, usually a heavily reinforced structure of concrete and steel several feet thick.

Additional, technical, non-public information:

The melted core may melt through the bottom of the vessel and flow onto the concrete containment floor. The core may melt through the containment liner and release radioactive material to the environment.

8. Why is KI administered during nuclear emergencies?

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

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From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 12:02 PM
To: Weil, Jenny
Subject: RE: Press Release: (Revised) NRC Sends Additional Experts to Assist Japan

He probably got it three times. Defense in depth is our middle name.

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 12:01 PM
To: Droggitis, Spiros
Subject: RE: Press Release: (Revised) NRC Sends Additional Experts to Assist Japan

I just sent it to him. It didn't bounce back.

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 11:59 AM
To: Weil, Jenny
Subject: RE: Press Release: (Revised) NRC Sends Additional Experts to Assist Japan

Yes, curious.

From: Weil, Jenny
Sent: Tuesday, March 15, 2011 11:54 AM
To: Droggitis, Spiros
Subject: RE: Press Release: (Revised) NRC Sends Additional Experts to Assist Japan

Did it bounce back? It's correct: ethan.rosenkranz@mail.house.gov

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 11:52 AM
To: Weil, Jenny
Subject: FW: Press Release: (Revised) NRC Sends Additional Experts to Assist Japan

Can you check on email address?

From: Microsoft Exchange
Sent: Tuesday, March 15, 2011 11:48 AM
To: Droggitis, Spiros
Subject: Undeliverable: Press Release: (Revised) NRC Sends Additional Experts to Assist Japan

Delivery has failed to these recipients or distribution lists:

Ethan.Rosenkranz@mail.house.gov.

The format of the recipient's e-mail address isn't valid. A valid address looks like this: username@contoso.com. Microsoft Exchange will not try to redeliver this message for you. Please check the e-mail address and try sending the message again, or provide the following diagnostic text to your system administrator.

Sent by Microsoft Exchange Server 2007

Diagnostic information for administrators:

Generating server: TWMS01.nrc.gov

Ethan.Rosenkranz@mail.house.gov.

#550 5.1.3 STOREDRV.Submit; invalid recipient address #SMTP#

Original message headers:

Received: from HQCLSTR01.nrc.gov ([148.184.44.79]) by TWMS01.nrc.gov
([148.184.200.145]) with mapi; Tue, 15 Mar 2011 11:47:50 -0400

MIME-Version: 1.0

Content-Type: text/plain

Date: Tue, 15 Mar 2011 11:47:50 -0400

Message-ID: <AC20339767ABED49A6E58D6CDB4263C53ABC5D55BD@HQCLSTR01.nrc.gov>

Subject: Press Release: (Revised) NRC Sends Additional Experts to Assist
Japan

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 1:43 PM
To: Caputo, Annie (EPW)
Subject: RE: Press Release: NRC Analysis Continues to Support Japan's Protective Actions

NRC ANALYSIS CONTINUES TO SUPPORT JAPAN'S PROTECTIVE ACTIONS

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

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

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

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

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 1:44 PM
To: Dacus, Eugene
Subject: FW: Please call

Importance: High

I'll talk to you about this one and another one when you get over here.

From: Quesenberry, Jeannette
Sent: Tuesday, March 15, 2011 12:24 PM
To: Droggitis, Spiros
Subject: Please call
Importance: High

Janine at Congressman Blumenauer's office about

NRC's Plan if a Plume should come from Japan to the west coast.

202-225-4884

Jeannette V. Quesenberry
Office of Congressional Affairs
U.S. Nuclear Regulatory Commission
Jeannette.Quesenberry@nrc.gov
301-415-1776
301-415-8571

555/45

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 2:52 PM
To: Dacus, Eugene
Subject: FW: *RESEND*Press Release: NRC Analysis Continues to Support Japan's Protective Actions
Attachments: 11-049.docx

Gene: Guess you've got to get this one out. May want to put the press release in the email for Annie.

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

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

JJJ/44



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

Office of Public Affairs

Telephone: 301/415-8200

Washington, D.C. 20555-0001

E-mail: opa.resource@nrc.gov Site: www.nrc.gov

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

No. 11-049

March 15, 2011

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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.

From: Taylor, Renee
To: Borchardt, Bill
Subject: Transportation Tomorrow
Date: Tuesday, March 15, 2011 2:22:31 PM

Bill,

OCA has offered to schedule a van for tomorrow. Becky & Eliot are traveling there directly, Steve Burns will be taking the van. Jim Dyer stopped by, he is fine with metro or van, your call. Let me know when you have a minute so I can make arrangements for you.

Thanks,
Renee

555/47

From: Taylor, Renee
To: Borchardt, Bill
Subject: 5:00 Meeting
Date: Tuesday, March 15, 2011 2:08:08 PM

Bill,

Jennifer Uhle & Jason Schaperow are in route to the 5:00pm meeting location (10 G Street). They have been instructed to go up to the 7th floor, I made arrangements for someone to let them in. They will be waiting there for you.

Renee

555/48

From: [World Nuclear News](#)
To: [Borchardt, Bill](#)
Subject: WNN Daily: Radiation decreasing, fuel ponds warming
Date: Tuesday, March 15, 2011 1:49:04 PM

[View the WNN Daily in your browser.](#)



15 March 2011

REGULATION & SAFETY: Radiation decreasing, fuel ponds warming

Loud noises were heard at Fukushima Daiichi 2 this morning and a major component beneath the reactor may be damaged. Evacuation to 20 kilometres is being completed, while radiation levels decrease from a high in the morning. Concern is growing over the status of fuel cooling ponds at units 4, 5 and 6.

INDUSTRY TALK: All Fukushima Daiichi units in cold shutdown

All four units at the Fukushima Daiichi nuclear power plant have now achieved cold shutdown - where coolant water is at less than 100°C - with full operation of cooling systems, Tepco reported.

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555/49

From: RST01 Hoc
Sent: Tuesday, March 15, 2011 9:55 PM
To: LIA09 Hoc
Subject: FW: Japan event

RST reads this as an inquiry from a foreign government. LT please take lead.

From: HOO Hoc
Sent: Tuesday, March 15, 2011 8:02 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.

Do you have any information about the fire in Daichi-4.
What is burning hydrogen or something else?
Was the pool refilled after the fire yesterday?
Is the fire extinguished?

555/50

Do you have any radiological data?

Daichi-2

We have unconfirmed reports that the core has been uncovered during 6 hours yesterday?

Do you have any estimates of core damages?

Best regards

Kenneth Broman

Från: Broman, Kenneth

Skickat: den 14 mars 2011 00:07

Till: 'Thorp, John'

Ämne: SV: Japan event

Dear John,

Thank you for taking action.

I am in our emergency center.

Best regards

Kenneth

Från: Thorp, John [mailto:John.Thorp@nrc.gov]

Skickat: den 13 mars 2011 23:58

Till: HOO Hoc

Kopia: Broman, Kenneth; Brown, Frederick

Ämne: FW: Japan event

Dear HOO Watch Officer,

I just received the below e-mail. My Counterpart in the Swedish nuclear safety authority, Mr. Ken Broman, is serving on the staff of their Emergency Response Center. He has asked that his organization be updated with information that we are obtaining on the Japanese reactor events that were caused by the recent major earthquake and tsunami.

Please let me know how you wish to proceed with information sharing with our international counterpart nuclear safety authorities. I stand ready to work with you to provide information we can share, recognizing that we must coordinate our efforts in USNRC.

Thanks,

John Thorp

NRR Daytime Emergency Officer

From: Broman, Kenneth [mailto:Kenneth.Broman@ssm.se]

Sent: Saturday, March 12, 2011 5:36 PM

To: Thorp, John

Subject: Japan event

Dear John,

Are you still at work?

I am in our emergency center. Can we get some contact and achieve information from the NRC emergency center.

We have problems to get good information.

Best regards
Kenneth

From: RST01 Hoc
Sent: Tuesday, March 15, 2011 9:59 PM
To: LIA09 Hoc
Subject: FW: Japan event

RST has no other information on the fire or its effects than the open source data being questioned in the e-mail.

From: HOO Hoc
Sent: Tuesday, March 15, 2011 8:02 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

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To: HOO Hoc
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Kopia: Sandwall, Johanna
Ämne: SV: Japan event

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JSS/SI

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Skickat: den 13 mars 2011 23:58

Till: HOO Hoc

Kopia: Broman, Kenneth; Brown, Frederick

Ämne: FW: Japan event

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We have problems to get good information.

Best regards

Kenneth

From: ET07 Hoc
Sent: Tuesday, March 15, 2011 5:30 PM
To: Marshall, Jane
Subject: RE: Need info

Mike Weber

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

From: Marshall, Jane
Sent: Tuesday, March 15, 2011 5:25 PM
To: Gott, William; ET07 Hoc
Subject: Need info

Who is the top ET person for tomorrow morning? NSS wants a name for the morning VTC. I can respond- just need the right name. Thanks.

Sent from my NRC Blackberry

JSS/52

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; Bubarr, 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
Date: Tuesday, March 15, 2011 1:29:48 PM
Attachments: 11-049.docx

Attaching the press release would be helpful!

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

JJJ/53



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

Office of Public Affairs Telephone: 301/415-8200

Washington, D.C. 20555-0001

E-mail: opa.resource@nrc.gov Site: www.nrc.gov

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

No. 11-049

March 15, 2011

NRC ANALYSIS CONTINUES TO SUPPORT JAPAN'S PROTECTIVE ACTIONS

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

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

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

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

###

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.

From: [Weber, Michael](#)
To: [Borchardt, Bill](#)
Subject: Response - status update
Date: Tuesday, March 15, 2011 12:29:41 PM

Verified that you are now on the distribution list.

From: Borchardt, Bill
To: HOO Hoc
Cc: Weber, Michael
Sent: Tue Mar 15 07:43:33 2011
Subject: status update

Please email me the latest status update. I must have been dropped from the distribution list.

Thanks

Bill

555/54

From: Borchardt, Bill
To: Tinkler, Charles
Cc: Leeds, Eric; Taylor, Renee
Subject: Fw: DETAILS ABOUT CONGRESSIONAL MEETINGS TODAY AND TOMORROW
Date: Tuesday, March 15, 2011 11:58:56 AM

Bill Borchardt
Via blackberry

From: Belmore, Nancy
To: Taylor, Renee; Hudson, Sharon; Pulley, Deborah; Burns, Stephen; Borchardt, Bill; Brenner, Eliot; Akstulewicz, Brenda; Dyer, Jim; Virgilio, Martin; Cianci, Sandra; Weber, Michael
Cc: Schmidt, Rebecca; Powell, Amy
Sent: Tue Mar 15 11:52:51 2011
Subject: DETAILS ABOUT CONGRESSIONAL MEETINGS TODAY AND TOMORROW

This is further follow-up re my previous message (re van) - - -

The Chairman is having his murderboard at the Hill office today at 5:00. The office is located on the 7th floor at 10 G St. Invitees include: Eliot Brenner, Jim Dyer, Trip Rothschild, Josh, EDO reactor person—either Marty or Mike Weber according to Bill.

The Energy and Commerce hearing is tomorrow at 9:30. The Chr would like Eliot, Bill, JIM, Steve Burns and a severe accident reactor guy (According to Bill) at the morning hearing. The hearing is in 2123 Rayburn

Tomorrow afternoon there will be a second hearing/round table for EPW. That will be at 3:30 in Dirksen. Room TBD. The Chairman would like the same lineup except Jim doesn't have to come.

Nancy Belmore
Office of Congressional Affairs
U.S. Nuclear Regulatory Commission
nancy.belmore@nrc.gov
301-415-1776

555/SS

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, Jeffrey; Sheehan, Neil; Sheron, Brian; Siurano-Perez, Osiris; Steger (Tucci), Christine; Svinicki, Kristine; Tabatabai, Omid; Tannenbaum, Anita; Taylor, Renee; Temp, WDM; Thomas, Ann; Uhle, Jennifer; Uselding, Lara; Vietti-Cook, Annette; Virgilio, Martin; Virgilio, Rosetta; Walker-Smith, Antoinette; Weaver, Doug; Weber, Michael; Weil, Jenny; Werner, Greg; Wiggins, Jim; Williams, Evelyn; Zimmerman, Roy; Zorn, Jason
Subject: Press Release: (Revised) NRC Sends Additional Experts to Assist Japan
Date: Tuesday, March 15, 2011 11:41:11 AM
Attachments: 11-048R.docx

Attached to be released in approximately 15 minutes.

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

JJJ/156

REVISED: NRC SENDS ADDITIONAL EXPERTS TO ASSIST JAPAN

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

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

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

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

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

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

###

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From: Borchardt, Bill
To: Virgilio, Martin; Cianci, Sandra; Taylor, Renee
Cc: Ash, Darren; Weber, Michael
Subject: RE: Late Arrival
Date: Tuesday, March 15, 2011 7:16:00 AM

Marty,
Don't rush back to work. Please give me a call before you come in so we can align on plans for coverage.

Darren: can you do the all-supervisor meeting or should we postpone?

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

From: Virgilio, Martin
Sent: Tuesday, March 15, 2011 3:30 AM
To: Cianci, Sandra; Taylor, Renee
Cc: Borchardt, Bill
Subject: Late Arrival

Sandy

I went back to the ops center last night. It is now about 330 am and I am going home to get some sleep. I should be in around noonish. Call if I am needed sooner.

Marty

333/57

From: [EDO Update](#)
To: [Taylor, Renee](#)
Subject: EDO Update
Date: Tuesday, March 15, 2011 10:15:52 AM

EDO Banner

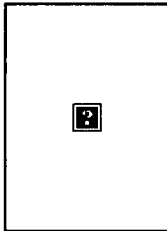


EDO Update

EDO Banner



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 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.

555/58

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 Borchardt, EDO

ROBERT MENENDEZ
NEW JERSEY

COMMITTEES:
BANKING, HOUSING, AND URBAN
AFFAIRS
FINANCE
FOREIGN RELATIONS

United States Senate

WASHINGTON, DC 20510-3005

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NEWARK, NJ 07102
(973) 645-3030

208 WHITE HORSE PIKE
SUITE 18-19
BARRINGTON, NJ 08007
(856) 757-5353

March 16, 2011

The Honorable Gregory B. Jaczko, Chairman
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Mr. Jaczko,

I am deeply saddened by the devastating earthquake and tsunami in Japan, and I commend you for your agency's efforts to help Japan avert a potentially catastrophic nuclear emergency at the Fukushima Daiichi Nuclear Power Station. But I also have concerns about New Jersey's nuclear safety and hope you can help me understand our preparedness in cases of emergencies.

It is important that lessons be learned from this tragedy. As you know, just like the Fukushima Daiichi Nuclear Power Station, the Hope Creek and Oyster Creek Generating Stations in my home state of New Jersey, use the General Electric boiling water reactor (BWR) design and a Mark I containment system. The Hope Creek station sits adjacent to the Salem 1 and Salem 2 nuclear power stations, in a region which has seen numerous small earthquakes over the past century. The Oyster Creek Station sits close to the Atlantic Ocean and is regularly under threat of hurricanes. The Indian Point Generating Stations, just 15 miles north of New Jersey in Buchanan, NY, sit near two significant fault lines.

In light of these similarities, I would like to know if safeguards are in place at these nuclear power plants that would prevent what is unfolding in Japan. Specifically, at all nuclear power generating stations in or near New Jersey:

- Are diesel generators and their fuel supplies protected from floods and earthquakes?
- If diesel generators fail, is there adequate battery backup to ensure power until the main power source is restored?
- What are these power plants designed to withstand and is the NRC reevaluating these safeguards in light of current events?

I am also interested to know if the NRC believes this is the time to renew discussion about whether nuclear power plants using the Mark 1 containment system can continue to operate safely without modifications or additional safety systems. As you know, there have been criticisms of the Mark 1 containment since the 1970's and some of these concerns came from within the NRC.

555/59

My goal with this letter is to seek reassurance that New Jersey and its nuclear fleet are as safe as possible. I look forward to your response and thank you for your continued work to keep Americans safe.

Sincerely,

A handwritten signature in black ink, reading "Robert Menendez". The signature is fluid and cursive, with a large, stylized "R" and "M".

ROBERT MENENDEZ
United States Senator

United States Senate

WASHINGTON, DC 20510

March 16, 2011

The Honorable Gregory Jaczko
Chairman
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Chairman Jaczko:

The unfolding nuclear disaster in Japan has raised questions about the safety of nuclear power plants here in the U.S. As Senators from California, we are particularly interested in the safety of San Onofre Nuclear Generating Station, located in San Clemente, and the Diablo Canyon Nuclear Power Plant near San Luis Obispo, both of which are near earthquake faults.

Roughly 424,000 live within 50 miles of the Diablo Canyon and 7.4 million live within 50 miles of San Onofre Nuclear Generating Station. Although many safety measures have been taken to address potential hazards associated with these facilities, we need to ensure that the risk is fully evaluated.

For example, a 2008 California Energy Commission report presented very clear warnings of potential threats at both of these plants. This report found that the San Onofre plant could experience "larger and more frequent earthquakes" than the maximum 7.0 magnitude earthquake predicted when the plant was designed. It is our understanding that the NRC has not taken action to address these warnings in the report. It is also our understanding that the 2008 report found that there is an additional fault near the Diablo Canyon plant that should be taken into consideration as part of NRC's relicensing process. We want to know if the NRC will address all of the threats, including seismic threats, described in the 2008 report at these facilities.

We ask that the Nuclear Regulatory Commission (NRC) perform a thorough inspection at these two plants to evaluate their safety and emergency preparedness plans.

3/17...To EDO to Prepare Response for Chairman's Signature...Date due Comm:
April 8...Cpy to: RF, OCA to Ack...11-0127 COMMISSION CORRESPONDENCE

555/60

In addition, we ask the NRC to answer the questions below regarding plant design and operations, type of reactor, and preparedness to withstand an earthquake or tsunami and other potential threats.

Plant Design and Operations

1. What changes to the design or operation of these facilities have improved safety at the plants since they began operating in the mid-1980s?
2. What emergency notification systems have been installed at California nuclear power plants? Has there ever been a lapse of these systems during previous earthquakes or emergencies?
3. What safety measures are in place to ensure continued power to California reactors in the event of an extended power failure?

Type of Reactor

1. What are the differences and similarities between the reactors being used in California (pressurized water reactors) and those in Japan (boiling water reactors), as well as the facilities used to house the reactors, including the standards to which they were built and their ability to withstand natural and manmade disasters?

Earthquakes and Tsunamis

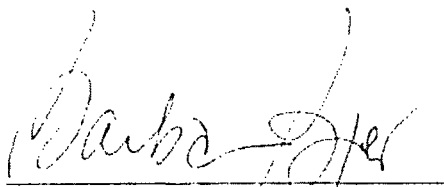
1. We have been told that both Diablo Canyon and San Onofre Nuclear Generating Station are designed to withstand the maximum credible threat at both plants, which we understand to be much less than the 9.0 earthquake that hit Japan. What assumptions have you made about the ability of both plants to withstand an earthquake or tsunami? Given the disaster in Japan, what are our options to provide these plants with a greater margin for safety?
2. Have new faults been discovered near Diablo Canyon or San Onofre Nuclear Generating Station since those plants began operations? If so, how have the plants been modified to account for the increased risk of an earthquake? How will the NRC consider information on ways to address risks posed by faults near these plants that is produced pursuant to state law or recommendations by state agencies during the NRC relicensing process?

3. What are the evacuation plans for both plants in the event of an emergency? We understand that Highway 1 is the main route out of San Luis Obispo, what is the plan for evacuation of the nearby population if an earthquake takes out portions of the highway and a nuclear emergency occurs simultaneously?
4. What is the NRC's role in monitoring radiation in the event of a nuclear accident both here and abroad? What is the role of EPA and other federal agencies?
5. What monitoring systems currently are in place to track potential impacts on the U.S., including California, associated with the events in Japan?
6. Which federal agency is leading the monitoring effort and which agencies have responsibility for assessing human health impacts? What impacts have occurred to date on the health or environment of the U.S. or are currently projected or modeled in connection with the events in Japan?
7. What contingency plans are in place to ensure that the American public is notified in the event that hazardous materials associated with the events in Japan pose an imminent threat to the U.S.?

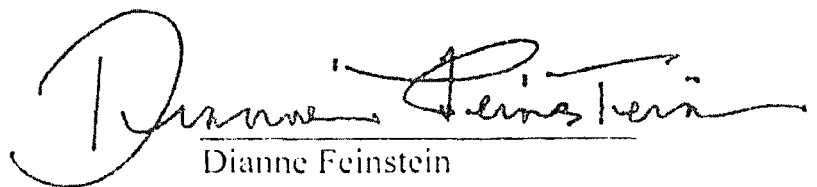
The NRC was created in the mid-1970s specifically to ensure the protection of public health and safety with regard to civilian nuclear power. The Commission plays an essential role ensuring that we learn from nuclear accidents and near misses. We hope you agree that we must identify whatever lessons are to be learned from the disaster in Japan in order to make facilities in the United States as safe as possible.

We look forward to working with you to ensure the safety of our nation's nuclear power plants and to make the changes necessary to ensure a nuclear tragedy does not occur in this country.

Sincerely,



Barbara Boxer



Dianne Feinstein

From: ANS.HOC@nrc.gov
Subject: ACTION: *URGENT CHANGE* Provide Japan Input to Eric Leeds By 1100 EDT L
Date: Monday, March 14, 2011 10:50:30 AM

****URGENT CHANGE**** Please provide input to Sean Meighan by 1100 EDT today, 3/14/11, concerning the trip to Japan. Call 301-816-5100 if you have questions. Sean may be reached at 301-415-1020. You may call 301-816-5164 at this time and follow the voice prompts if you do not wish to receive this notification from our Automatic Notification System.

JJJ/61

From: Droggitis, Spiros
Sent: Wednesday, March 16, 2011 5:15 PM
To: Schmidt, Rebecca; Powell, Amy
Subject: Afternoon Take: Questions Mount About U.S. Nuclear Safety

Afternoon Take: Questions Mount About U.S. Nuclear Safety

By Chad Brand, CQ Staff

The Obama administration got a first taste of lawmaker anxiety regarding U.S. nuclear safety this week — and those concerns seem to only be growing as Japanese officials work to avert a meltdown in six reactors at the Fukushima power plant.

Nuclear Regulatory Commission Chairman Gregory Jaczko and Energy Secretary Steven Chu are making the rounds on Capitol Hill this week. On Tuesday, Chu heard from Democrat Dianne Feinstein of California, chairwoman of the Senate Energy-Water Appropriations Subcommittee, who focused on two nuclear facilities located in her state that were not designed to handle the magnitude of the earthquake that struck Japan. Chu defended current federal safety standards, contending that “The American people should have full confidence that the United States has rigorous safety regulations in place to ensure that our nuclear power is generated safely and responsibly.”

Jaczko and Chu appeared at a joint hearing of two House Energy and Commerce subcommittees Wednesday morning. The day before, Jaczko received a letter from two Democratic members of the Energy and Power Subcommittee, Edward J. Markey of Massachusetts and Lois Capps of California, which pointed out that eight nuclear reactors are located in systemically active areas on the West Coast and 28 nuclear reactors located near the New Madrid fault line in the Midwest.

The Obama administration’s emphasis on trusting current safety standards could prove harder to defend the longer the Japanese nuclear crisis lasts. The conditions at Fukushima reportedly have worsened, with officials acknowledging that a surge in radiation on Wednesday forced authorities to reduce the plant’s workforce to a skeleton crew. White House Press Secretary Jay Carney said the Energy Department has offered Japan aerial measuring assistance to assess the level of contamination on the ground, as well as management response teams at U.S. consulates and military installations.

JJJ/62

From: LIA07 Hoc
Sent: Wednesday, March 16, 2011 1:00 AM
To: ET07 Hoc
Subject: Two Pager (Attached) (EOM)
Attachments: Two Pager.031511.2230EDT.docx

JJJ/63

NRC "Talking Points" – Current as of March 15, 2011, 2230 EDT

Reactor Status

- Fukushima Daiichi Units 1 - 6

Unit 1

- Core damage from insufficient cooling water caused by loss of offsite power and onsite diesel generators following tsunami
- Sea water being injected with reported stable cooling
- Primary containment described as "functional"
- Hydrogen explosion from overheated fuel-water reaction damaged reactor building (secondary containment)
- Spent fuel pool level unknown
- High radiation levels reduced to 600 microsieverts/hr (60 millirem/ hr) at 2:00 am EDT (March 15) at site gate. Site gate is same for each unit.

Unit 2

- Core damage from insufficient cooling water caused by loss of offsite power and onsite diesel generators following tsunami
- Sea water being injected
- Core cooling reported as not stable
- Loud sound near containment building caused concern that containment integrity is not assured
 - Reported at 7:30 AM EDT, March 15, that containment is intact (better than previously thought)
- Secondary containment: Cut hole to reduce likelihood of hydrogen gas buildup
- Spent fuel pool level unknown
- High radiation levels reduced to 600 microsieverts/hr (60 millirem/ hr) at 2:00 am EDT (March 15) at site gate. Site gate is same for each unit.

Unit 3

- Core damage from insufficient cooling water caused by loss of offsite power and onsite diesel generators following tsunami
- Sea water being injected with reported stable cooling
- Primary containment described as "functional"
- Hydrogen explosion from overheated fuel-water reaction damaged reactor building (secondary containment)
- No spent fuel pool information
- High radiation levels reduced to 600 microsieverts/hr (60 millirem/hr) at 2:00 am EDT (March 15) at site gate. Site gate is same for each unit.

Unit 4

- First fire: Generator lube oil fire in reactor building; IAEA reports that fire out at 2200 EDT, March 14.
- High radiation levels reduced to 600 microsieverts/hr (60 Mr/hr) at 2:30 am EDT (March 15) at site gate
- Second fire began 5:45am local time in reactor building. Reports indicate not yet contained. TEPCO determining whether to use helicopter or fire truck to fight fire. Fuel reported uncovered.
- TEPCO reported 30R/hr inside Unit 4 following second fire.
- Reports of hydrogen explosion in Unit 4 due to uncovered fuel in the fuel pool. Awaiting visual evidence.

Units 5 - 6 stable

- Reactor spent fuel pool level unknown. Heatup reported.

Other Japanese Nuclear Sites:

- Fukushima Daiichi Units 1 - 4: As of 7:15 am on March 15 (Japan), Tepco press release reports reactors in cold shutdown and offsite power available.
- Onagawa Units 1 - 3: shutdown, stable, turbine building basement fire extinguished.
- Kashiwazaki Kariwa Nuclear Power Station (Advanced Reactors): Units 1, 5, 6, 7: normal operation / Units 2 to 4: regular outage

Protective Action Recommendations

- For Fukushima Daiichi site, Japanese national government issued a protective action recommendation that instructed evacuation for local residents within a 20km radius of the site boundary and sheltering in place out to 30km for residents who stayed behind
- Forecast meteorological data for the 24 hour period (until 5:00pm EDT 5/15) indicates wind remaining toward offshore (N, NW).
- Japan has imposed no-fly zone (30km radius, altitude unlimited) over Daiichi plants.

General Talking Points

- The NRC believes the Japanese response and protective actions are comparable to how the NRC would respond.
 - We advise Americans in Japan to follow the guidance of Japanese officials.
- 6.1 Aftershock near Hamaoka: no damage to reactors
 - 5 reactors: 2 are decommissioned; 1 shutdown; 2 operating
- Tepco and US Forces in Japan (USFJ) are working together to allocate firefighting and heavy equipment capable of pumping seawater from the ocean into containment.
 - A list of additional equipment to provide for accident mitigation has been developed by NRC and provided to USAID.
- Disaster Assistance Response Team arrived Sunday:
 - Two NRC team members are in Tokyo working with Ambassador Roos and getting direct information from Japanese officials.
 - Nine additional NRC experts were dispatched to support the Ambassador and Japanese government.
- NRC continues coordination with other Federal agencies and outreach to Congress and States.
- Press releases with message for US citizens: No harmful levels of radiation expected to reach US. Japanese protective action recommendations are not inconsistent with US. US citizens in Japan should follow Japanese government directions.
- NRC continues to develop projections of the accident's progression, dose estimates and Q&As, including those addressing the safety of reactors in operation in the US.
- Government of Japan has accepted US offer to conduct aerial/ground monitoring and also requested potassium iodide tablets.

From: Droggitis, Spiros
Sent: Wednesday, March 16, 2011 10:49 AM
To: Schmidt, Rebecca
Cc: Powell, Amy
Subject: RE: Insightful questions

Do you know a Shelly at WH Congressional Affairs? They want me to tell her about the briefing. Don't have an email for her though.

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

From: Schmidt, Rebecca
Sent: Wednesday, March 16, 2011 10:38 AM
To: Droggitis, Spiros
Subject: Re: Insightful questions

Briefing today. Did Laura have insightful questions

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

From: Droggitis, Spiros
To: Schmidt, Rebecca
Sent: Wed Mar 16 10:37:26 2011
Subject: Re: Insightful questions

Rush and all. Briefing now today? I misinformed the ET that it was tomorrow.

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

From: Schmidt, Rebecca
To: Droggitis, Spiros
Sent: Wed Mar 16 10:35:35 2011
Subject: Re: Insightful questions

What?

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

From: Droggitis, Spiros
To: Schmidt, Rebecca; Powell, Amy
Sent: Wed Mar 16 10:15:59 2011
Subject: Insightful questions

JJJ/64

From: Droggitis, Spiros
Sent: Wednesday, March 16, 2011 7:46 AM
To: Schmidt, Rebecca; Powell, Amy
Subject: GBJ

Weber was on the phone with Josh and I overheard Weber say that the Chairman may need to go to the WH and not make or be late for the hearing. You may want to stay in touch.

555/65

From: Shapiro, Nicholas S.
To: Miller, Chris; Brennan, John O.; Jaczko, Gregory; "Daniel.Poneman@hq.doe.gov"; Holdren, John P.; "roosj@state.gov"; "SteinbergJB@state.gov"; McDonough, Denis R.; Avery, Heidi E.; Reed, Richard A.; Kern, Dab; "HammerMA@state.gov"
Cc: Weber, Michael; Virgilio, Martin; Borchardt, Bill; McDermott, Brian; Mamish, Nader
Subject: Re: 4 points on protecting us personnel and actions needed for Dai-ichi reactors
Date: Wednesday, March 16, 2011 7:54:12 AM

Adding hammer

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

From: Miller, Chris <Chris.Miller@nrc.gov>
To: Miller, Chris <Chris.Miller@nrc.gov>; Brennan, John O.; Jaczko, Gregory <Gregory.Jaczko@nrc.gov>; 'Daniel.Poneman@hq.doe.gov' <Daniel.Poneman@hq.doe.gov>; Holdren, John P.; 'roosj@state.gov' <roosj@state.gov>; 'SteinbergJB@state.gov' <SteinbergJB@state.gov>; McDonough, Denis R.; Avery, Heidi E.; Reed, Richard A.; Kern, Dab; Shapiro, Nicholas S.
Cc: Weber, Michael <Michael.Weber@nrc.gov>; Virgilio, Martin <Martin.Virgilio@nrc.gov>; Borchardt, Bill <Bill.Borchardt@nrc.gov>; McDermott, Brian <Brian.McDermott@nrc.gov>; Mamish, Nader <Nader.Mamish@nrc.gov>; Miller, Chris <Chris.Miller@nrc.gov>
Sent: Wed Mar 16 07:28:37 2011
Subject: 4 points on protecting us personnel and actions needed for Dai-ichi reactors

555/166

From: [World Nuclear News](#)
To: [Borchardt, Bill](#)
Subject: WNN Daily: Problems for units 3 and 4
Date: Wednesday, March 16, 2011 1:44:00 PM

[View the WNN Daily in your browser.](#)



16 March 2011

REGULATION & SAFETY: Problems for units 3 and 4

Chief cabinet secretary Yukio Edano has described problems that occurred on the morning of 16 March with Fukushima Daiichi 3 and 4, as well as plans to pump water into unit 4.

CORPORATE: Billion-euro nuclear shutdown for Germany

The German government has declared a three-month moratorium on nuclear power, in which eight reactors will stay offline, checks will take place and nuclear policy may be reconsidered.

INDUSTRY TALK: Korea sends boric acid supplies

The South Korean government said today it is sending boric acid supplies to Japan to use in efforts to stabilise stricken nuclear reactors. Boron is an efficient neutron absorber that can be injected in to the core of a nuclear reactor to inhibit nuclear reactions.

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London, Westminster SW1Y4JH

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555/67

From: Virgilio, Martin
To: Borchardt, Bill
Cc: Weber, Michael; Leeds, Eric; Dorman, Dan; Miller, Chris; Lewis, Robert; Doane, Margaret; Powell, Amy; Wiggins, Jim; Casto, Chuck; Brenner, Eliot; Muessle, Mary; Andersen, James; Wittick, Brian; Grobe, Jack; Evans, Michele; Ash, Darren
Subject: FW: commission meeting outline.docx
Date: Wednesday, March 16, 2011 3:29:24 AM
Attachments: commission meeting outline.docx

Bill

Last night the Chairman briefed the Commissioners on the status of the events in Japan and NRC's response. During that meeting the Commissioners suggested NRC hold a Commission meeting either this week or next on the events and the Chairman agreed to the meeting.

Attached is a draft outline for that meeting. We believe this outline could also be used as a tool for organizing a presentation for Congressional Briefings and interactions with the media. We acknowledge the ambitious nature of the outline and the fact that we might not be ready to speak to each of the issues if the Commission meeting is held this week.

Marty

JJJ/68

Commission Meeting Outline

NRC Response to Core Damage Accident in Japan

Current Status of Fukushima Daiichi

- Reactors
- Spent Fuel Pools

Consequence Projections

NRC Response Objectives

- Support of US Citizens in Japan
- Support of the Japanese Government
- Advance Our Understanding of Safety and Risk

NRC Response Actions

- In Japan
- At HQ

US Government Response

- NRC Partners and Stakeholders

Challenges to Success in the Response

- Information
- Coordination

Situation Assessment For US Reactors and Applicants (JCO)

- External Events
- Severe Accidents

Path Forward and Priorities

- Near Term Actions
 - In Support of Response
- Longer Term Actions
 - Lessons Learned From this Event
 - Resolution of GSI 19

From: Microsoft Exchange
To: Ibarra, Victoria
Subject: Undeliverable: Alignment Meeting for CM - Brief on Japanese Event & U.S. Response (CM date TBD)
Date: Wednesday, March 16, 2011 3:19:30 PM
Attachments: Alignment Meeting for CM - Brief on Japanese Event U.S. Response (CM date TBD).msg
Undeliverable Alignment Meeting for CM - Brief on Japanese Event U.S. Response (CM date TBD).msg
Undeliverable Alignment Meeting for CM - Brief on Japanese Event U.S. Response (CM date TBD).msg

Delivery has failed to these recipients or distribution lists:

HYPERLINK "mailto:IMCEAEX-_O%3DUSNRC_OU%3DFirst%2B20Administrative%2B20Group_cn%3DRecipients_cn%3D9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov" Ibarra, Victoria

The recipient's e-mail address was not found in the recipient's e-mail system. Microsoft Exchange will not try to redeliver this message for you. Please check the e-mail address and try resending this message, or provide the following diagnostic text to your system administrator.

Sent by Microsoft Exchange Server 2007

Diagnostic information for administrators:

Generating server: TWMS01.nrc.gov

IMCEAEX-_O=USNRC_OU=First+20Administrative+20Group_cn=Recipients_cn=9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov
#550 5.1.1 RESOLVER.ADR.ExRecipNotFound; not found ##

Original message headers:

Received: from HQCLSTR01.nrc.gov ([148.184.44.79]) by TWMS01.nrc.gov
([148.184.200.145]) with mapi; Wed, 16 Mar 2011 15:18:59 -0400

Content-Type: application/ms-tnef; name="winmail.dat"

Content-Transfer-Encoding: binary

From: "Borchardt, Bill" <Bill.Borchardt@nrc.gov>

To: "Ibarra, Victoria"

<IMCEAEX-_O=USNRC_OU=First+20Administrative+20Group_cn=Recipients_cn=9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov>,
"Akstulewicz, Brenda" <Brenda.Akstulewicz@nrc.gov>

Date: Wed, 16 Mar 2011 15:18:57 -0400

Subject: Alignment Meeting for CM - Brief on Japanese Event & U.S. Response
(CM date TBD)

Thread-Topic: Alignment Meeting for CM - Brief on Japanese Event & U.S.
Response (CM date TBD)

Thread-Index: AcvkDv2v2PiOYOmYTC2eY8bv5B8jdgAAAApw

Message-ID: <9B0F2FAB6002B64EAABF7FE5FA27BC6C3B09A59F35@HQCLSTR01.nrc.gov>

Accept-Language: en-US

Content-Language: en-US

X-MS-Has-Attach:

X-MS-TNEF-Correlator: <9B0F2FAB6002B64EAABF7FE5FA27BC6C3B09A59F35@HQCLSTR01.nrc.gov>

acceptlanguage: en-US

MIME-Version: 1.0

555/69

Attachment Alignment Meeting for CM - Brief on Japanese E.msg (2560 Bytes) cannot be converted to PDF format.

Attachment Undeliverable Alignment Meeting for CM - Brief.msg (2560 Bytes) cannot be converted to PDF format.

Attachment Undeliverable Alignment Meeting for CM - Brief_1.msg (2560 Bytes) cannot be converted to PDF format.

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; Drogitis, 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 Provides Protective Action Recommendations Based on U.S. Guidelines

Date: Wednesday, March 16, 2011 1:55:29 PM

Attachments: 11-050.pdf

For immediate release.

Office of Public Affairs

US Nuclear Regulatory Commission

301-415-8200

opa.resource@nrc.gov

333/70



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. 11-050

March 16, 2011

NRC PROVIDES PROTECTIVE ACTION RECOMMENDATIONS BASED ON U.S. GUIDELINES

Under the guidelines for public safety that would be used in the United States under similar circumstances, the NRC believes it is appropriate for U.S. residents within 50 miles of the Fukushima reactors to evacuate.

Among other things, in the United States protective actions recommendations are implemented when projected doses could exceed 1 rem to the body or 5 rem to the thyroid. A rem is a measure of radiation dose. The average American is exposed to approximately 620 millirems, or 0.62 rem, of radiation each year from natural and manmade sources.

In making protective action recommendations, the NRC takes into account a variety of factors that include weather, wind direction and speed, and the status of the problem at the reactors.

Attached are the results of two sets of computer calculations used to support the NRC recommendations.

In response to nuclear emergencies, the NRC works with other U.S. agencies to monitor radioactive releases and predict their path. All the available information continues to indicate Hawaii, Alaska, the U.S. Territories and the U.S. West Coast are not expected to experience any harmful levels of radioactivity.

###

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.

From: Brenner, Eliot
To: Borchardt, Bill
Subject: Out of Office: Alignment Meeting for CM - Brief on Japanese Event & U.S. Response (CM date TBD)
Date: Wednesday, March 16, 2011 3:19:00 PM

I will be out of the office until Thursday March 17. I am reading emails regularly and will respond as quickly as possible. If you need assistance, please call 301-415-8200.

555/71

From: Muessle, Mary
To: Borchardt, Bill
Subject: Out of Office: Alignment Meeting for CM - Brief on Japanese Event & U.S. Response (CM date TBD)
Date: Wednesday, March 16, 2011 5:02:11 PM

I am out of the office after 5:00 Wednesday, March 16th. I will be in the office until 11:00 AM on Thursday, March 17th and out Friday March 18th. Please contact Mindy Landau 301-415-8703 or Jim Andersen for 301-415-1725 assistance.

555/172

From: Taylor, Renee
To: Borchardt, Bill
Subject: Calendar Tomorrow
Date: Wednesday, March 16, 2011 5:25:37 PM

Bill,

Just a heads up, SECY is scheduling a CM for Monday re: Japanese Event & US Response, I have scheduled a Alignment meeting for tomorrow at 10:00am. Realizing that all is subject to change. Grueling day for you, I hope your able to get some rest.

See you tomorrow,
Renee

555/73

From: Weber, Michael
To: Borchardt, Bill
Subject: RESPONSE -- READY TO DEPLOY
Date: Wednesday, March 16, 2011 7:24:07 PM

You even earned some "Senate time" this afternoon. Hope all is well with you. We continue to receive conflicting information regarding our response. Although we continue to progress, I did not observe much, if any, progress across the Pacific today.

From: Borchardt, Bill
Sent: Wednesday, March 16, 2011 7:22 PM
To: Weber, Michael
Subject: Re: FYI - READY TO DEPLOY

Hanks Mike. Great job.
Bill Borchardt
Via blackberry

From: Weber, Michael
To: Powell, Amy; Schmidt, Rebecca
Cc: Borchardt, Bill; Virgilio, Martin; McDermott, Brian; Evans, Michele; Sheron, Brian; Leeds, Eric; Haney, Catherine; Johnson, Michael; LIA05 Hoc; ET01 Hoc
Sent: Wed Mar 16 19:15:40 2011
Subject: FYI - READY TO DEPLOY

As requested by Bill Borchardt, we have arranged for Brian Sheron, Cathy Haney, Eric Leeds, and Mike Johnson to be prepared to conduct briefings for Congressional members and staffs on the NRC's ongoing response to the nuclear emergency in Japan. NSIR/OPS Center has a few additional action items to support, such as distributing additional information (including the Chairman's short statement, testimony, and Q&As from today's hearing/meeting) and preparing a standard slide deck (8-10 slides) that could be used to communicate our key messages in a clear and consistent manner.

Mike

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

301-415-1705
Mail Stop O16E15

JJJ/14

From: [Ash, Darren](#)
To: [Muessle, Mary](#)
Cc: [Borchardt, Bill](#)
Subject: Morning reports
Date: Thursday, March 17, 2011 7:42:21 AM

Mary,

Nothing of significance to report, though may be worth mentioning the following:

In support of the NRC Operations Center's response to the events/activities in Japan, yesterday OIS supplied three laptops for the onsite FEMA and DOE teams. OIS also resolved a laptop issue with a member of the team deployed to Japan.

I'll be on the call at 8.

Darren

555/15

From: Schmidt, Rebecca
To: Weber, Michael; Powell, Amy
Cc: Borchardt, Bill; Virgilio, Martin; McDermott, Brian; Evans, Michele; Sheron, Brian; Leeds, Eric; Haney, Catherine; Johnson, Michael; LIA05 Hoc; ET01 Hoc
Subject: Re: FYI - READY TO DEPLOY
Date: Wednesday, March 16, 2011 7:23:52 PM

Thanks. Maybe we can meet briefly tomorrow to see when we can deploy

From: Weber, Michael
To: Powell, Amy; Schmidt, Rebecca
Cc: Borchardt, Bill; Virgilio, Martin; McDermott, Brian; Evans, Michele; Sheron, Brian; Leeds, Eric; Haney, Catherine; Johnson, Michael; LIA05 Hoc; ET01 Hoc
Sent: Wed Mar 16 19:15:40 2011
Subject: FYI - READY TO DEPLOY

As requested by Bill Borchardt, we have arranged for Brian Sheron, Cathy Haney, Eric Leeds, and Mike Johnson to be prepared to conduct briefings for Congressional members and staffs on the NRC's ongoing response to the nuclear emergency in Japan. NSIR/OPS Center has a few additional action items to support, such as distributing additional information (including the Chairman's short statement, testimony, and Q&As from today's hearing/meeting) and preparing a standard slide deck (8-10 slides) that could be used to communicate our key messages in a clear and consistent manner.

Mike

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

301-415-1705
Mail Stop O16E15

533/76

From: Weber, Michael
To: Jaczko, Gregory
Cc: Sheron, Brian; Uhle, Jennifer; RST01 Hoc; OST02 HOC; LIA05 Hoc; Coggins, Angela; Batkin, Joshua; Virgilio, Martin; Borchardt, Bill
Subject: FYI - SUMMARY OF TODAY'S MEETING WITH SECRETARY CHU ON WAYS TO ASSIST JAPAN
Date: Thursday, March 17, 2011 7:30:53 PM

Good evening, Chairman. Secretary Chu hosted a "brain storming" meeting downtown this afternoon on what steps might be taken to assist Japan authorities in controlling the nuclear power plants at Fukushima-Daiichi and preventing additional releases. Brian Sheron represented the NRC at the meeting and called me on his return to the office. You may recall that Pete Lyons invited the NRC to participate in the meeting. The meeting lasted a full four hours.

In addition to the Secretary and Dr. Lyons, other participants included Administrator D'Agostino, Director Holdren, Admiral Grossenbacher, John Kelly (DOE-NE), Bob Budnitz, Per Peterson (Blue Ribbon Commission), and others. The group discussed a number of different topics:

- Problem solving techniques that might be explored like PIRT and Failure Modes and Effects Analysis
- Percent of the reactor cores that might be released if the accident progresses, current configuration of the cores, and driving mechanisms for release
- Expected accumulation of salt from the evaporating seawater in the reactors and the coolability of a salt-encrusted core
- Potential effect of the salt on Cs releases due to the formation of CsCl
- Prophylactic doses of KI and side effects
- NRC seismic design requirements for NPPs in the United States
- Possible strategies for getting water in the Spent Fuel Pools, suppressing Zr fuel fires, or for removing the spent fuel from the pools
- Average annual doses to members of the U.S. population and sources

The Secretary stated that he will be interviewed on 5 talk shows this coming Sunday morning, so he was interested in getting background information about several topics. He asked for a one page summary of our seismic design requirements. Given the tight time constraints, Brian was not sure that we could turn around a summary that fast, so he provided the Secretary with a current copy of draft Q&As on seismic issues that has been prepared by RES, NRR, and other NRC offices. I will forward to you a copy of these Q&As – they are in draft form and extensive (10s of pages). Dr. Lyons will document today's meeting. Brian got the impression from the Secretary that he may have a similar meeting at some point in the future. Brian did not hear any ideas that sounded feasible that we were not already aware of. Some of the participants heard ideas that they plan to look into, but it did not sound like there were any specific ideas to pass to our team in Japan at this time.

Mike

Michael Weber
Deputy Executive Director for Materials, Waste, Research,
State, Tribal, and Compliance Programs

555/177

U.S. Nuclear Regulatory Commission

301-415-1705

Mail Stop O16E15

From: Ash, Darren
To: Borchardt, Bill
Cc: Boyce, Thomas (OIS); Rich, Thomas; Brenner, Eliot
Subject: all employees meeting
Date: Thursday, March 17, 2011 6:23:20 PM

Bill,

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

Thanks,
Darren

333/78

From: Weber, Michael
To: Borchardt, Bill
Subject: RESPONSE - CONGRESSIONAL BRIEFING
Date: Thursday, March 17, 2011 5:45:57 PM

Brian plans to accompany.

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

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

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

Bill

333/79

From: [Borchardt, Bill](#)
To: [Landau, Mindy](#)
Subject: RE: Something to think about
Date: Thursday, March 17, 2011 1:34:00 PM

Thanks Mindy. Good points.

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

Bill,

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

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

Just my two cents.

Mindy S. Landau
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

555/80

From: Taylor, Renee
To: Borchardt, Bill
Cc: Sheron, Brian; Flory, Shirley
Subject: Meeting locations for tomorrow
Date: Thursday, March 17, 2011 4:23:28 PM

The meeting locations for tomorrow morning are:

9:30 am Dirksen Senate Office, Room 406

Location: Northeast of the Capitol, adjoining the Hart Senate Office Building on a site bounded by Constitution Avenue, Second Street, First Street, and C Street, N.E.

11:45 am Ford House Office Bldg., Room 564
416 3rd Street SW, Washington, DC

Location: This address is approximate and is across the street from the Federal Center SW Metro station at 401 3rd Street SW. It is southwest of the Capitol, bounded by Second Street SW, D Street SW, Third Street SW, and Virginia Avenue SW.

JJJ/81

From: Borchardt, Bill
To: Landau, Mindy; Virgilio, Martin; Weber, Michael; Ash, Darren
Cc: Muessle, Mary; Andersen, James
Subject: RE: Concerns by Office of Public Affairs
Date: Thursday, March 17, 2011 1:33:00 PM

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

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

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

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

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

Thanks,
Mindy

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

555/82

From: Microsoft Exchange
To: Ibarra, Victoria
Subject: Undeliverable: Alignment Meeting on 3/21 CM re: Japanese Event & U.S. Response
Date: Thursday, March 17, 2011 11:27:22 AM
Attachments: Alignment Meeting on 321 CM re Japanese Event U.S. Response.msg

Delivery has failed to these recipients or distribution lists:

HYPERLINK "mailto:IMCEAEX-_O%3DUSNRC_OU%3DFirst%2B20Administrative%2B20Group_cn%3DRecipients_cn%3D9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov" Ibarra, Victoria

The recipient's e-mail address was not found in the recipient's e-mail system. Microsoft Exchange will not try to redeliver this message for you. Please check the e-mail address and try resending this message, or provide the following diagnostic text to your system administrator.

Sent by Microsoft Exchange Server 2007

Diagnostic information for administrators:

Generating server: OWMS01.nrc.gov

IMCEAEX-_O=USNRC_OU=First+20Administrative+20Group_cn=Recipients_cn=9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov
#550 5.1.1 RESOLVER.ADR.ExRecipNotFound; not found ##

Original message headers:

Received: from HQCLSTR01.nrc.gov ([148.184.44.79]) by OWMS01.nrc.gov
([148.184.100.43]) with mapi; Thu, 17 Mar 2011 11:27:19 -0400

Content-Type: application/ms-tnef; name="winmail.dat"

Content-Transfer-Encoding: binary

From: "Borchardt, Bill" <Bill.Borchardt@nrc.gov>

To: "Ibarra, Victoria"

<IMCEAEX-_O=USNRC_OU=First+20Administrative+20Group_cn=Recipients_cn=9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov>,
"Akstulewicz, Brenda" <Brenda.Akstulewicz@nrc.gov>

Date: Thu, 17 Mar 2011 11:27:20 -0400

Subject: Alignment Meeting on 3/21 CM re: Japanese Event & U.S. Response

Thread-Topic: Alignment Meeting on 3/21 CM re: Japanese Event & U.S.

Response

Thread-Index: Acvkt8w0p+KFYcBKSTi4KOdykM5nqAAAAAIg

Message-ID: <9B0F2FAB6002B64EAABF7FE5FA27BC6C3B09A59F8F@HQCLSTR01.nrc.gov>

Accept-Language: en-US

Content-Language: en-US

X-MS-Has-Attach:

X-MS-TNEF-Correlator: <9B0F2FAB6002B64EAABF7FE5FA27BC6C3B09A59F8F@HQCLSTR01.nrc.gov>

acceptlanguage: en-US

MIME-Version: 1.0

JJJ/83

Attachment Alignment Meeting on 321 CM re Japanese Event.msg (2560 Bytes) cannot be converted to PDF format.

From: Microsoft Exchange
To: Ibarra, Victoria
Subject: Undeliverable: Dry Run for 3/21 CM re: Japanese Event & U.S. Response
Date: Thursday, March 17, 2011 11:28:44 AM
Attachments: Dry Run for 321 CM re Japanese Event U.S. Response.msg

Delivery has failed to these recipients or distribution lists:

HYPERLINK "mailto:IMCEAEX-_O%3DUSNRC_OU%3DFirst%2B20Administrative%2B20Group_cn%3DRecipients_cn%3D9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov" Ibarra, Victoria

The recipient's e-mail address was not found in the recipient's e-mail system. Microsoft Exchange will not try to redeliver this message for you. Please check the e-mail address and try resending this message, or provide the following diagnostic text to your system administrator.

Sent by Microsoft Exchange Server 2007

Diagnostic information for administrators:

Generating server: OWMS01.nrc.gov

IMCEAEX-_O=USNRC_OU=First+20Administrative+20Group_cn=Recipients_cn=9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov
#550 5.1.1 RESOLVER.ADR.ExRecipNotFound; not found ##

Original message headers:

Received: from HQCLSTR01.nrc.gov ([148.184.44.79]) by OWMS01.nrc.gov
([148.184.100.43]) with mapi; Thu, 17 Mar 2011 11:28:42 -0400

Content-Type: application/ms-tnef; name="winmail.dat"

Content-Transfer-Encoding: binary

From: "Borchardt, Bill" <Bill.Borchardt@nrc.gov>

To: "Ibarra, Victoria"

<IMCEAEX-_O=USNRC_OU=First+20Administrative+20Group_cn=Recipients_cn=9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov>, "Akstulewicz, Brenda" <Brenda.Akstulewicz@nrc.gov>

Date: Thu, 17 Mar 2011 11:28:42 -0400

Subject: Dry Run for 3/21 CM re: Japanese Event & U.S. Response

Thread-Topic: Dry Run for 3/21 CM re: Japanese Event & U.S. Response

Thread-Index: Acvkt/4S2317UNFVQH6929blvvhRDwAAAASQ

Message-ID: <9B0F2FAB6002B64EAABF7FE5FA27BC6C3B09A59F90@HQCLSTR01.nrc.gov>

Accept-Language: en-US

Content-Language: en-US

X-MS-Has-Attach:

X-MS-TNEF-Correlator: <9B0F2FAB6002B64EAABF7FE5FA27BC6C3B09A59F90@HQCLSTR01.nrc.gov>

acceptlanguage: en-US

MIME-Version: 1.0

555/84

Attachment Dry Run for 321 CM re Japanese Event U.S. Re.msg (2560 Bytes) cannot be converted to PDF format.

From: Borchardt, Bill
To: Ellmers, Glenn; Virgilio, Martin; Weber, Michael; Ash, Darren; Muessle, Mary
Cc: Landau, Mindy
Subject: RE: draft EDO Update
Date: Thursday, March 17, 2011 12:03:00 PM
Attachments: EDO update draft 2 Mar 17 2011.docx

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

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

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

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

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

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

Glenn Ellmers
Senior Communications Specialist, OEDO
301-415-0442
OWFN - 17F03

JJJ/85

Mail stop: 016E15

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

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

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

Given the dynamic situation, there will be an All-Hands meeting tomorrow at 2:00 p.m. in the One White Flint auditorium, with VTC to the regions, TTC, and headquarters satellite offices. I will give you an update on what we know, and answer any questions to the best of my ability. In addition, we are expecting to have a Commission meeting early next week. We will provide a link to the briefing materials as soon as possible.

From: Muessle, Mary
To: Borchardt, Bill
Subject: Out of Office: draft EDO Update
Date: Thursday, March 17, 2011 12:03:40 PM

I am out of the office after 5:00 Wednesday, March 16th. I will be in the office until 11:00 AM on Thursday, March 17th and out Friday March 18th. Please contact Mindy Landau 301-415-1703 or Jim Andersen for 301-415-1725 assistance.

333/86

From: Microsoft Exchange
To: Ibarra, Victoria
Subject: Undeliverable: Alignment Meeting on 3/21 CM re: Japanese Event & U.S. Response
Date: Thursday, March 17, 2011 12:28:09 PM
Attachments: Alignment Meeting on 321 CM re Japanese Event U.S. Response.msg

Delivery has failed to these recipients or distribution lists:

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The recipient's e-mail address was not found in the recipient's e-mail system. Microsoft Exchange will not try to redeliver this message for you. Please check the e-mail address and try resending this message, or provide the following diagnostic text to your system administrator.

Sent by Microsoft Exchange Server 2007

Diagnostic information for administrators:

Generating server: OWMS01.nrc.gov

IMCEAEX-_O=USNRC_OU=First+20Administrative+20Group_cn=Recipients_cn=9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov
#550 5.1.1 RESOLVER.ADR.ExRecipNotFound; not found ##

Original message headers:

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([148.184.100.43]) with mapi; Thu, 17 Mar 2011 12:28:07 -0400

Content-Type: application/ms-tnef; name="winmail.dat"

Content-Transfer-Encoding: binary

From: "Borchardt, Bill" <Bill.Borchardt@nrc.gov>

To: "Ibarra, Victoria"

<IMCEAEX-_O=USNRC_OU=First+20Administrative+20Group_cn=Recipients_cn=9e184135-da73a896-3ee4455c-49e10f6c@nrc.gov>,
"Akstulewicz, Brenda" <Brenda.Akstulewicz@nrc.gov>

Date: Thu, 17 Mar 2011 12:28:08 -0400

Subject: Alignment Meeting on 3/21 CM re: Japanese Event & U.S. Response

Thread-Topic: Alignment Meeting on 3/21 CM re: Japanese Event & U.S.

Response

Thread-Index: Acvkt8w0p+KFYcBKSTi4KOdykM5nqAACH40w

Message-ID: <9B0F2FAB6002B64EAABF7FE5FA27BC6C3B09A59F91@HQCLSTR01.nrc.gov>

Accept-Language: en-US

Content-Language: en-US

X-MS-Has-Attach:

X-MS-TNEF-Correlator: <9B0F2FAB6002B64EAABF7FE5FA27BC6C3B09A59F91@HQCLSTR01.nrc.gov>

acceptlanguage: en-US

MIME-Version: 1.0

555/87

Attachment Alignment Meeting on 321 CM re Japanese Event_1.msg (2560 Bytes) cannot be converted to PDF format.

From: Borchardt, Bill
To: Virgilio, Martin; Weber, Michael
Cc: Casto, Chuck; McDermott, Brian; Wiggins, Jim
Subject: RE: Assistance requested
Date: Thursday, March 17, 2011 7:50:00 AM

I've talked to Brian Sheron and he will engage Pete Lyons during this afternoon's meeting.

From: Virgilio, Martin
Sent: Thursday, March 17, 2011 6:28 AM
To: Borchardt, Bill; Weber, Michael
Cc: Casto, Chuck; McDermott, Brian; Wiggins, Jim
Subject: Assistance requested

Bill/Mike

DOE engaged Chuck directly earlier today requesting he add a group of DOE staff (unspecified number and skills) on his team. Chuck views this as a burden and additional management challenge that he does not need at this time. I agree. Could one of you please follow up with Pete Lyons today to turn this off, for now. It may be tolerable at some time down the road.

We (including Chuck) are working with INPO to identify one individual that has knowledge and field experience in severe accident management strategies and procedures.

Marty

JJD/88

From: Wiggins, Jim
To: Borchardt, Bill
Subject: Out of Office: Assistance requested
Date: Thursday, March 17, 2011 7:50:31 AM

I am out of the office. I will return on Monday, 3/21/11.

Since I just can't bring myself to completely shutdown, I'll be occasionally checking messages via Blackberry and CITREX. However, if you need something done in the office, please call Michele Evans or Amy Salus (415-7476).

555/89

From: Sheron, Brian
To: Borchardt, Bill
Subject: RE: Assistance requested
Date: Thursday, March 17, 2011 7:42:56 AM

OK, will do.

From: Borchardt, Bill
Sent: Thursday, March 17, 2011 7:37 AM
To: Sheron, Brian
Subject: FW: Assistance requested

Brian – FYI (since you'll see Pete Lyons at the DOE mtg)
Bill

From: Virgilio, Martin
Sent: Thursday, March 17, 2011 6:28 AM
To: Borchardt, Bill; Weber, Michael
Cc: Casto, Chuck; McDermott, Brian; Wiggins, Jim
Subject: Assistance requested

Bill/Mike

DOE engaged Chuck directly earlier today requesting he add a group of DOE staff (unspecified number and skills) on his team. Chuck views this as a burden and additional management challenge that he does not need at this time. I agree. Could one of you please follow up with Pete Lyons today to turn this off, for now. It may be tolerable at some time down the road.

We (including Chuck) are working with INPO to identify one individual that has knowledge and field experience in severe accident management strategies and procedures.

Marty

555/90

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.

255/91

- 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.

Powell, Amy

From: Freedhoff, Michal [Michal.Freedhoff@mail.house.gov]
Sent: Thursday, March 17, 2011 12:01 PM
To: Powell, Amy; Decker, David; Weil, Jenny
Subject: situation reports

All

My understanding is that there are situation reports that are being generated every day by NRC and/or DOE. Can I please get copies of all of those?

If one of you is available to give me a call that would be great as well.

Thanks
Michal

Michal Ilana Freedhoff, Ph.D.
Policy Director
Office of Congressman Edward J. Markey (D-MA)
2108 Rayburn House Office Building
Washington, DC 20515
202-225-2836

555/92

Droggitis, Spiros

From: Droggitis, Spiros
Sent: Thursday, March 17, 2011 3:51 PM
To: Schmidt, Rebecca; Johnson, Michael; Haney, Catherine; Borchardt, Bill; Sheron, Brian; Leeds, Eric
Cc: Weber, Michael; Batkin, Joshua; HOO Hoc; Taylor, Renee; Flory, Shirley; Dorman, Dan; Powell, Amy; Virgilio, Martin; Riley (OCA), Timothy
Subject: RE: Phone Congressional Liaison Team Briefing

To follow-up on Becky's request, here is the draft schedule for the daily Congressional staff calls which will be at 3:00 pm every day.

March 18 – Mike Johnson
March 19 – *Eric Leeds*
March 20 – *Eric Leeds*
March 21 – *Brian Sheron*
March 22 – Mike Johnson
March 23 – *Brian Sheron*
March 24 – *Brian Sheron*
March 25 –

I would appreciate if Cathy, Eric and Brian could give me slots that they would be able to cover for the calls so I can finalize the schedule. We'll provide the calling information later. Thanks for your help, Spiros

From: Schmidt, Rebecca
Sent: Thursday, March 17, 2011 3:31 PM
To: Johnson, Michael; Haney, Catherine; Borchardt, Bill; Sheron, Brian; Leeds, Eric
Cc: Weber, Michael; Batkin, Joshua; HOO Hoc; Taylor, Renee; Flory, Shirley; Dorman, Dan; Droggitis, Spiros; Powell, Amy; Virgilio, Martin
Subject: Phone Congressional Liaison Team Briefing

All—We had our first call to Congressional staffers at 1:30 today. The call lasted about 1 hour. We invited over 500 staffers to listen in and ask questions. Mike and his team did a great job. It was good to spend the extra time today providing background material to them, but I'm thinking that we will probably shorten our briefing and instead answer more questions in the future. Spiros will be contacting you to set the schedule for the next several days. We will be doing the call at 3:00 daily. This effort is different than the 2 briefings tomorrow on the Hill. Thanks for all your help! Becky

From: Johnson, Michael
Sent: Thursday, March 17, 2011 2:57 PM
To: Haney, Catherine; Borchardt, Bill; Schmidt, Rebecca; Sheron, Brian; Leeds, Eric
Cc: Weber, Michael; Batkin, Joshua; HOO Hoc; Taylor, Renee; Flory, Shirley; Dorman, Dan
Subject: Re:

I can't support before late afternoon. I am planning on supporting a call at 300 tomorrow.
From my blackberry.

From: Haney, Catherine
To: Borchardt, Bill; Schmidt, Rebecca; Sheron, Brian; Leeds, Eric; Johnson, Michael
Cc: Weber, Michael; Batkin, Joshua; HOO Hoc; Taylor, Renee; Flory, Shirley; Dorman, Dan

JJJ/93

Sent: Thu Mar 17 13:47:00 2011

Subject: RE:

Seems to me that Brian might be the best candidate since he is already downtown. I tried calling him to discuss who would go. Shirley told me that Brian was at DOE (meeting doesn't end until 5 pm) and that his schedule on Friday was open. She tentatively put the 11:45 briefing on his schedule.

I'm happy to be a back up. If Brian can't do it, I'd like to go down and listen in on the 9:30 briefing.

Unfortunately, we might not have a firm answer until later this evening unless Mike J wants to volunteer in Brian's place.

As an aside, I'm scheduled to leave for France on Saturday afternoon. I spoke with Mike W last night about whether I should cancel. The view was I should continue with the trip. Of course, I can change plans up until I get on the plane. You might want to consider using Dan as a communicator next week. I will leave my "go to book" for him.

From: Borchardt, Bill

Sent: Thursday, March 17, 2011 1:00 PM

To: Schmidt, Rebecca; Sheron, Brian; Leeds, Eric; Haney, Catherine; Johnson, Michael

Cc: Weber, Michael; Batkin, Joshua; HOO Hoc; Taylor, Renee

Subject: RE:

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

From: Schmidt, Rebecca

Sent: Thursday, March 17, 2011 12:48 PM

To: Sheron, Brian; Borchardt, Bill; Leeds, Eric; Haney, Catherine; Johnson, Michael

Cc: Weber, Michael; Batkin, Joshua; HOO Hoc; Taylor, Renee

Subject: RE:

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

From: Sheron, Brian

Sent: Thursday, March 17, 2011 10:05 AM

To: Borchardt, Bill; Leeds, Eric; Haney, Catherine; Johnson, Michael

Cc: Weber, Michael; Schmidt, Rebecca; Batkin, Joshua; HOO Hoc

Subject: RE:

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

From: Borchardt, Bill

Sent: Thursday, March 17, 2011 9:44 AM

To: Leeds, Eric; Haney, Catherine; Sheron, Brian; Johnson, Michael

Cc: Weber, Michael; Schmidt, Rebecca; Batkin, Joshua; HOO Hoc

Subject:

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

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

Droggitis, Spiros

From: Droggitis, Spiros
Sent: Thursday, March 17, 2011 10:35 AM
To: Riley (OCA), Timothy; Shane, Raeann; Dacus, Eugene; Decker, David; Schmidt, Rebecca; Powell, Amy; Belmore, Nancy; Quesenberry, Jeannette; Weil, Jenny
Cc: Sargent, Kimberly; Wittick, Susan
Subject: OCA shift - March 18-20 - Correction
Attachments: OCA shift - March 18-20; OCA shift - March 18-20

Friday – 7:00 – 1:00 – Gene
1:00 – 7:00 – Tim

Saturday – 7:00-1:00 – Spiros
1:00-7:00 – Tim

Sunday - 7:00-1:00- Becky
1:00-7:00- Raeann

Hopefully once we set up the Congressional staff briefing schedule we will be able to handle future work from here and only go over to the Operations Center on an as needed basis.

555/94

From: Droggitis, Spiros
Sent: Thursday, March 17, 2011 1:16 PM
To: Weil, Jenny; OCA Distribution
Subject: RE: Two more names

Who now controls the current list? Jenny has provided these two plus an additional one earlier today. Maybe whoever had the last distribution (Tim?) should add these and resend the list to everyone. Just a thought. Thanks

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

From: Weil, Jenny
Sent: Thursday, March 17, 2011 1:02 PM
To: OCA Distribution
Subject: Re: Two more names

I know Feinstein's DC staff is on the list, but the District office staff also would like updates:

Chris_Carrillo@Feinstein.senate.gov
Katherine_Field@Feinstein.senate.gov

Sent via BlackBerry
Jenny Weil
Congressional Affairs Officer
U.S. Nuclear Regulatory Commission
202-510-8694

JJJ/95

From: Droggitis, Spiros
Sent: Thursday, March 17, 2011 10:37 AM
To: Janbergs, Holly
Subject: RE: Verbiage for Front page Photo

Perfect, thanks.

From: Janbergs, Holly
Sent: Thursday, March 17, 2011 9:36 AM
To: Droggitis, Spiros
Subject: Verbiage for Front page Photo

Spiros,

Holly would like me to double-check with OCA to make sure the verbiage for our new proposed front page photo (attached) is accurate. Would this be the best way to phrase things?

Chairman Gregory Jaczko testifies March 16th on the nuclear emergency in Japan before the House Committee on Energy and Commerce Subcommittees on Energy and Power and Environment and the Economy.

Thanks,
Beth

Beth Janbergs
Public Affairs Assistant
301-415-8211

From: Droggitis, Spiros
Sent: Thursday, March 17, 2011 10:34 AM
To: Schmidt, Rebecca
Cc: Powell, Amy
Subject: FW: Verbiage for Front page Photo
Attachments: 2011 03 Chairman at the Rayburn Building12.jpg

Is this ok?

From: Janbergs, Holly
Sent: Thursday, March 17, 2011 9:36 AM
To: Droggitis, Spiros
Subject: Verbiage for Front page Photo

Spiros,

Holly would like me to double-check with OCA to make sure the verbiage for our new proposed front page photo (attached) is accurate. Would this be the best way to phrase things?

Chairman Gregory Jaczko testifies March 16th on the nuclear emergency in Japan before the House Committee on Energy and Commerce Subcommittees on Energy and Power and Environment and the Economy.

Thanks,
Beth

Beth Janbergs
Public Affairs Assistant
301-415-8211

From: [Taylor, Renee](#)
To: [Borchardt, Bill](#)
Subject: Out of Office: All Hands
Date: Friday, March 18, 2011 3:40:04 PM

I will be out of the office on Friday, March 18th. For immediate assistance please contact Stephanie Garland or Sandy Cianci.

Thank you,
Renee

JJJ/198

From: [Ostendorff, William](#)
To: [Borchardt, Bill](#)
Cc: [Nieh, Ho](#)
Subject: All Hands Meeting
Date: Friday, March 18, 2011 3:00:58 PM

Bill- You did a great job this afternoon-very straightforward and reassuring. Thank you.
WCO

Commissioner William C. Ostendorff
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852
301-415-1759

5/5/199

From: [Sheron, Brian](#)
To: [Borchardt, Bill](#); [Schmidt, Rebecca](#)
Subject: Re: Briefing
Date: Friday, March 18, 2011 10:59:44 AM

No. You did well.

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

From: Borchardt, Bill
To: Schmidt, Rebecca; Sheron, Brian
Sent: Fri Mar 18 10:45:56 2011
Subject: Briefing

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

Good luck at the next mtg.
Bill Borchardt
Via blackberry

553/100

From: [Andersen, James](#)
To: [Weber, Michael](#); [Borchardt, Bill](#); [Virgilio, Martin](#); [Leeds, Eric](#); [Howe, Allen](#); [Johnson, Michael](#); [Landau, Mindy](#); [Rihm, Roger](#); [Ash, Darren](#); [Muessle, Mary](#)
Subject: FW: Commission Meeting on Japan Event has been announced for Monday (3/21) at 9:00 a.m.
Date: Friday, March 18, 2011 9:18:48 AM
Importance: High

FYI.

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

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

Thanks,
Rich Laufer
415-1661

5551 161

From: [Borchardt, Bill](#)
To: [Schmidt, Rebecca](#)
Subject: Re: I'm in senate chef
Date: Friday, March 18, 2011 9:07:50 AM

So are we
Bill Borchardt
Via blackberry

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

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

Basement of dirksen

555/102

From: [World Nuclear Association](#)
To: [Borchardt, Bill](#)
Subject: WNA Weekly Digest 17 March
Date: Friday, March 18, 2011 9:14:14 AM

17 March 2011

[View email in your browser.](#)



Japanese nuclear accident ongoing

The magnitude 9.0 Miyagiken-Oki earthquake at 2.46 pm on 11 March did considerable damage, and the tsunami it created caused even more. It was centred 130 km offshore of the city of Sendai in Miyagi prefecture on the eastern coast of Honshu Island. Eleven reactors at four nuclear power plants in the region were operating at the time and all shut down automatically when the quake hit. Power was available to run the cooling pumps at most of the units, and they have since achieved cold shutdown. However, at Tepco's Fukushima Daiichi plant, where three reactors were shut down by the earthquake, the emergency diesel generators started as expected but then shut down an hour later when submerged by the tsunami. This sealed the fate of those reactors and led the authorities to order, and subsequently extend, an evacuation while engineers worked to restore power. About nine hours later mobile power supply units had reached the plant and were being connected. Meanwhile units 1-3 had only battery power, insufficient to drive the cooling pumps.

The operating units which shut down were Tepco's Fukushima Daiichi 1, 2, 3, Fukushima Daini 1, 2, 3, 4, Tohoku's Onagawa 1, 2, 3, and Japco's Tokai. Onogawa 1 briefly suffered a fire in the non-nuclear turbine building, but the main problem centred on Fukushima Daiichi units 1-3. First, pressure inside the containment structures increased steadily and led to this being vented to the atmosphere on an ongoing basis. Vented gases and vapour included hydrogen, produced by the exothermic interaction of the fuel's very hot zirconium cladding with water. Later on 12th, there was a hydrogen explosion in the building above unit 1 reactor containment, and another one two days later in unit 3, from the venting as hydrogen mixed with air. Then on 15th, unit 2 ruptured its pressure suppression chamber under the actual reactor, releasing some radioactivity. Inside, water levels had dropped, exposing fuel, and this was addressed by pumping seawater into the reactor pressure vessels. The heat from the fuel is now about 3 MW thermal in unit 1 and 4.5 MW in units 2 & 3.

Then a separate set of problems arose as the spent fuel ponds in the upper part of the reactor structures were found to be depleted in water. In unit 4, the fuel there got hot enough to form hydrogen, and another hydrogen explosion destroyed the top of the building and damaged unit 3's superstructure further. The focus since has been on replenishing the water in the ponds of units 3 and 4, with some success, through the gaps in the roof and cladding. Unit 4 is undergoing maintenance, and all its 548 fuel assemblies are in that pond, along with other new and used fuel, total 1535 assemblies, giving it a heat load of about 3 MW thermal, according to France's IRSN. Unit 3's pool contains 566 fuel assemblies. (There are also 6375 assemblies in undamaged central pool storage on site and 408 in dry cask storage.)

Japan's Nuclear & Industrial Safety Agency eventually declared the accident as Level 5 on INES scale - an accident with wider consequences, the same level as Three Mile Island in 1979. As of early 18 March, no radiation casualties were reported, and few other injuries, though higher than normal doses were being accumulated by several hundred workers on site.

WNN 11-17/3/11. [Japan](#), [Safety of nuclear power plants](#), [Nuclear plants and earthquakes](#)

Ground breaking for new UAE nuclear power plant

A groundbreaking ceremony has been held for the United Arab Emirates' first nuclear power plant at Braka, up the coast towards Qatar. The ceremony was attended by the South Korean president and the crown prince of Abu Dhabi. Four AP-1400 pressurised water reactors, built by a consortium led by Korea Electric Power Co (Kepco), are planned for the site. Full construction is expected to begin in mid-2012. Unit 1 is scheduled to start up in 2017 and unit 2 in 2018.

WNN 17/3/11 [UAE](#)

NB new WNA portal on [Japanese earthquake affecting Fukushima nuclear power plant.](#)

55/103

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From: [World Nuclear News](#)
To: [Borchardt, Bill](#)
Subject: WNN Daily: Spraying continues at Fukushima Daiichi
Date: Friday, March 18, 2011 1:17:14 PM

[View the WNN Daily in your browser.](#)



18 March 2011

REGULATION & SAFETY: [Spraying continues at Fukushima Daiichi](#)

Spraying of reactor buildings continued at Fukushima Daiichi today, while workers tried to make a connection to a nearby transmission line. At least some water was supplied to ponds yesterday, but how much is not known.

REGULATION & SAFETY: [UK advisor reassures on contamination fears](#)

The UK government's chief independent scientific advisor has told the British Embassy in Tokyo that radiation fears from the stricken Fukushima nuclear power plant are a "sideshow" compared with the general devastation caused by the massive earthquake and tsunami that struck on 11 March.

REGULATION & SAFETY: [Insight to Fukushima engineering challenges](#)

Official notices of the accidents at the Fukushima nuclear power plants give insight into the challenges faced by power plant engineers in the aftermath of last week's natural disasters.

INDUSTRY TALK: [ARMZ pulls back from acquisition](#)

The \$1.2 billion acquisition of emerging uranium mining company Mantra Resources by Russia's AtomRedMetZoloto (ARMZ) is in doubt following the serious events at the Fukushima nuclear power plants in Japan.

An archive of all WNN's reporting on the Japanese earthquake and subsequent tsunami and their effects on the Fukushima Daiichi and Daini plants can be found on the [WNA website](#).

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555/104

From: [Weber, Michael](#)
To: [Borchardt, Bill](#)
Cc: [Virgilio, Martin](#)
Subject: HEADS UP - RECEIVED BACKGROUND INFORMATION FOR THE MEETING WITH THE AMBASSADOR
Date: Friday, March 18, 2011 9:03:32 AM

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

Mike

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

301-415-1705
Mail Stop O16E15

555/105

From: [Borchardt, Bill](#)
To: [Ellmers, Glenn](#); [Leeds, Eric](#)
Subject: all hands
Date: Friday, March 18, 2011 6:52:00 AM

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

I hope to back from the hill around noon

555/106

From: [Borchardt, Bill](#)
To: [Ellmers, Glenn](#)
Subject: FW: all employees meeting
Date: Friday, March 18, 2011 6:47:00 AM

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

Bill,

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

Thanks,
Darren

555/107

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New ERF on NEWS, INES Rating: 3, Japan, Power Reactor
Date: Friday, March 18, 2011 5:18:38 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that an Event Rating Form (ERF) for the Event titled:

"Loss of the cooling function to the ultimate heat sink due to the big tsunami"

has as of today, Friday, 18 March 2011, 10:14:53 UTC, been added to the NEWS Web site. Additional information regarding the ERF is as follows:

Country: Japan
Location/Facility: FUKUSHIMA-DAINI-2
Event Type: Power Reactor
Event Date: 2011.03.11

Rating Date: 2011.03.18
ERF Version: Provisional
INES Rating Level: 3

For more detailed information about the ERF, including the related Event and press releases as well as on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

555/108

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New Event on NEWS, Japan, Power Reactor
Date: Friday, March 18, 2011 5:44:49 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that a new Event with the title:

"Loss of the cooling function to the ultimate heat sink due to the big tsunami"

has as of today, Friday, 18 March 2011, 10:17:15 UTC, been added to the NEWS Web site. Additional information regarding the new Event is as follows:

Sender Country: Japan
Date of Event: 2011-03-11
Facility/Place: FUKUSHIMA-DAINI-4

For more detailed information about the Event including related documents, press releases and on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

JJJ/109

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New ERF on NEWS, INES Rating: 3, Japan, Power Reactor
Date: Friday, March 18, 2011 6:33:20 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that an Event Rating Form (ERF) for the Event titled:

"Loss of the cooling function to the ultimate heat sink due to the big tsunami"

has as of today, Friday, 18 March 2011, 10:18:13 UTC, been added to the NEWS Web site. Additional information regarding the ERF is as follows:

Country: Japan
Location/Facility: FUKUSHIMA-DAINI-4
Event Type: Power Reactor
Event Date: 2011.03.11

Rating Date: 2011.03.18
ERF Version: Provisional
INES Rating Level: 3

For more detailed information about the ERF, including the related Event and press releases as well as on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

55/110

From: [Schmidt, Rebecca](#)
To: [Borchardt, Bill](#); [Sheron, Brian](#)
Subject: This morning's briefings
Date: Friday, March 18, 2011 6:44:59 AM

930 am in 406 senate dirksen (same room as hearing). I will meet you in the grill room -isenate chef -i in basement of dirksen in the hallway between dirksen and hart. I will be there around 900.

5/5/11

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New ERF on NEWS, INES Rating: 3, Japan, Power Reactor
Date: Friday, March 18, 2011 6:33:11 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that an Event Rating Form (ERF) for the Event titled:

"Loss of the cooling function to the ultimate heat sink due to the big tsunami"

has as of today, Friday, 18 March 2011, 10:12:38 UTC, been added to the NEWS Web site. Additional information regarding the ERF is as follows:

Country: Japan
Location/Facility: FUKUSHIMA-DAINI-1
Event Type: Power Reactor
Event Date: 2011.03.11

Rating Date: 2011.03.18
ERF Version: Provisional
INES Rating Level: 3

For more detailed information about the ERF, including the related Event and press releases as well as on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

555/112

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New ERF on NEWS, INES Rating: 3, Japan, Power Reactor
Date: Friday, March 18, 2011 5:09:14 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that an Event Rating Form (ERF) for the Event titled:

"Loss of cooling function and water supplying function on the spent fuel pool due to the big tsunami."

has as of today, Friday, 18 March 2011, 10:07:27 UTC, been added to the NEWS Web site. Additional information regarding the ERF is as follows:

Country: Japan
Location/Facility: FUKUSHIMA-DAIICHI-4
Event Type: Power Reactor
Event Date: 2011.03.11

Rating Date: 2011.03.18
ERF Version: Provisional
INES Rating Level: 3

For more detailed information about the ERF, including the related Event and press releases as well as on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

555/113

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New ERF on NEWS, INES Rating: 5, Japan, Power Reactor
Date: Friday, March 18, 2011 5:00:15 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that an Event Rating Form (ERF) for the Event titled:

"The core damage by loss of all cooling function due to the big tsunami."

has as of today, Friday, 18 March 2011, 09:59:34 UTC, been added to the NEWS Web site. Additional information regarding the ERF is as follows:

Country: Japan
Location/Facility: FUKUSHIMA-DAIICHI-3
Event Type: Power Reactor
Event Date: 2011.03.11

Rating Date: 2011.03.18
ERF Version: Provisional
INES Rating Level: 5

For more detailed information about the ERF, including the related Event and press releases as well as on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

555/114

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New Event on NEWS, Japan, Power Reactor
Date: Friday, March 18, 2011 4:57:29 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that a new Event with the title:

"The core damage by loss of all cooling function due to the big tsunami."

has as of today, Friday, 18 March 2011, 09:56:10 UTC, been added to the NEWS Web site. Additional information regarding the new Event is as follows:

Sender Country: Japan
Date of Event: 2011-03-11
Facility/Place: FUKUSHIMA-DAIICHI-3

For more detailed information about the Event including related documents, press releases and on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

555/115

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New ERF on NEWS, INES Rating: 5, Japan, Power Reactor
Date: Friday, March 18, 2011 4:55:20 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that an Event Rating Form (ERF) for the Event titled:

"The core damage by loss of all cooling function due to the big tsunami."

has as of today, Friday, 18 March 2011, 09:54:39 UTC, been added to the NEWS Web site. Additional information regarding the ERF is as follows:

Country: Japan
Location/Facility: FUKUSHIMA-DAIICHI-2
Event Type: Power Reactor
Event Date: 2011.03.11

Rating Date: 2011.03.18
ERF Version: Provisional
INES Rating Level: 5

For more detailed information about the ERF, including the related Event and press releases as well as on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

555/116

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New Event on NEWS, Japan, Power Reactor
Date: Friday, March 18, 2011 4:52:31 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that a new Event with the title:

"The core damage by loss of all cooling function due to the big tsunami."

has as of today, Friday, 18 March 2011, 09:51:46 UTC, been added to the NEWS Web site. Additional information regarding the new Event is as follows:

Sender Country: Japan
Date of Event: 2011-03-11
Facility/Place: FUKUSHIMA-DAIICHI-2

For more detailed information about the Event including related documents, press releases and on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

555/117

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New ERF on NEWS, INES Rating: 5, Japan, Power Reactor
Date: Friday, March 18, 2011 4:50:30 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that an Event Rating Form (ERF) for the Event titled:

"Abnormal rise of radioactive dosage value at site boundary (INES Level 4)"

has as of today, Friday, 18 March 2011, 09:48:34 UTC, been added to the NEWS Web site. Additional information regarding the ERF is as follows:

Country: Japan
Location/Facility: FUKUSHIMA-DAIICHI-1
Event Type: Power Reactor
Event Date: 2011.03.12

Rating Date: 2011.03.12
ERF Version: Provisional
INES Rating Level: 5

For more detailed information about the ERF, including the related Event and press releases as well as on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

553/118

From: [Virgilio, Martin](#)
To: [Borchardt, Bill](#)
Cc: [Weber, Michael](#); [Leeds, Eric](#); [Grobe, Jack](#); [Boger, Bruce](#); [Sheron, Brian](#); [Wiggins, Jim](#); [Dorman, Dan](#); [Zimmerman, Roy](#); [Miller, Charles](#); [Haney, Catherine](#); [Johnson, Michael](#); [Johnson, Michael](#); [Holahan, Gary](#)
Subject: comprehensive review
Date: Friday, March 18, 2011 2:28:41 AM

Bill

I see from the press clips that the President has directed us to conduct a comprehensive review of the safety of the domestic fleet. I did not receive any turnover on that action.

I suggest we consider an approach that would focus on the risk around severe accidents, with a special emphasis on the adequacy of the severe accident management guidelines and 50.54hh2 (B5b) hardware, procedures and training.

An early alignment meeting with the lead office to ensure we agree on the approach will be beneficial.

Marty

555/119

From: [NEWS Automated Mailer](#)
To: NEWS.Contact-Point@iaea.org
Subject: New ERF on NEWS, INES Rating: 3, Japan, Power Reactor
Date: Friday, March 18, 2011 1:35:45 AM

Dear NEWS User,

This is to notify you as a registered user of the NEWS Web site that an Event Rating Form (ERF) for the Event titled:

"Effect to the Nuclear Facilities from the earthquake on east area of Japan"

has as of today, Friday, 18 March 2011, 06:33:54 UTC, been added to the NEWS Web site. Additional information regarding the ERF is as follows:

Country: Japan
Location/Facility: FUKUSHIMA-DAIIC1-1,2 FUKUSHIMA-DAINI-1, Japan
Event Type: Power Reactor
Event Date: 2011.03.11

Rating Date: 2011.03.12
ERF Version: Provisional
INES Rating Level: 3

For more detailed information about the ERF, including the related Event and press releases as well as on-site participation in forum discussions, please visit the NEWS Web site at:

<http://www-news.iaea.org/news/>

NEWS Administration

555/100

From: [Virgilio, Martin](#)
To: [Borchardt, Bill](#)
Cc: [Weber, Michael](#)
Subject: Personnel
Date: Friday, March 18, 2011 12:34:35 AM

Bill

You asked about the original list of NRC managers who could lead the site team in Japan. The original list included: Chuck, Bruce Boger, Dan Dorman and me.

Now that we have some experience in the challenge, I suggest we consider adding a few more names to the list. Mike Weber, Vic McCree, Mark Satorious, Bill Dean, Elmo Collins, Mike Johnson, and Eric Leeds. Deep selects would include: Chris Miller and Fred Brown.

Marty

555/121

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](#); [Jaczek, 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: Media Advisory: Nuclear Regulatory Commission to Hold Public Meeting on NRC Response to Recent Japan Event
Date: Friday, March 18, 2011 4:15:02 PM

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

555/122

From: [Batkin, Joshua](#)
To: [Borchardt, Bill](#)
Subject: Info?!
Date: Friday, March 18, 2011 4:24:47 PM

Joshua C. Batkin
Chief of Staff
Chairman Gregory B. Jaczko
(301) 415-1820

JUST 123

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 7:51 PM
To: Riley (OCA), Timothy
Subject: Re: Press Release: NRC Informs U.S. Nuclear Power Plants on Japan Earthquake's Effects

OK, I heard something about this today.

From: Riley (OCA), Timothy
To: Droggitis, Spiros
Sent: Fri Mar 18 19:25:47 2011
Subject: FW: Press Release: NRC Informs U.S. Nuclear Power Plants on Japan Earthquake's Effects

Spiros,

This question came in and I'm not able to answer it with any of our prepared materials. I'm sending it to you with hopes that in the AM shift you can work to get an answer. I don't think RST is the appropriate source for this and couldn't get a "cleared" response from OPA or anything useful out of the Liaison team lead. I sent a brief note to the staffer saying that INPO is an unaffiliated organization, I provided the hyperlink, and that we would provide a fuller response as soon as possible.

From: Christensen, Adam (Feinstein) [mailto:Adam_Christensen@feinstein.senate.gov]
Sent: Friday, March 18, 2011 6:01 PM
To: Riley (OCA), Timothy
Subject: RE: Press Release: NRC Informs U.S. Nuclear Power Plants on Japan Earthquake's Effects

Hi Tim,

I've heard that there is a body called INPO that coordinates an inventory of equipment within the nuclear industry. In case of an incident... this inventory can be drawn upon to provide rapid response. Do you know more about this? If this exists does NRC have a part in it?

Thanks,
Adam

From: Riley (OCA), Timothy [mailto:Timothy.RileyOCA@nrc.gov]
Sent: Friday, March 18, 2011 5:34 PM
To: Riley (OCA), Timothy
Subject: Press Release: NRC Informs U.S. Nuclear Power Plants on Japan Earthquake's Effects

Please see attached

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 9:18 AM
To: Riley (OCA), Timothy
Subject: RE: Submitted ideas

Yes, they are accepting them. Go ahead.

From: Riley (OCA), Timothy
Sent: Friday, March 18, 2011 9:17 AM
To: Droggitis, Spiros
Subject: Submitted ideas

Spiros,
Did you get any feedback from the RSTs about sending in people's ideas? I have a submission from a constituent, but before I send it to the RSTs I want to make sure they're still accepting them.
Thanks,

Timothy Riley
Congressional Affairs Officer
U. S. Nuclear Regulatory Commission
Office of Congressional Affairs
Phone: 301-415-8492
Blackberry: 202-510-8672

555 / 125

Droggitis, Spiros

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 9:37 AM
To: OCA Distribution
Subject: Operations Center times for next week
Attachments: Operations Center times for next week; Operations Center times for next week

Thanks for the feedback. I have tried to distribute the assignments as equitably as possible.

Monday AM – Spiros PM – Tim
Tuesday AM - Tim PM- Spiros
Wednesday AM - Gene PM- Raeann
Thursday AM - Spiros PM- Raeann
Friday AM - Gene PM - Amy

And of course, if Tom comes on board we could redistribute a little more. I will provide this schedule to the Ops Center to get them off our backs. Thanks, Spiros

JUST 126

Droggitis, Spiros

From: Powell, Amy
Sent: Friday, March 18, 2011 5:36 PM
To: Droggitis, Spiros
Subject: FW: EPA information on radiation

As we discussed, Laura Haynes' reaction to Karen Wayland's comments on today's call.

From: Haynes, Laura (Carper) [mailto:Laura_Haynes@carper.senate.gov]
Sent: Friday, March 18, 2011 3:35 PM
To: Powell, Amy
Cc: Schmidt, Rebecca
Subject: FW: EPA information on radiation

FYI

From: Wayland, Karen [<mailto:Karen.Wayland@mail.house.gov>]
Sent: Friday, March 18, 2011 3:28 PM
To: Haynes, Laura (Carper); Repko, Mary Frances
Subject: Re: EPA information on radiation

Thank you!!

Sent using BlackBerry

From: Haynes, Laura (Carper) <Laura_Haynes@carper.senate.gov>
To: Wayland, Karen; Repko, Mary Frances
Sent: Fri Mar 18 15:18:25 2011
Subject: FW: EPA information on radiation

FYI – I've already sent this information on radiation to the Dems on the Senate side. I've been asking NRC and EPA to put together a simple one pager on radiation since Monday – so Karen I'm glad you asked. EPA's website is really good and is pretty easy to understand.

From: Connolly, Doug (DPCC) [mailto:Doug_Connolly@DPCC.SENATE.GOV]
Sent: Thursday, March 17, 2011 5:44 PM
To: DPC-ENVIRONMENTENERGY@DEMOCRATIC-MESSAGE-CENTER.SENATE.GOV
Subject: EPA information on radiation

Forwarded at the request of Sen. Carper's office

Many of you have asked about information on radiation because of the recent nuclear emergency in Japan. Although the Nuclear Regulatory Commission does not expect the United States to see harmful radiation levels in this country, I wanted to pass along some useful information.

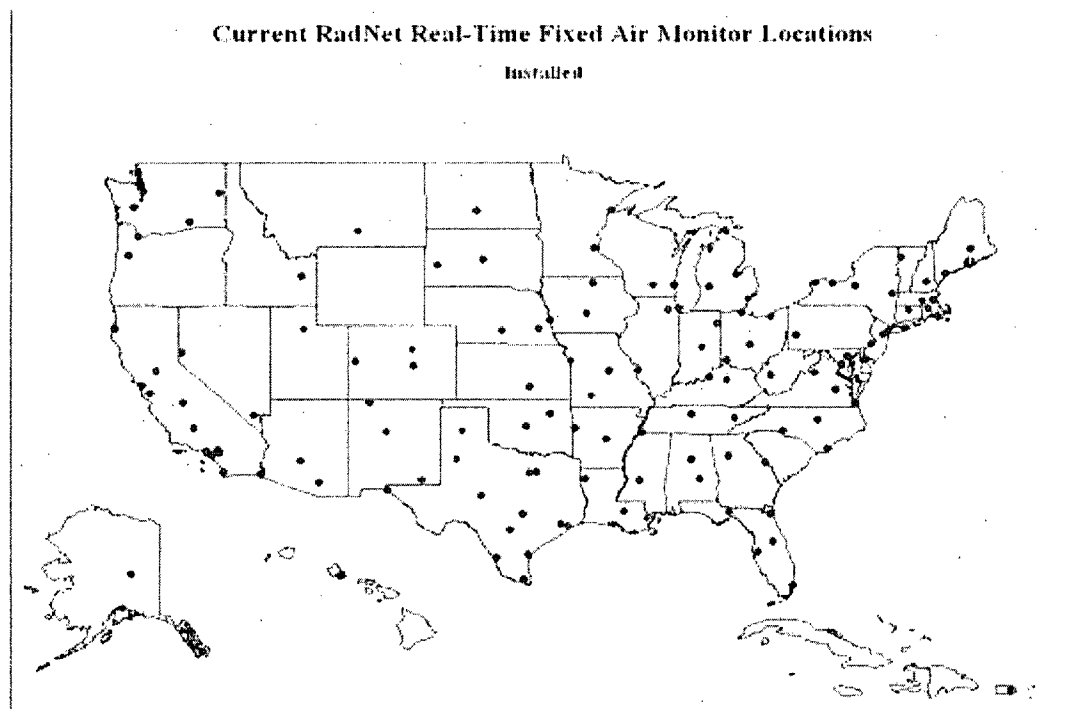
You may know, the EPA has a nationwide radiation monitoring system, RadNet, which continuously monitors the nation's air and regularly monitors drinking water, milk and precipitation for environmental radiation. The network contains approximately 100 air monitors across the United States and 40 deployable air monitors that

can be sent to take readings anywhere in the country. These monitors are delivering data in real-time. A map of these monitors is below.

The EPA recently updated their main radiation info link – it now has a ton of information on radiation and information about what's happening because of the Japan nuclear crisis. That link is: <http://epa.gov/radiation/>

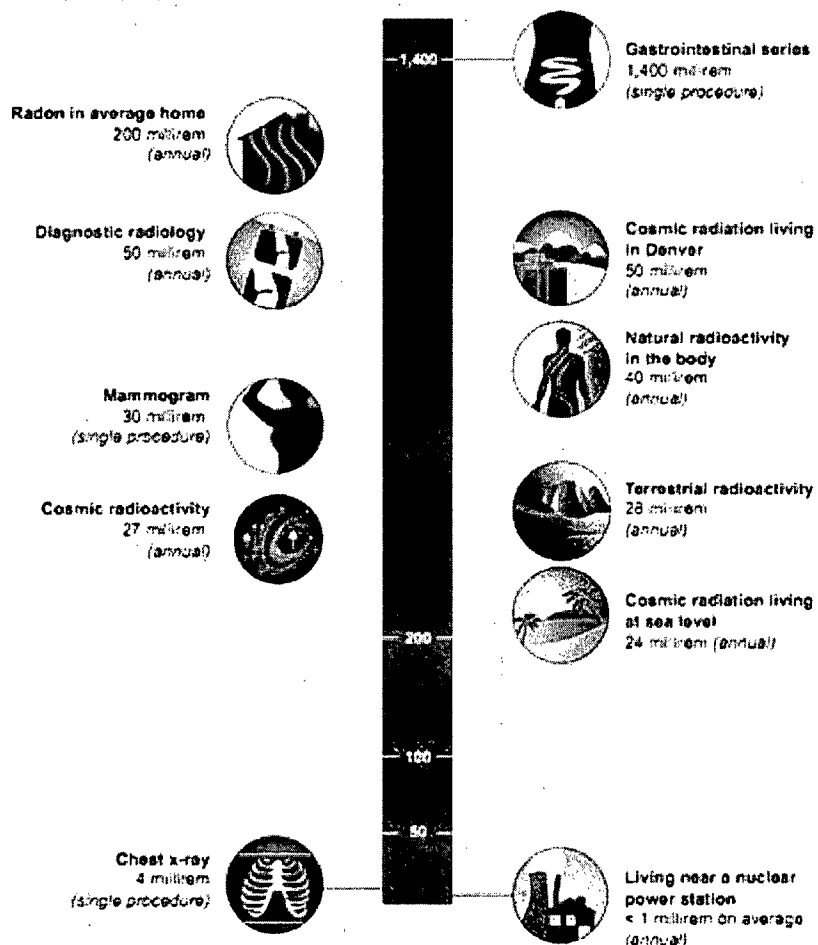
I also wanted to share an EPA link specifically for the Japan nuclear crisis: <http://epa.gov/radiation/japan-faqs.html>.

And finally, included in this email is a diagram from the EPA that puts lower levels of radiation in perspective. Let me know if you have any questions.



RELATIVE DOSES FROM RADIATION SOURCES

Millirem Doses



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Friday, March 18, 2011

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NRC Warning On Japan Nuclear Accident Raise Doubts On EPA Guidelines

Posted: March 17, 2011

Nuclear Regulatory Commission (NRC) calls for Americans in Japan to take extra precautions to prevent radiation exposure are raising questions about EPA's corresponding guidelines for domestic nuclear power plant disasters and are adding to existing concerns about the agency's limited role in the Japanese crisis.

NRC on March 16 issued a statement urging Americans in Japan to evacuate if they were within 50 miles of the ailing Fukushima reactors.

But EPA's manual of protective action guides (PAGs) for nuclear incidents -- which the agency published in 1992 -- calls for only a 10-mile emergency planning zone if a similar nuclear power plant disaster occurred in the U.S. Similarly, the NRC and the Federal Emergency Management Agency (FEMA) only require nuclear power plant operators to develop evacuation plans for a 10-mile area surrounding their plants.

NRC's recommendation for a wider evacuation area for Americans in Japan is underscoring environmentalists' long-standing argument that EPA's PAGs and the NRC requirements are inadequate, activists say. "NRC should not be making different statements for Americans abroad than for Americans at home," Ed Lyman, of the activist group Union of Concerned Scientists, said during a March 17 conference call on the Japan crisis.

EPA in recent years has been trying to amend the PAGs, but a draft of the proposed changes obtained by *Inside EPA* in 2007 also recommended a 10-mile emergency planning zone. The draft created a firestorm amongst environmentalists and some EPA and state officials for other reasons, including that it suggested cleanup and drinking water guidelines dramatically less protective than the agency's traditional regulations and guidelines.

In addition to concerns about the size of the evacuation area NRC is recommending, the fact that NRC is the federal agency making such announcements is adding to environmentalists' concerns that NRC is fulfilling a role in the crisis that EPA should be handling.

EPA traditionally relies on more stringent radiation guidelines than NRC and other federal agencies, and activists fear limiting EPA's role is part of a political maneuver designed to allow the Obama administration to continue its support for domestic nuclear power expansion.

While NRC's main responsibilities are to license and regulate domestic nuclear power plants, EPA is meant to be "the Coordinating Federal Agency for the U.S. government's response to foreign nuclear accidents," according to information long available on the agency's website. Further, the Nuclear/Radiological Incident Annex to the federal government's National Response Framework says EPA is the lead agency in dealing with foreign nuclear incidents, except in "certain areas of the coastal zone" that would be handled by the Coast Guard.

An EPA spokesman did not respond to multiple requests for comment, but EPA quietly posted a statement on its website March 15 saying that, as the NRC "has said, we do not expect to see radiation at harmful levels reaching the U.S. from damaged Japanese nuclear power plants."

Environmentalists' concerns about EPA's role come as the Obama administration has agreed to a request from Sens. Barbara Boxer (D-CA) and Thomas Carper (D-DE) to review the ability of domestic nuclear facilities to withstand natural disasters.

"Any time there's a significant event like this anywhere in the world, or even something like this in the United States, we're going to take a look at what happened, we're going to do a systematic and a methodical review of the information, and if we need to make changes to our program we'll make changes to our program," NRC Chairman Greg Jaczko told reporters at the White House March 17.

J551128

EPA Support For NRC 'Outrageous'

An environmentalist calls EPA's endorsement of NRC's position that radiation is unlikely to reach the U.S. at harmful levels "outrageous" given that EPA's "official position for decades [has been] that there is no safe level of" radiation. In addition, the EPA statement does not make a distinction between short-term harms, such as radiation sickness and deaths, and long-term harms like latent cancers, the second activist notes.

"Are they misleading people by merely saying that no radiation at levels sufficient to produce acute radiation syndrome will reach here?" the activist asks. "They know perfectly well the cloud of radiation is so intense that if it reaches the U.S. there will be cancers."

That EPA is quietly endorsing NRC's position is, in the second activists' view, worse than if EPA had made no statement at all, because it suggests a precedent under which EPA is willing -- during such nuclear incidents -- to defer to the NRC, which relies on significantly less stringent radiation standards than EPA.

The activist notes that in a March 15 statement, NRC suggests that radiation dose limits as high as 1,000 millirem to the entire body and 5,000 millirem to the thyroid are acceptable. While EPA's PAGs suggest similar guidelines in emergency situations, such levels would "certainly not be acceptable in normal times," the activist, says, noting that EPA, under its uranium fuel cycle rules, normally does not permit exposures from nuclear power plants above 25 millirem for the entire body and 75 millirem for the thyroid.

In addition, environmentalists continue to be frustrated by a lack of available data from EPA and other federal agencies regarding levels of radiation approaching U.S. soil. EPA says in its March 15 statement that it is conducting monitoring to collect such data and that the data is publicly available, but agency officials have not explained how to access the data. - *Douglas P. Guarino*

Related News: Energy Waste

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<http://markey.house.gov>

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

March 18, 2011

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

Dear Chairman Jaczko:

I write to request information regarding the Nuclear Regulatory Commission's (NRC's) current assessments of damage as well as an assessment of the potential worst-case consequences associated with the current nuclear emergency in Japan. As reports have noted, there has been some conflicting information regarding the status of the meltdowns and condition of the spent nuclear fuel ponds at the Fukushima Daiichi nuclear power plant.

As you know, focus of late has shifted to two questions: First, whether containment has been breached at any of the units, and second, whether there remains water (and if so how much) in the spent nuclear fuel ponds, especially in units 3 and 4. However, conflicting information is being provided by different parties.

For example, in your testimony in front of the House Energy and Commerce Committee on Wednesday, you indicated, with regard to unit 4, that you believed that "There is no water in the spent fuel pool and we believe that radiation levels are extremely high, which could possibly impact the ability to take corrective measures."

Following your statement, representatives from Tokyo Electric Power Company (TEPCO), the plant's operator stated that "We can't get inside to check, but we've been carefully watching the building's environs, and there has not been any particular problem," Hajime Motojuku, a spokesman for Tokyo Electric, said Thursday morning in Japan. After that, a spokesman for Japan's Nuclear and Industrial Safety Agency (NISA) said that, "Because we have been unable to go to the scene, we cannot confirm whether there is water left or not in the spent fuel pool at Reactor No. 4."¹ Later that evening, a press release issued by the Nuclear Energy Institute (NEI) stated that both TEPCO and NISA had refuted your statement, and that the spokesmen had stated that "the situation at

¹ <http://www.nytimes.com/2011/03/18/world/asia/18nuclear.html?pagewanted=2&hp>

555/129

Unit 4 has changed little during the day today and water remained in the fuel pool. However, both officials said that the reactor had not been inspected in recent hours.”²

A similar situation exists with respect to the extent of damage to the containment structures of units 2 and 3. Numerous press reports have speculated that the hydrogen explosions experienced at these units may have created a path for radioactive materials to escape containment. One of these reports³ states that officials have concluded that “the chambers surrounding units 2 and 3 now have been cracked, allowing radiation to escape.” During a conference call on March 17 with Congressional staff, NRC staff indicated that the NRC believes that there has been a breach in or damage to the primary and/or secondary containment structures in units 1, 2 and 3. Yet earlier that day, the NEI released a statement⁴ that said (in part), on the Fukushima Daiichi plant, that:

“The reactors at the Fukushima Daiichi plant are in stable condition and are being cooled with seawater, but workers at the plant continue efforts to add cooling water to fuel pools at reactors 3 and 4.... Reactor 2 is in stable condition with seawater injection continuing. The reactor’s primary containment may not have been breached, Tokyo Electric Power Co. and World Association of Nuclear Operators officials said on Thursday. Containment pressure is at 65 psig, an indication that containment has not been breached. Access problems at the site have delayed connection of a temporary cable to restore offsite electricity. The connection will provide power to the control rod drive pump, instrumentation, batteries, and power to the control room. Power has not been available at the site since the earthquake on March 11. Reactor 3 is in stable condition with seawater injection continuing. The primary containment is believed to be intact. Pressure in the containment has fluctuated due to venting of the reactor containment structure, but has been as high as 83 psig.”

The information that is being received on a daily basis by Congress is currently limited to daily emails from the State Department, which contains some information related to the nuclear crisis in addition to the earthquake and tsunami relief and consular information provided. This is supplemented by multiple daily emails from the NEI, which as the principal trade association for manufacturers of nuclear power-plants, equipment, nuclear fuel, and owners of utilities which own nuclear plants (including Tokyo Electric Power, which owns the Fukushima Daiichi plants), has a clear vested interest in providing a highly optimistic assessment of the situation.

Now that NRC staff is on the ground in Japan, it is my hope that it will be able to add to the information that is currently being provided to Congress and the public on a daily basis. While I appreciate the daily conference calls your staff has begun to hold, I

² NEI’s **Update 9:00pm March 16** Information on the Japanese Earthquake and Reactors in that Region

³ <http://www.voanews.com/english/news/asia/IAEA-Chief-Heads-to-Japan-to-Assess-Nuclear-Crisis-118105754.html>

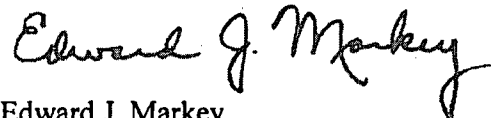
⁴ NEI’s Update 11:45am March 17 Information on the Japanese Earthquake and Reactors in that Region

believe that it is vitally important to all those who may be considering leaving the vicinity of the impacted reactors to be receiving accurate and unbiased written assessment of current conditions. It is also important that the American public fully understand the potential magnitude and timing associated with a worst-case core melt-down and radiation release or spent fuel fire. Members of Congress must also be kept similarly informed so that they can assist any of their constituents who may have family members currently in the impacted areas and so that they can continue their oversight efforts in assuring the safety of our domestic nuclear reactors. Consequently, I ask for your prompt response to the following questions:

- 1) I request that you please begin to provide Congress and the public with a daily "situation report" or other similar document that contains your staff's assessment of the conditions at the impacted reactors, the radiation readings at each unit, the status of efforts to halt the melt-downs and radiation releases from the spent-fuel storage areas, and any reports of radiation exposures experienced by those working at or located in the vicinity of the impacted reactors.
- 2) Please provide me with your assessment of the worst-case potential consequences (including the total radiation that could be released as well as the possible timing for such an event based on current situational awareness), for each of the Daiichi units regarding
 - a. The loss of water in the spent fuel cooling ponds and subsequent fire and/or release of radiation
 - b. A full core melt-down assuming that no further breaches in containment occur
 - c. A full core melt-down assuming that the containment structures are breached.

Thank you very much for your prompt attention to this matter. Please provide me with your initial response to question 1 by close of business on Monday March 21, 2011 and on an ongoing basis thereafter. Please provide me with your response to question 2 by Friday March 25, 2011. If you have any questions or concerns, please have your staff call Dr. Michal Freedhoff of my staff at 202-225-2836.

Sincerely,

A handwritten signature in black ink that reads "Edward J. Markey". The signature is written in a cursive, flowing style.

Edward J. Markey

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 5:05 PM
To: Leeds, Eric
Subject: Fw: New Markey letter
Attachments: 03-18-11EJMtoNRCworstcase.pdf

From: Powell, Amy
To: Quesenberry, Jeannette
Cc: Belmore, Nancy; Droggitis, Spiros
Sent: Fri Mar 18 12:19:56 2011
Subject: New Markey letter

A new one – please get to SECY

Thanks,
Amy

COMMITTEES

NATURAL RESOURCES
RANKING DEMOCRAT

ENERGY AND COMMERCE

EDWARD J. MARKEY
7TH DISTRICT, MASSACHUSETTS

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WASHINGTON, DC 20515-2107
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(508) 875-2900

<http://markey.house.gov>

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

March 18, 2011

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

Dear Chairman Jaczko:

I write to request information regarding the Nuclear Regulatory Commission's (NRC's) current assessments of damage as well as an assessment of the potential worst-case consequences associated with the current nuclear emergency in Japan. As reports have noted, there has been some conflicting information regarding the status of the meltdowns and condition of the spent nuclear fuel ponds at the Fukushima Daiichi nuclear power plant.

As you know, focus of late has shifted to two questions: First, whether containment has been breached at any of the units, and second, whether there remains water (and if so how much) in the spent nuclear fuel ponds, especially in units 3 and 4. However, conflicting information is being provided by different parties.

For example, in your testimony in front of the House Energy and Commerce Committee on Wednesday, you indicated, with regard to unit 4, that you believed that "There is no water in the spent fuel pool and we believe that radiation levels are extremely high, which could possibly impact the ability to take corrective measures."

Following your statement, representatives from Tokyo Electric Power Company (TEPCO), the plant's operator stated that "We can't get inside to check, but we've been carefully watching the building's environs, and there has not been any particular problem," Hajime Motojuku, a spokesman for Tokyo Electric, said Thursday morning in Japan. After that, a spokesman for Japan's Nuclear and Industrial Safety Agency (NISA) said that, "Because we have been unable to go to the scene, we cannot confirm whether there is water left or not in the spent fuel pool at Reactor No. 4."¹ Later that evening, a press release issued by the Nuclear Energy Institute (NEI) stated that both TEPCO and NISA had refuted your statement, and that the spokesmen had stated that "the situation at

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Unit 4 has changed little during the day today and water remained in the fuel pool. However, both officials said that the reactor had not been inspected in recent hours.”²

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³ <http://www.voanews.com/english/news/asia/IAEA-Chief-Heads-to-Japan-to-Assess-Nuclear-Crisis-118105754.html>

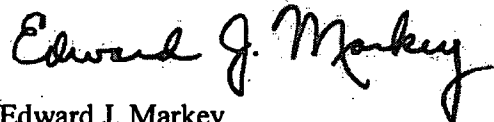
⁴ NEI’s Update 11:45am March 17 Information on the Japanese Earthquake and Reactors in that Region

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Sincerely,



Edward J. Markey

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 3:23 PM
To: Powell, Amy
Subject: Re: Note for Japan list

Are we going to be able to get info for Pelosi?

From: Powell, Amy
To: Droggitis, Spiros; Schmidt, Rebecca
Sent: Fri Mar 18 15:22:22 2011
Subject: RE: Note for Japan list

Yep. Both here with Raeann and David

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 3:22 PM
To: Powell, Amy; Schmidt, Rebecca
Subject: Re: Note for Japan list

Are you on? We have some take aways.

From: Powell, Amy
To: Riley (OCA), Timothy
Cc: Schmidt, Rebecca; Decker, David; Shane, Raeann; Quesenberry, Jeannette; Belmore, Nancy; Droggitis, Spiros; Dacus, Eugene; Weil, Jenny
Sent: Fri Mar 18 15:19:51 2011
Subject: Note for Japan list

Tim –

Would you copy and paste the notice below into an e-mail to the Japan list?

Thanks,
Amy

**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>.

The notice for this meeting is posted at <http://www.nrc.gov/public-involve/public-meetings/index.cfm?fuseaction=Search.Detail&MC=20110236&NS=0&CFID=1241102&CFTOKEN=944958>

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

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 11:01 AM
To: Dacus, Eugene; Powell, Amy; Schmidt, Rebecca
Subject: RE: Today's 3:00 Call

Mike Johnson. We need someone for Saturday and Sunday though.

From: Dacus, Eugene
Sent: Friday, March 18, 2011 11:01 AM
To: Droggitis, Spiros; Powell, Amy; Schmidt, Rebecca
Subject: Today's 3:00 Call

Being asked who will be the NRC lead for today.

From: Powell, Amy
Sent: Friday, March 18, 2011 10:40 AM
To: OCA Distribution
Subject: Earthquake talking points
Attachments: Seismic Questions for Incident Response 3-18-11 5am.pdf

Attached are talking points from OPA, updated as of this morning, on earthquake issues.

I have a few other updated products that OPA is using that I will forward in separate e-mails. These are NOT to be shared wholesale as an attachment to the Hill, but may be helpful in fielding questions.

Stay tuned for more,
Amy

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

From: McIntyre, David
Sent: Friday, March 18, 2011 10:30 AM
To: Powell, Amy
Subject: earthquake talking points

An updated and expanded version from this morning!

JJJ/133

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 10:27 AM
To: Hass.Bram@epamail.epa.gov
Subject: RE: Article NRC vs. EPA guidelines

Thanks, interesting.

From: Hass.Bram@epamail.epa.gov [mailto:Hass.Bram@epamail.epa.gov]
Sent: Friday, March 18, 2011 8:30 AM
To: Droggitis, Spiros
Subject: Article NRC vs. EPA guidelines

Following up on our conversation earlier this morning, I thought you'd find this article interesting if you haven't already seen it. I suspect you're already aware of this disconnect. I plan to bring it to the attention of one of my colleagues here who is doing some background research that might be related--he had printed out a very old (Sept. 1994) GAO report Nuclear Health and Safety: Consensus on Acceptable Radiation Risk to the Public Is Lacking (<http://archive.gao.gov/t2pbat2/152798.pdf>)
If you share the article, please cut and past (without my e-mail address--thanks!)

From: Droggitis, Spiros
Sent: Tuesday, March 15, 2011 4:56 PM
To: Ethan.Rosenkranz@mail.house.gov
Cc: Weil, Jenny
Subject: Most up-to-date information
Attachments: 11-046.docx; 11-049.docx

<http://www.whitehouse.gov/blog/2011/03/13/ongoing-response-earthquakes-and-tsunami-japan>

555/135



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

Office of Public Affairs

Telephone: 301/415-8200

Washington, D.C. 20555-0001

E-mail: opa.resource@nrc.gov Site: www.nrc.gov

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

No. 11-049

March 15, 2011

NRC ANALYSIS CONTINUES TO SUPPORT JAPAN'S PROTECTIVE ACTIONS

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

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

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

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

###

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.



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. 11-046

March 13, 2011

(Revised)

NRC SEES NO RADIATION AT HARMFUL LEVELS REACHING U.S. FROM DAMAGED JAPANESE NUCLEAR POWER PLANTS

The Nuclear Regulatory Commission is coordinating with the Department of Energy and other federal agencies in providing whatever assistance the Japanese government requests as they respond to conditions at several nuclear power plant sites following the March 11 earthquake and tsunami. The NRC has sent two boiling-water reactor experts to Japan as part of a U.S. Agency for International Development team.

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

During a nuclear event the NRC has requirements to protect populations around reactors. For instance, the U.S. evacuation standard at 10 miles is roughly equivalent to the 20-kilometer distance recommended in Japan. The United States also uses sheltering in place and potassium iodide, protective measures also available in Japan. United States citizens in Japan are encouraged to follow the protective measures recommended by the Japanese government. These measures appear to be consistent with steps the United States would take.

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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From: [The Washington Post](#)
To: [Hayden, Elizabeth](#)
Subject: Breaking News: Explosion heard at damaged nuclear reactor, Japanese officials say
Date: Monday, March 14, 2011 7:24:13 PM

Breaking News Alert: Japanese officials: Explosion heard at damaged nuclear reactor
March 14, 2011 7:21:06 PM

An explosion was heard at 6:10 a.m. Tuesday at a damaged reactor at the Fukushima Daiichi nuclear complex, the Japanese nuclear safety agency said.

Officials said earlier that four out of five pumps being used to flood the unit 2 reactor had failed and that the other pump had briefly stopped working, hastening the meltdown of fuel rods that at one point were fully exposed. Two explosions occurred in other reactors at the complex, one on Monday and one on Saturday.

<http://link.email.washingtonpost.com/r/KYNZS9/BMKP8V/72891O/834BK8/93SS1/E4/h>

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JIT/136

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 10:44 AM
To: Powell, Amy; OCA Distribution
Subject: RE: Earthquake talking points

I did not realize the "talking points" are 85 pages. I mistakenly printed out a copy if anyone wants to use it.

From: Powell, Amy
Sent: Friday, March 18, 2011 10:40 AM
To: OCA Distribution
Subject: Earthquake talking points

Attached are talking points from OPA, updated as of this morning, on earthquake issues.

I have a few other updated products that OPA is using that I will forward in separate e-mails. These are NOT to be shared wholesale as an attachment to the Hill, but may be helpful in fielding questions.

Stay tuned for more,
Amy

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

From: McIntyre, David
Sent: Friday, March 18, 2011 10:30 AM
To: Powell, Amy
Subject: earthquake talking points

An updated and expanded version from this morning!

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 9:37 AM
To: OCA Distribution
Subject: Operations Center times for next week
Attachments: Operations Center times for next week; Operations Center times for next week

Thanks for the feedback. I have tried to distribute the assignments as equitably as possible.

Monday AM – Spiros PM – Tim
Tuesday AM - Tim PM- Spiros
Wednesday AM - Gene PM- Raeann
Thursday AM - Spiros PM- Raeann
Friday AM - Gene PM - Amy

And of course, if Tom comes on board we could redistribute a little more. I will provide this schedule to the Ops Center to get them off our backs. Thanks, Spiros

555/1138

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 5:44 PM
To: Milligan, Patricia
Subject: Re: Fact Sheet ?

Thanks

From: Milligan, Patricia
To: Droggitis, Spiros
Sent: Fri Mar 18 17:42:28 2011
Subject: RE: Fact Sheet ?

I think this does a good job

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 5:40 PM
To: Milligan, Patricia
Subject: Fact Sheet ?

<http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/bio-effects-radiation.html>

Is this the one?

From: Droggitis, Spiros
Sent: Friday, March 18, 2011 10:32 AM
To: Schmidt, Rebecca; Powell, Amy; Brenner, Eliot; Harrington, Holly; Burnell, Scott; McIntyre, David
Subject: NRC Warning On Japan Nuclear Accident Raise Doubts On EPA Guidelines
Attachments: 3-18-11 article--NRC warnings raise doubts about EPA guidelines.pdf

Interesting article from Inside EPA which we may be hearing more about. An EPA guy who I see on the bus in the morning sent it to me.

555/140

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Friday, March 18, 2011

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NRC Warning On Japan Nuclear Accident Raise Doubts On EPA Guidelines

Posted: March 17, 2011

Nuclear Regulatory Commission (NRC) calls for Americans in Japan to take extra precautions to prevent radiation exposure are raising questions about EPA's corresponding guidelines for domestic nuclear power plant disasters and are adding to existing concerns about the agency's limited role in the Japanese crisis.

NRC on March 16 issued a statement urging Americans in Japan to evacuate if they were within 50 miles of the ailing Fukushima reactors.

But EPA's manual of protective action guides (PAGs) for nuclear incidents -- which the agency published in 1992 -- calls for only a 10-mile emergency planning zone if a similar nuclear power plant disaster occurred in the U.S. Similarly, the NRC and the Federal Emergency Management Agency (FEMA) only require nuclear power plant operators to develop evacuation plans for a 10-mile area surrounding their plants.

NRC's recommendation for a wider evacuation area for Americans in Japan is underscoring environmentalists' long-standing argument that EPA's PAGs and the NRC requirements are inadequate, activists say. "NRC should not be making different statements for Americans abroad than for Americans at home," Ed Lyman, of the activist group Union of Concerned Scientists, said during a March 17 conference call on the Japan crisis.

EPA in recent years has been trying to amend the PAGs, but a draft of the proposed changes obtained by *Inside EPA* in 2007 also recommended a 10-mile emergency planning zone. The draft created a firestorm amongst environmentalists and some EPA and state officials for other reasons, including that it suggested cleanup and drinking water guidelines dramatically less protective than the agency's traditional regulations and guidelines.

In addition to concerns about the size of the evacuation area NRC is recommending, the fact that NRC is the federal agency making such announcements is adding to environmentalists' concerns that NRC is fulfilling a role in the crisis that EPA should be handling.

EPA traditionally relies on more stringent radiation guidelines than NRC and other federal agencies, and activists fear limiting EPA's role is part of a political maneuver designed to allow the Obama administration to continue its support for domestic nuclear power expansion.

While NRC's main responsibilities are to license and regulate domestic nuclear power plants, EPA is meant to be "the Coordinating Federal Agency for the U.S. government's response to foreign nuclear accidents," according to information long available on the agency's website. Further, the Nuclear/Radiological Incident Annex to the federal government's National Response Framework says EPA is the lead agency in dealing with foreign nuclear incidents, except in "certain areas of the coastal zone" that would be handled by the Coast Guard.

An EPA spokesman did not respond to multiple requests for comment, but EPA quietly posted a statement on its website March 15 saying that, as the NRC "has said, we do not expect to see radiation at harmful levels reaching the U.S. from damaged Japanese nuclear power plants."

Environmentalists' concerns about EPA's role come as the Obama administration has agreed to a request from Sens. Barbara Boxer (D-CA) and Thomas Carper (D-DE) to review the ability of domestic nuclear facilities to withstand natural disasters.

"Any time there's a significant event like this anywhere in the world, or even something like this in the United States, we're going to take a look at what happened, we're going to do a systematic and a methodical review of the information, and if we need to make changes to our program we'll make changes to our program," NRC Chairman Greg Jaczko told reporters at the White House March 17.

EPA Support For NRC 'Outrageous'

An environmentalist calls EPA's endorsement of NRC's position that radiation is unlikely to reach the U.S. at harmful levels "outrageous" given that EPA's "official position for decades [has been] that there is no safe level of" radiation. In addition, the EPA statement does not make a distinction between short-term harms, such as radiation sickness and deaths, and long-term harms like latent cancers, the second activist notes.

"Are they misleading people by merely saying that no radiation at levels sufficient to produce acute radiation syndrome will reach here?" the activist asks. "They know perfectly well the cloud of radiation is so intense that if it reaches the U.S. there will be cancers."

That EPA is quietly endorsing NRC's position is, in the second activists' view, worse than if EPA had made no statement at all, because it suggests a precedent under which EPA is willing -- during such nuclear incidents -- to defer to the NRC, which relies on significantly less stringent radiation standards than EPA.

The activist notes that in a March 15 statement, NRC suggests that radiation dose limits as high as 1,000 millirem to the entire body and 5,000 millirem to the thyroid are acceptable. While EPA's PAGs suggest similar guidelines in emergency situations, such levels would "certainly not be acceptable in normal times," the activist, says, noting that EPA, under its uranium fuel cycle rules, normally does not permit exposures from nuclear power plants above 25 millirem for the entire body and 75 millirem for the thyroid.

In addition, environmentalists continue to be frustrated by a lack of available data from EPA and other federal agencies regarding levels of radiation approaching U.S. soil. EPA says in its March 15 statement that it is conducting monitoring to collect such data and that the data is publicly available, but agency officials have not explained how to access the data. - *Douglas P. Guarino*

Related News: Energy Waste

2358136

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From: Droggitis, Spiros
Sent: Friday, March 18, 2011 11:08 AM
To: Shane, Raeann
Subject: From an EPA guy I see on the bus in the morning
Attachments: 3-18-11 article--NRC warnings raise doubts about EPA guidelines.pdf

555/141

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Posted: March 17, 2011

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Related News: Energy Waste

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From: [Borchardt, Bill](#)
To: [Wiggins, Jim](#)
Subject: Re: I need that info now please
Date: Friday, March 18, 2011 5:46:16 PM

Mission accomplished.
Bill Borchardt
Via blackberry

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

From: Wiggins, Jim
To: Borchardt, Bill
Sent: Fri Mar 18 17:37:44 2011
Subject: RE: I need that info now please

Didn't see this until 5:35. Bruce Boger had the watch by then. Hope it got thru.

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

From: Borchardt, Bill
Sent: Friday, March 18, 2011 4:36 PM
To: Batkin, Joshua; HOO Hoc; Wiggins, Jim; Miller, Charles
Subject: Re: I need that info now please

Don't have electronic version.
Can ops ctr help?
Bill Borchardt
Via blackberry

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

From: Batkin, Joshua
To: Borchardt, Bill
Sent: Fri Mar 18 16:33:35 2011
Subject: Re: I need that info now please

Email me please asap

Joshua C. Batkin
Chief of Staff
Chairman Gregory B. Jaczko
(301) 415-1820

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

From: Borchardt, Bill
To: Batkin, Joshua
Sent: Fri Mar 18 16:32:44 2011
Subject: Re: I need that info now please

I have it in hand but we're probably 15 min away (min). The ops ctr tells me that the written list of materials for Bechtel approach has been discussed but not shared in Japan.

Bill Borchardt
Via blackberry

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

From: Batkin, Joshua
To: Wiggins, Jim; Borchardt, Bill; Coggins, Angela; HOO Hoc
Sent: Fri Mar 18 16:28:55 2011
Subject: I need that info now please

355/142

Joshua C. Batkin
Chief of Staff
Chairman Gregory B. Jaczko
(301) 415-1820

From: [Batkin, Joshua](#)
To: [Borchardt, Bill](#)
Subject: Re: I need that info now please
Date: Friday, March 18, 2011 4:35:52 PM

Email it to me and drive like the wind!

Joshua C. Batkin
Chief of Staff
Chairman Gregory B. Jaczko
(301) 415-1820

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

From: Borchardt, Bill
To: Batkin, Joshua
Sent: Fri Mar 18 16:32:44 2011
Subject: Re: I need that info now please

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Via blackberry

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

From: Batkin, Joshua
To: Wiggins, Jim; Borchardt, Bill; Coggins, Angela; HOO Hoc
Sent: Fri Mar 18 16:28:55 2011
Subject: I need that info now please

Joshua C. Batkin
Chief of Staff
Chairman Gregory B. Jaczko
(301) 415-1820

555 / 143

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](#); [Chandrabhil, Prema](#); [Clark, Theresa](#); [Collins, Elmo](#); [Courret, 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](#); [Jaczo, 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, Jeffrey](#); [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
Date: Friday, March 18, 2011 4:26:34 PM
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

333/144



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

Office of Public Affairs

Telephone: 301/415-8200

Washington, D.C. 20555-0001

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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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From: [Batkin, Joshua](#)
To: [Borchardt, Bill](#)
Subject: Re: I need that info now please
Date: Friday, March 18, 2011 4:46:41 PM

Come to ambassador's office. The meeting is waiting on your info to end.

Joshua C. Batkin
Chief of Staff
Chairman Gregory B. Jaczko
(301) 415-1820

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

From: Borchardt, Bill
To: Batkin, Joshua; HOO Hoc; Wiggins, Jim; Miller, Charles
Sent: Fri Mar 18 16:35:57 2011
Subject: Re: I need that info now please

Don't have electronic version.
Can ops ctr help?
Bill Borchardt
Via blackberry

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

From: Batkin, Joshua
To: Borchardt, Bill
Sent: Fri Mar 18 16:33:35 2011
Subject: Re: I need that info now please

Email me please asap

Joshua C. Batkin
Chief of Staff
Chairman Gregory B. Jaczko
(301) 415-1820

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

From: Borchardt, Bill
To: Batkin, Joshua
Sent: Fri Mar 18 16:32:44 2011
Subject: Re: I need that info now please

I have it in hand but we're probably 15 min away (min). The ops ctr tells me that the written list of materials for Bechtel approach has been discussed but not shared in Japan.
Bill Borchardt
Via blackberry

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

From: Batkin, Joshua
To: Wiggins, Jim; Borchardt, Bill; Coggins, Angela; HOO Hoc
Sent: Fri Mar 18 16:28:55 2011
Subject: I need that info now please

Joshua C. Batkin
Chief of Staff
Chairman Gregory B. Jaczko

555/145

(301) 415-1820

From: [Batkin, Joshua](#)
To: [Borchardt, Bill](#)
Subject: Eta?
Date: Friday, March 18, 2011 4:49:51 PM

Joshua C. Batkin
Chief of Staff
Chairman Gregory B. Jaczko
(301) 415-1820

333140

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](#); [Courret, 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](#); [Jaczek, 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
Date: Friday, March 18, 2011 5:13:21 PM
Attachments: [11-052.pdf](#)

Attached for immediate release.

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

355/147



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

Office of Public Affairs

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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.

###

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From: Droggitis, Spiros
Sent: Saturday, March 19, 2011 9:17 AM
To: Leeds, Eric
Cc: Riley (OCA), Timothy
Subject: Japan link on NRC webpage

<http://www.nrc.gov/>

Eric: We now have a link in the upper right hand corner on Japan. I think it is pretty good and has links to other agencies like DOE and EPA which take you right to their radiation monitoring activities, etc. It may be worth mentioning that at the 3:00 pm call as an avenue for constituents to get basic information.

5551148

LIA12 Hoc

From: RMTPACTSU_ELNRC [RMTPACTSU_ELNRC@ofda.gov]
Sent: Saturday, March 19, 2011 9:39 AM
To: LIA11 Hoc; LIA01 Hoc; LIA02 Hoc; LIA02 Hoc; LIA08 Hoc; LIA12 Hoc; LIA04 Hoc; Harrington, Holly; McIntyre, David; Burnell, Scott; Marshall, Jane; ET07 Hoc
Subject: UPDATED: Japan EQ Press Guidance
Attachments: 110318 0900 EDT Japan EQ Press Guidance.doc

Subject: UPDATED: Japan EQ Press Guidance

Includes USAR Demob info.

The Government of Japan (GoJ) National Police Agency reported 7,348 deaths, 10,947 persons missing, and 2,603 people injured due to the earthquake and tsunami as of 0500 hours EDT on March 19. In addition, the natural disasters damaged or destroyed more than 117,000 buildings and 1,300 roads.

Conditions at the Fukushima Daiichi nuclear power plant remain relatively stable as of 0500 hours EDT March 19, according to U.S. Nuclear Regulatory Commission (NRC) personnel on the RMT. DART and RMT staff facilitated a NRC–Bechtel collaboration to design and procure 12 pumps intended to inject water into spent fuel pools, which are being transported to Japan by the Government of Australia and U.S. Forces-Japan. The NRC plans to host an information-sharing, industry to industry/government agency meeting at 1400 hours EDT today.

USG ASSISTANCE

The U.S. Agency for International Development is working with agencies across the U.S. Government—including the Departments of State, Defense, and Energy and the Nuclear Regulatory Commission—to assure that we are able to provide necessary assistance to the Government of Japan in the aftermath of the devastating earthquake and tsunami.

The USAID Disaster Assistance Response Team (DART) is in Japan and working to manage the overall U.S. Government response effort in Japan in coordination with the U.S. Embassy in Tokyo.

Nuclear specialists on the DART—including 11 NRC officers, 1 DoE officer, and 1 U.S. Department of Health and Human Services (HHS) officer—are monitoring technical aspects of the nuclear issues at the Fukushima Daiichi nuclear power plant, engaging with GoJ officials on the status of the health impacts of radiation, and providing guidance to the U.S. Embassy in Tokyo on efforts to cool reactors.

DART staff continue to engage at three levels to determine any possible humanitarian needs in Japan—nationally through Japan's Ministry of Foreign Affairs (MoFA) and other GoJ contacts, locally at the prefecture level and in coordination with U.S. Forces-Japan, and through Japanese civil society organizations, including Japan Platform (JP) and the Japan Non-governmental organization (NGO) Center for International Cooperation (JANIC).

On a March 18 field assessment to Miyagi Prefecture, DART staff observed that assistance is flowing in an organized manner from the national level to the evacuation center level. However, concerns that fuel shortages may limit the transport of existing relief supplies remain. To address fuel shortages, the GoJ is working to redirect 38,000 kiloliters of fuel per day—the average daily demand before the tsunami—from oil refineries in Hokkaido and western Japan. In addition, USFJ continues to coordinate with the GoJ to ensure the availability of fuel without negatively impacting the domestic fuel economy.

The DART is working to vet requests for assistance from local prefectures and convey them to USFJ for coordination with JSDF for transportation and onward distribution. The DART notes that sufficient relief commodities are available in-country and the GoJ has not requested in-kind contributions.

On March 13, USAID's Urban Search and Rescue (USAR) teams from Fairfax County and Los Angeles County, comprising 144 personnel and 12 live search canines, arrived in Misawa, Japan and were immediately dispatched to Ofunato in Iwate prefecture. In coordination with the Government of Japan (GoJ), the National Japanese USAR teams and our international partners, the U.S. USAR teams completed all searches the GoJ asked for in the central portion of the city of Ofunato and Kamaishi City. Japanese Self Defense Forces marked the end of rescue efforts and a transition to humanitarian missions in Iwate and Miyagi with a moment of silence. The U.S. USAR teams are now returning to the United States, and they should arrive on Saturday afternoon in LA and just after midnight in Fairfax.

Prior to their departure, the U.S. USAR teams transferred nearly \$145,000 in equipment to the Ofunato fire department to assist with local recovery efforts. The equipment includes 4 zodiac boat kits—containing boats, motor, fuel tanks, and paddles—16 kerosene heaters, 160 cots, and 160 sleeping bags.

For individuals and businesses who wish to help those in Japan, we encourage making a cash donation to a reputable organization working in the affected area. Nothing will get there faster or help more at this time. Visit www.usaid.gov for more info or email japanhelp@ofda.gov

From: Droggitis, Spiros
Sent: Saturday, March 19, 2011 7:31 AM
To: Powell, Amy; Schmidt, Rebecca
Subject: RE: 745 call with ET

Got it.

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

From: Powell, Amy
Sent: Saturday, March 19, 2011 7:30 AM
To: Droggitis, Spiros; Schmidt, Rebecca
Subject: 745 call with ET
Importance: High

I just got a call from Ops Ctr to be on a 745 call with the Executive Team. I told them that Spiros was there and asked them to alert him. I should be getting an agenda, which I will forward to you both. I don't think I will make the call, as I am about to head South.

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

Sent from my Blackberry

555/150

From: Droggitis, Spiros
Sent: Saturday, March 19, 2011 6:54 PM
To: Batkin, Joshua
Subject: Fw: Earthquake study

His words.

From: james.asselstine@barclayscapital.com <james.asselstine@barclayscapital.com>
To: Droggitis, Spiros
Sent: Sat Mar 19 10:25:36 2011
Subject: Re: Earthquake study

Thanks, Spiros. I think the Chairman is doing a good job. Very difficult situation.

From: Droggitis, Spiros <Spiros.Droggitis@nrc.gov>
To: Asselstine, Jim K: Research (NYK)
Sent: Fri Mar 18 18:28:00 2011
Subject: RE: Earthquake study

I'll try to get it for you tomorrow.

From: james.asselstine@barclayscapital.com [mailto:james.asselstine@barclayscapital.com]
Sent: Friday, March 18, 2011 3:38 PM
To: Droggitis, Spiros
Subject: Earthquake study

Hi, Spiros.

How do I find this study of earthquake risk information that the New York Attorney General is referring to in his letter?

Thanks,

Jim

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From: Droggitis, Spiros
Sent: Saturday, March 19, 2011 4:37 PM
To: Leeds, Eric
Cc: Riley (OCA), Timothy
Subject: Re: 3:00 pm call

Yes, thanks Tim. He will give you the new call information. How did the meeting go?

From: Leeds, Eric
To: Droggitis, Spiros
Cc: Riley (OCA), Timothy
Sent: Sat Mar 19 16:34:05 2011
Subject: RE: 3:00 pm call

Bruce Boger took the call for me today – I had to attend the meeting with industry with the EDO. I heard it went well. Big thanks to Tim!

I'll be on the call tomorrow. Unless, of course, I get called away again.....

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

From: Droggitis, Spiros
Sent: Saturday, March 19, 2011 12:52 PM
To: Leeds, Eric
Cc: Riley (OCA), Timothy
Subject: 3:00 pm call

Eric: Where are you going to call from? Tim will join you since I expect I will still be in the 2:00 meeting.

I think you should mention this link: <http://www.nrc.gov/japan/japan-info.html> to our website which should provide a lot of information for their constituents who may have basic questions.

From: [The Washington Post](#)
To: [Hayden, Elizabeth](#)
Subject: Local Politics Breaking News: Fenty cleared in parks investigation
Date: Monday, March 14, 2011 12:15:03 PM

Local Politics News Alert: Fenty cleared in parks investigation

March 14, 2011 12:13:36 PM

An outside investigator has concluded there was "no wrongdoing" by former D.C. Mayor Adrian Fenty related to the issuance of parks and recreation contracts during his term.

<http://link.email.washingtonpost.com/r/JDFA9Q/D4Y12D/LQXGZD/EHIN5D/I81HX/28/h>

For more information, visit [PostLocal.com](#)

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JJJ/153

From: OST02 HOC
Sent: Saturday, March 19, 2011 6:23 AM
Subject: NRC Operations Center Watchbill for Japan Event
Attachments: MASTER RESPONDER SCHEDULE - JAPAN EARTHQUAKE2.pdf; MASTER RESPONDER SCHEDULE - JAPAN EARTHQUAKE1.pdf

Good morning,

Attached is the schedule for Ops Center Watchbill March 18-26 and March 26 – April 1. You will be receiving updated copies as the schedule continues to change. We do recognize that some positions do not have full staffing. We are looking to fill those. If you know anyone who would want to fill them, have them contact OPS Center at 816-5100.

Thanks

335 / 154