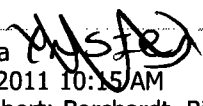


Release

From: Sheron, Brian
To: Case, Michael; Coe, Doug; Correia, Richard; Gibson, Kathy; Lui, Christiana; Richards, Stuart; Sangimino, Donna-Marie; Scott, Michael; Uhle, Jennifer; Valentin, Andrea
Subject: FW: NSIR/DPR Newsletter for Internal Distribution
Date: Friday, March 11, 2011 2:23:57 PM
Attachments: 2011.VolIII.Issue2.EPRNews.pdf

From: Mroz (Sahm), Sara 
Sent: Friday, March 11, 2011 10:15 AM
To: Ash, Darren; Bell, Hubert; Borchardt, Bill; Boyce, Thomas (OIS); Brenner, Eliot; Burns, Stephen; Collins, Elmo; Dean, Bill; Doane, Margaret; Dyer, Jim; Greene, Kathryn; Haney, Catherine; Howard, Patrick; Johnson, Michael; Kelley, Corenthis; Landau, Mindy; Leeds, Eric; Mallett, Bruce; Mamish, Nader; McCrary, Cheryl; McDermott, Brian; Miller, Charles; Reyes, Luis; Satorius, Mark; Schmidt, Rebecca; Sheron, Brian; Vietti-Cook, Annette; Virgilio, Martin; Weber, Michael; Wiggins, Jim; Zimmerman, Roy
Cc: McDermott, Brian; Miller, Chris; Thaggard, Mark; Anderson, Joseph; Williams, Kevin; Kahler, Robert; Morris, Scott; Evans, Michele; Kahler, Carolyn; Bower, Anthony; Barker, Allan; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tift, Doug; Trojanowski, Robert; Woodruff, Gena
Subject: NSIR/DPR Newsletter for Internal Distribution

Attached, for your information, please see the March 2011 issue of NSIR/DPR's "Emergency Preparedness & Response News". At this time, it is for internal distribution only. Please do not forward to external stakeholders.

This issue of the newsletter will be sent to external stakeholders on Monday, March 21st.

Please contact me or Tony Bowers (301-415-5313, Anthony.bower@nrc.gov) with any questions.

-Sara

Sara K. Mroz

Communications and Outreach
Office of Nuclear Security and Incident Response
US Nuclear Regulatory Commission
301-415-1692 (direct)
sara.mroz@nrc.gov

Please consider the environment before printing this email.

T/1

"CIMS" City: Improving Crisis Communication in the Emergency Response Community

Crisis Information Management Software (CIMS) is used by many Federal, State, and local emergency responders to record, manage, and share real-time information during emergencies. Many types of CIMS platforms exist, including WebEOC, Op-sCenter, and CRISIS™. The NRC Headquarters Operations Center and Regional Incident Response Centers use a CIMS platform. Use of CIMS has improved NRC emergency response organization (ERO) communications, allowing fast sharing of up-to-date and accurate information, such as recent licensee events or potential problems, throughout its response facilities. This information sharing facilitates rapid decision making by ERO members. Implementing a

CIMS platform in NRC response facilities has improved the effectiveness of the agency's response capabilities.

The NRC recently acquired technology to link CIMS platforms being used by licensees, Federal, State, local and tribal governments with the NRC's CIMS at Headquarters and in the Regions. Organizations that would like to connect with the NRC over this CIMS link would incur no expense. Together, the NRC and participating organizations will identify the type of information to be shared and connectivity details. Interested organizations should contact: Rebecca Stone at 301-415-5634 or via email at Rebecca.Stone@nrc.gov.

Radiological Risk Communication

Two new reference documents were recently published by the NRC to help with the development of risk communication plans and messaging during a radiological emergency. Both of these documents are publicly available and can be found in the NRC's Agencywide Documents Access and Management System. ML110490119 is the accession number for NUREG/CR-7032, "Developing an Emergency Risk Communication (ERC) / Joint Information Center (JIC) Plan for a Radiological Emergency." ML110490120 is the accession number for NUREG/CR-7033, "Guidance on Developing Effective Radiological Risk Communication Messages: Effective Message Mapping and Risk Communication with the Public in Nuclear Plant Emergency Planning Zones."

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emergencypreparedness.resource@nrc.gov

Editor:

Anthony Bowers

Special Contributors

to this Issue:

Arlon Costa

Patricia Milligan

Sara Mroz

Milt Murray

Eric Schrader

Rebecca Stone

2011 Biennial EP Exercises with NRC Participation - Look Ahead

Exercise Date	Licensee	Exercise Type	Participants
4/12 - 4/14/2011	San Onofre	Plume / Ingestion Exposure	NRC Region IV, Licensee, State (CA)
4/20/2011	Quad Cities	Plume Exposure Pathway	NRC Region III, Licensee, State (IL)
4/26/2011	Harris	Plume Exposure Pathway	NRC Region II, Licensee, State (NC)
5/03 - 5/04/2011	Vermont Yankee	Plume / Ingestion Exposure Pathway	NRC Region I, Licensee, States (VT, NH, MA)
5/16/2011	Multiple	National Level Exercise	NRC HQ, All Regions, Multiple



Management Changes Announced in Division of Preparedness and Response

The Division of Preparedness and Response welcomes new Deputy Director for Emergency Preparedness, Mark Thaggard. Mr. Thaggard joins NSIR from the Office of Federal and State Materials and Environmental Management Programs, where he has served as the Deputy Director of the Division of Intergovernmental Liaison and Rulemaking since 2008.

Mr. Thaggard succeeds Christopher Miller. Mr. Miller will be moving to

Region I where he will serve as Director of the Division of Reactor Safety. Mr. Miller will assume his new position in Region I in April.



Mark Thaggard



Chris Miller

Enhancements to Emergency Preparedness - Rulemaking Update

Progress is continuing on the emergency preparedness (EP) rulemaking effort. On January 14, 2011, the draft final rule and related regulatory guidance documents were presented to the Advisory Committee on Reactor Safeguards (ACRS). In a letter dated January 24, 2011, the ACRS provided the results of their review with focus on two of the rulemaking topics: Performance-based Emergency Operations Facility and Evacuation Time Estimates.

Full text of the ACRS letter can be found in the Agency-wide Documents Access and Management System (ADAMS), using Accession Number ML110170008.

NRC and Federal Emergency Management Agency (FEMA) staff have been conducting informational meetings across the nation with State and local government stakeholders to keep them informed of current rulemaking related activities. Additionally, the NRC and FEMA held two public meet-

ings in Arlington, TX on January 25, 2011 and Saratoga Springs, NY on February 1, 2011 to gain insights on the design and scheduling of the implementation workshops that will be conducted shortly after the rule is issued in the Federal Register. Valuable feedback was received during these meetings that will aid in the NRC and FEMA objectives of providing the most benefit to stakeholders from the workshop.

Next Steps: The final EP rule package is scheduled to be submitted to the NRC's Executive Director for Operations in late March 2011. The final rule package will then be submitted to the Commission for approval. Upon approval, the rule will be published in the Federal Register. Following publication, the NRC and FEMA will offer a series of workshops to discuss implementation of the final EP rule and guidance.

Tomorrow's Nuclear Today: Small Modular Reactors

The NRC staff continues to prepare to review small modular reactor (SMR) designs. There have been several public meetings to engage stakeholders such as the Department of Energy, National Laboratories, SMR designers, and the Nuclear Energy Institute. These meetings assist NRC staff in identifying potential policy, regulatory, and technical issues related to existing emergency planning and preparedness requirements. Through these meetings, several issues related to EP were identified such as the impact of modularity on EP response, smaller source term dose consequences, EP plans for co-located sites, size of emergency planning zones (EPZs), and emergency response organization staffing. Potential EP issues associated with SMRs are generally described in Commission Paper SECY-10-0034, "Potential Policy, Licensing, and Key Technical Issues for Small Modular Nuclear Reactor Designs". SECY-10-0034 is available in the Agencywide Documents Access and Management System (ADAMS), Accession Number ML093290245. The NRC staff is currently developing an informational Commission paper describing a framework for establishing a graded approach to EP, which includes determining EPZ sizes for SMRs. For more information on SMRs, visit <http://www.nrc.gov/reactors/advanced.html>.

Upcoming Events of Interest to the EP Community

**21st Annual National
Radiological Emergency
Preparedness Conference**

April 18-21, 2011

Rosen Plaza Hotel

Orlando, FL

NRC Joins the Blogosphere

In January 2011, the NRC launched a new blog. The blog provides an interactive forum for communication between the NRC and the public. Blog posts will cover a variety of topics related to the NRC's activities, including emergency preparedness and incident response. Join the conversation at <http://public-blog.nrc-gateway.gov/>.



From: Boyce, Tom (RES)
To: Richards, Stuart; Case, Michael
Subject: Apparent SBO at Fukushima reactor
Date: Friday, March 11, 2011 11:01:30 AM

Mike, Stu,

If you haven't already heard, lots of news reports going on right now about Fukushima reactor. Very sketchy information, but Japan has declared a state of emergency as a "precaution," and about 2500 people in the surrounding area are being told to evacuate. From what i can tell, all 6 operating BWR units at the site shutdown due to the earthquake and tsunami. Apparently the DGs for Unit 1 are not operating, so Unit 1 is cooling on batteries for about an expected 8 hours.
<http://www.cnn.com/2011/WORLD/asiapcf/03/11/japan.nuclear/index.html>

There is nothing on NRC's web site. Although this is going on in a foreign country, I would think NRC would at least acknowledge it, and perhaps the U.S. government should offer its help. IAEA is reported to be asking for information. I recognize this issue is at least Chairman level and above, but I would think there are other NRC employees who are thinking the same thing.

Any word from NSIR or OPA?

Tom

T/2

From: [Sheron, Brian](#)
To: [Case, Michael](#); [Richards, Stuart](#)
Cc: [Uhle, Jennifer](#)
Subject: FW: Earthquake Impact
Date: Friday, March 11, 2011 8:21:45 AM

From: Bari, Robert A [mailto:bari@bnl.gov]
Sent: Friday, March 11, 2011 8:19 AM
To: Shunsuke KONDO; shunsuke.kondo@cao.go.jp
Cc: Horak, William C; Braverman, Joseph I; Hofmayer, Charles H; Sheron, Brian
Subject: Earthquake Impact

Dear Shunsuke

Please accept my sympathy as you and the Japanese people endure this unfortunate tragedy.

Brookhaven stands ready to provide appropriate assistance as you might request.

As you know, we have a long-standing program on Japan-US cooperation on seismic safety for nuclear plants with sponsorship by the USNRC.

Sincerely,

Bob

T/3

From: [Sheron, Brian](#)
To: [Case, Michael](#); [Richards, Stuart](#)
Subject: FW: Effect of the earthquake on the Nuclear Facilities in North-east area of Japan
Date: Friday, March 11, 2011 7:37:54 AM
Attachments: [110311_press_release_on_earthquake1.pdf](#)

See request in e-mail from Kirk Foggie below.

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

From: Mamish, Nader
Sent: Friday, March 11, 2011 7:28 AM
To: Brenner, Eliot; Harrington, Holly; Burnell, Scott; Hayden, Elizabeth
Cc: Weber, Michael; Sheron, Brian; Uhle, Jennifer
Subject: FW: Effect of the earthquake on the Nuclear Facilities in North-east area of Japan

FYI

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

From: Foggie, Kirk
Sent: Friday, March 11, 2011 5:15 AM
To: Doane, Margaret; Mamish, Nader
Cc: Abrams, Charlotte
Subject: Fw: Effect of the earthquake on the Nuclear Facilities in North-east area of Japan

FYI. I will send any additional information to you via email.

There are about 5 NISA/JNES seismic specialist in D.C. meeting with RES today. I hope RES allows them to postpone the meeting and offers to provide assistance where possible.

Kirk
Sent from Blackberry.

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

From: bannai-toshihiro@meti.go.jp <bannai-toshihiro@meti.go.jp>
To: Foggie, Kirk
Cc: Hidehiko Yamachika <yamachika-hidehiko@jnes-usa.org>
Sent: Fri Mar 11 03:15:12 2011
Subject: Effect of the earthquake on the Nuclear Facilities in North-east area of Japan

Dear Kirk-san,

Sorry for my frequent e-mail.
10 NPPs in Japan were automatically shut down in consequence of an earthquake occurring at 14:46 on 11th of March JST.
Attached is a prompt report from NISA sent diplomatically.
FYI.

Toshihiro

T/4

Effect of the earthquake on the Nuclear Facilities in North-east area of Japan
(as of 2:46pm, 11of March, 2011)

Effect of earthquake on the Nuclear Facilities from the earthquake

Current status of nuclear facilities are as follows:

1. Onagawa Nuclear Power Station

- Units 1,2 and 3: Automatically shut down.

2. Fukushima-Daini Nuclear Power Station

- Units 1,2 and 3: Automatically shut down.

- Units 4,5 and 6: in periodic inspection outage

3. Fukushima-Daini Nuclear Power Station

- Units 1,2,3 and Unit4 : Automatically shut down.

4. Higashi-Dori Nuclear Power Station

- in periodic inspection outage

5. Rokkasho reprocessing facility

- emergency diesel generator is supplying electricity

6. Tokai Dai-ni Nuclear Power Station: automatically shut down

7. Hamaoka Nuclear Power Station

- Units 4 and 5: are operating

- Unit 3: in periodic inspection outage

8. Kashiwazaki-Kariwa Nuclear Power Station

- Units 1,5,6 and 7: are operating

- Units 2,3 and 4: in periodic inspection outage

9. Tomari Nuclear Power Station

- Units 1,2 and 3: are operating

There is no report of abnormal monitoring readings around NPPs that indicate irregular value at this time.

There are no reports of fire or failure.

Staff of NISA are gathering information

Contacts: +81-(0)3-3501-1087

International Affairs Office

Nuclear and Industrial Safety Agency(NISA)

From: Case, Michael
Subject: FW: Effect of the earthquake on the Nuclear Facilities in North-east area of Japan
Date: Friday, March 11, 2011 7:47:07 AM

From: Sheron, Brian
Sent: Friday, March 11, 2011 7:37 AM
To: Case, Michael; Richards, Stuart
Subject: FW: Effect of the earthquake on the Nuclear Facilities in North-east area of Japan

See request in e-mail from Kirk Foggie below.

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

From: Mamish, Nader
Sent: Friday, March 11, 2011 7:28 AM
To: Brenner, Eliot; Harrington, Holly; Burnell, Scott; Hayden, Elizabeth
Cc: Weber, Michael; Sheron, Brian; Uhle, Jennifer
Subject: FW: Effect of the earthquake on the Nuclear Facilities in North-east area of Japan

FYI

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

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Cc: Abrams, Charlotte
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There are about 5 NISA/JNES seismic specialist in D.C. meeting with RES today. I hope RES allows them to postpone the meeting and offers to provide assistance where possible.

Kirk
Sent from Blackberry.

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

From: bannai-toshihiro@meti.go.jp <bannai-toshihiro@meti.go.jp>
To: Foggie, Kirk
Cc: Hidehiko Yamachika <yamachika-hidehiko@jnes-usa.org>
Sent: Fri Mar 11 03:15:12 2011
Subject: Effect of the earthquake on the Nuclear Facilities in North-east area of Japan

Dear Kirk-san,

Sorry for my frequent e-mail.
10 NPPs in Japan were automatically shut down in consequence of an earthquake occurring at 14:46 on 11th of March JST.
Attached is a prompt report from NISA sent diplomatically.
FYI.

Toshihiro

T/S

From: Richards, Stuart
To: Boyce, Tom (RES)
Cc: Case, Michael
Subject: RE: Apparent SBO at Fukushima reactor
Date: Friday, March 11, 2011 11:19:17 AM

Tom

There are numerous e-mail flying around on this, so I'm pretty confident that the agency is engaged at the senior levels.

I suspect that the Ops Center is monitoring the plant status as best they can, and OIP is communicating with our Japanese counterparts.

Thanks
Stu

From: Boyce, Tom (RES)
Sent: Friday, March 11, 2011 11:01 AM
To: Richards, Stuart; Case, Michael
Subject: Apparent SBO at Fukushima reactor

Mike, Stu,

If you haven't already heard, lots of news reports going on right now about Fukushima reactor. Very sketchy information, but Japan has declared a state of emergency as a "precaution," and about 2500 people in the surrounding area are being told to evacuate. From what i can tell, all 6 operating BWR units at the site shutdown due to the earthquake and tsunami. Apparently the DGs for Unit 1 are not operating, so Unit 1 is cooling on batteries for about an expected 8 hours.
<http://www.cnn.com/2011/WORLD/asiapcf/03/11/japan.nuclear/index.html>

There is nothing on NRC's web site. Although this is going on in a foreign country, I would think NRC would at least acknowledge it, and perhaps the U.S. government should offer its help. IAEA is reported to be asking for information. I recognize this issue is at least Chairman level and above, but I would think there are other NRC employees who are thinking the same thing.

Any word from NSIR or OPA?

Tom

T/6

Hogan, Rosemary

From: Richards, Stuart
Sent: Friday, March 11, 2011 6:36 AM
To: Hogan, Rosemary; Kammerer, Annie; Murphy, Andrew
Cc: Sheron, Brian; Case, Michael; Uhle, Jennifer
Subject: Japanese Earthquake

Importance: High

Rosemary/Annie/Andy

I'm sure you have heard about the 8.9 earthquake off the coast of Japan.

It resulted in a large tsunami on the Japanese coast. There is a report of problems at a Japanese nuclear plant.

We should be prepared to brief on our tsunami research. Maybe also seismic.

Additionally the tsunami wave is predicted to hit the coast of California in a few hours. Although the news reports that no damage is expected, we may be called on to comment on the impact on San Onofre and Diablo Canyon.

Thanks
Stu



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. 11-042

March 11, 2011

NRC MONITORS NOTICE OF UNUSUAL EVENT AT DIABLO CANYON POWER PLANT, TSUNAMI ISSUES

The U.S. Nuclear Regulatory Commission, through its regional office in Arlington, Tex., is monitoring a notice of unusual event (NOUE) at the Diablo Canyon Power Plant, located near San Luis Obispo, Calif. Senior NRC officials are working at the agency's Rockville, Md., headquarters to coordinate NRC activities with respect to the Japanese earthquake and subsequent tsunami.

"The NRC is closely monitoring this situation as it unfolds with respect to nuclear facilities within the United States. NRC staff is working closely with its resident inspectors who are on site to ensure safe operations," said NRC Chairman Gregory Jaczko.

Pacific Gas and Electric Co. (PG&E), operator of the Diablo Canyon two-reactor plant, declared a precautionary NOUE Unusual Event at 4:23 a.m. EST today after receiving a tsunami warning from the West California Emergency Management Agency. The tsunami warning was generated after an estimated 8.9 magnitude earthquake occurred off the eastern Japanese coast.

The licensee reported the Diablo Canyon plant is stable and both units remain on line. The plant is well protected against tsunami conditions as required by NRC regulations. The NRC has staff at the plant keeping track of the plant's response.

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

In addition to the Diablo Canyon plant, the NRC is also monitoring the San Onofre nuclear power plant, the Humboldt Bay spent fuel storage site and NRC-regulated nuclear materials sites in Hawaii and Alaska to name a few. Site personnel have informed the NRC they are prepared for possible tsunami effects.

###

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 Web site.

7/8

Telson, Ross

From: Telson, Ross *NR*
Sent: Friday, March 11, 2011 2:39 PM
To: Cauffman, Christopher *NR*
Cc: Klett, Audrey; King, Mark
Subject: RE: Not Good - PLEASE DO NOT DISTRIBUTE
Attachments: IOEB Clearinghouse Screening Summary for Friday, March 11, 2011

Chris,

PLEASE DO NOT DISTRIBUTE THIS EMAIL

See attached OpE summary. I listened-in to part of the OpE clearinghouse meeting today. Be very cautious about removing information from its source / context and distributing it. You may also want to be cautious about documenting opinions. Presume that anything you write could be FOIA'd.

Issues like this tend to take on a life of their own. Folks need to understand the source of the information they are receiving (e.g. its pedigree - whether it is opinion or fact and whether the facts are verified or not).

The (unverified) information I have heard/seen in the press so far suggests to me (opinion and conjecture) that the site is being challenged with regard to both safety-related cooling water- and power supplies necessary to cool the reactor and containment.

It's never good to have a core with power history and challenges to either the safety-related cooling water or power supplies. Its generally worse when there are challenges to both - especially when the infrastructure for bringing in outside help and resources (more water and power) is also challenged.

I anticipate that the impact of this event (accident?) on Japan's (and potentially our domestic-) nuclear power industry will be profound.

Ross

From: Cauffman, Christopher *NR*
Sent: Friday, March 11, 2011 2:16 PM
To: Telson, Ross; Klett, Audrey
Subject: Not Good

One facility in Fukushima developed a mechanical failure in the reactor cooling system after it was shut down and emergency power supply failed but there was no radiation leak.^[63] Past midnight local time, it was reported that The Tokyo Electric Power Company was considering venting out superhot gas from the reactor vessel into the atmosphere, which could result in the release of radioactives.^[64] The core of the reactor remains hot however, so cooling is still required. Unnamed officials at the Japanese Nuclear and Industrial Safety Agency reported that due to lack of electricity the emergency cooling system is currently powered by a battery, which lasts about eight hours. Another six batteries have been secured, and the government may use military helicopters to fly them in.^[65] A precautionary state of emergency has been declared.^[66] More than 2,000 residents living within a 3-kilometer (1.9 mi) radius of the plant were evacuated, while residents living within a zone 3 to 10 kilometers (1.9 to 6.2 mi) away were asked to evacuate.^{[67][68]}

Chris C. Cauffman

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Inspection & Regional Support
NRR/ADRO/DIRS/IRIB
Office: O-07E09
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301-415-8416 (Voice)
301-415-3313 (Fax)
christopher.cauffman@nrc.gov

From: Richards, Stuart
To: Hogan, Rosemary; Kammerer, Annie; Murphy, Andrew
Cc: Sheron, Brian; Case, Michael; Uhle, Jennifer
Subject: Japanese Earthquake
Date: Friday, March 11, 2011 6:36:01 AM
Importance: High

Rosemary/Annie/Andy

I'm sure you have heard about the 8.9 earthquake off the coast of Japan.

It resulted in a large tsunami on the Japanese coast. There is a report of problems at a Japanese nuclear plant.

We should be prepared to brief on our tsunami research. Maybe also seismic.

Additionally the tsunami wave is predicted to hit the coast of California in a few hours. Although the news reports that no damage is expected, we may be called on to comment on the impact on San Onofre and Diablo Canyon.

Thanks
Stu

T/10

Uhle, Jennifer

From: Uhle, Jennifer
Sent: Friday, March 11, 2011 5:36 PM
To: Gibson, Kathy
Subject: RE: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Thx. I called but you were in a meeting- interview and I asked Charlie to write something up. I should have emailed you that I had asked him.

Jennifer

From: Gibson, Kathy
Sent: Friday, March 11, 2011 5:28 PM
To: Sheron, Brian; Uhle, Jennifer
Subject: Re: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Thanks, I've been sending the staff the press releases and NSIR updates and that seems to have relieved some of the curiosity.

From: Sheron, Brian
To: Gibson, Kathy; Uhle, Jennifer
Sent: Fri Mar 11 17:20:49 2011
Subject: RE: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Sorry, I misunderstood.

Charlie is writing up PR information on the likely radiological consequences of a SBO in a BWR Mk-1. Jason is certainly welcome to help him.

I also asked DE to start chasing the obvious seismic questions that the agency will likely get. To the extent Jason can help DE, he can and should.

However, the Agency is only in the monitoring mode so they haven't called folks in to staff up the reactor safety and Protective measures teams. If Jason is on one of those teams, then it is possible he could get called if they go into activation for any reason, or just want some technical expertise in the IRC. If he is not, then I think the IRC will go with the Reactor safety team folks that are already on their roster and have had IRC training. I would imagine if they needed some specialized expertise, and Jason was the right person, they would consider calling him.

From: Gibson, Kathy
Sent: Friday, March 11, 2011 5:08 PM
To: Sheron, Brian; Uhle, Jennifer
Subject: Re: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

That's not at all what anybody was suggesting. We were just offering their expertise if it was needed.

From: Sheron, Brian
To: Gibson, Kathy; Uhle, Jennifer
Sent: Fri Mar 11 16:54:02 2011
Subject: RE: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Unless Jason has some official assignment related to this, he should not be calling up the Op center and tying up their people or their phone lines.

He can get his information from the press. There are lots of staff that are probably interested in what is going on. If all of them started calling the Op center, it would be a disaster. In fact, this is what happened during TMI-2.

From: Gibson, Kathy
Sent: Friday, March 11, 2011 4:34 PM
To: Sheron, Brian; Uhle, Jennifer
Subject: Fw: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Is there some way Jason and Charlie could help?

From: Schaperow, Jason
To: Gibson, Kathy
Sent: Fri Mar 11 16:22:39 2011
Subject: RE: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

How could I get it? Thanks.

From: Gibson, Kathy
Sent: Friday, March 11, 2011 4:21 PM
To: Schaperow, Jason
Subject: Re: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

I believe the Ops Center is.

From: Schaperow, Jason
To: Gibson, Kathy
Sent: Fri Mar 11 16:15:56 2011
Subject: RE: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Thanks. Is anyone at NRC compiling a list of the events happening at Fukushima Daiichi Unit 2? To find out what is going on, I am going through the TEPCO website. It looks like they have been in SBO conditions for many, many hours.

From: Gibson, Kathy
Sent: Friday, March 11, 2011 4:13 PM
To: RES_DSA
Subject: Fw: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

From: Sheron, Brian
To: Bonaccorso, Amy; Calvo, Antony; Case, Michael; Coe, Doug; Correia, Richard; Dion, Jeanne; Gibson, Kathy; Lui, Christiana; Richards, Stuart; Rini, Brett; Sangimino, Donna-Marie; Uhle, Jennifer; Valentin, Andrea
Sent: Fri Mar 11 14:29:02 2011
Subject: FW: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

From: OPA Resource

Sent: Friday, March 11, 2011 11:59 AM

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

Subject: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Attached for immediate posting and release.

Office of Public Affairs

US Nuclear Regulatory Commission

301-415-8200

opa.resource@nrc.gov

Lee, Richard

From: Lee, Richard
Sent: Friday, March 11, 2011 5:59 PM
To: Gibson, Kathy
Cc: Voglewede, John
Subject: RE: Press Release: NRC Continues to Track Earthquake and Tsunami Issues

I convey my best wishes to them on getting the reactor under control. I understood NRC Emergency Response Center has been activated. If I received any technical assistance request, I will forward it to the NRC Emergency Response Center.

Have a good weekend!

From: Gibson, Kathy
Sent: Friday, March 11, 2011 5:51 PM
To: Lee, Richard
Cc: Voglewede, John
Subject: Re: Press Release: NRC Continues to Track Earthquake and Tsunami Issues

That doesn't sound good. I really feel for them and all they are dealing with.

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

From: Lee, Richard
To: Gibson, Kathy
Cc: Voglewede, John
Sent: Fri Mar 11 17:48:34 2011
Subject: RE: Press Release: NRC Continues to Track Earthquake and Tsunami Issues

Kathy:

Dr. Akihide Hidaka (the Japanese researcher who is participating in our peer review of the revised NUREG-1465 for HBU and MOX fuel) told me that at the Fukushima No. 1 NPP, the fuel could have been broken because iodine concentration in air began to be increased at the site boundary. Containment Venting is imminent.

I am not sure what he meant by "broken." I asked him whether the dose at the site boundaries are within regulatory limits. I have not received any answers yet.

Akihide is on loan to the Japanese Nuclear Safety Commission (NSC) from JAEA. Last night, all NSC staff slept in the office because all transportation in Tokyo was shutdown.

Richard

From: Gibson, Kathy
Sent: Friday, March 11, 2011 4:29 PM
To: RES_DSA
Subject: Fw: Press Release: NRC Continues to Track Earthquake and Tsunami Issues

From: Sheron, Brian

To: Bonaccorso, Amy; Calvo, Antony; Case, Michael; Coe, Doug; Correia, Richard; Dion, Jeanne; Gibson, Kathy; Lui, Christiana; Richards, Stuart; Rini, Brett; Sangimino, Donna-Marie; Uhle, Jennifer; Valentin, Andrea
Sent: Fri Mar 11 16:27:08 2011
Subject: FW: Press Release: NRC Continues to Track Earthquake and Tsunami Issues

From: OPA Resource

Sent: Friday, March 11, 2011 4:26 PM

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

Subject: Press Release: NRC Continues to Track Earthquake and Tsunami Issues

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

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

Gibson, Kathy

From: Gibson, Kathy
Sent: Friday, March 11, 2011 5:28 PM
To: Sheron, Brian; Uhle, Jennifer
Subject: Re: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Thanks, I've been sending the staff the press releases and NSIR updates and that seems to have relieved some of the curiosity.

From: Sheron, Brian
To: Gibson, Kathy; Uhle, Jennifer
Sent: Fri Mar 11 17:20:49 2011
Subject: RE: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Sorry, I misunderstood.

Charlie is writing up PR information on the likely radiological consequences of a SBO in a BWR Mk-1. Jason is certainly welcome to help him.

I also asked DE to start chasing the obvious seismic questions that the agency will likely get. To the extent Jason can help DE, he can and should.

However, the Agency is only in the monitoring mode so they haven't called folks in to staff up the reactor safety and Protective measures teams. If Jason is on one of those teams, then it is possible he could get called if they go into activation for any reason, or just want some technical expertise in the IRC. If he is not, then I think the IRC will go with the Reactor safety team folks that are already on their roster and have had IRC training. I would imagine if they needed some specialized expertise, and Jason was the right person, they would consider calling him.

From: Gibson, Kathy
Sent: Friday, March 11, 2011 5:08 PM
To: Sheron, Brian; Uhle, Jennifer
Subject: Re: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

That's not at all what anybody was suggesting. We were just offering their expertise if it was needed.

From: Sheron, Brian
To: Gibson, Kathy; Uhle, Jennifer
Sent: Fri Mar 11 16:54:02 2011
Subject: RE: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Unless Jason has some official assignment related to this, he should not be calling up the Op center and tying up their people or their phone lines.

He can get his information from the press. There are lots of staff that are probably interested in what is going on. If all of them started calling the Op center, it would be a disaster. In fact, this is what happened during TMI-2.

From: Gibson, Kathy
Sent: Friday, March 11, 2011 4:34 PM
To: Sheron, Brian; Uhle, Jennifer
Subject: Fw: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Is there some way Jason and Charlie could help?

From: Schaperow, Jason
To: Gibson, Kathy
Sent: Fri Mar 11 16:22:39 2011
Subject: RE: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

How could I get it? Thanks.

From: Gibson, Kathy
Sent: Friday, March 11, 2011 4:21 PM
To: Schaperow, Jason
Subject: Re: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

I believe the Ops Center is.

From: Schaperow, Jason
To: Gibson, Kathy
Sent: Fri Mar 11 16:15:56 2011
Subject: RE: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Thanks. Is anyone at NRC compiling a list of the events happening at Fukushima Daiichi Unit 2? To find out what is going on, I am going through the TEPCO website. It looks like they have been in SBO conditions for many, many hours.

From: Gibson, Kathy
Sent: Friday, March 11, 2011 4:13 PM
To: RES_DSA
Subject: Fw: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

From: Sheron, Brian
To: Bonaccorso, Amy; Calvo, Antony; Case, Michael; Coe, Doug; Correia, Richard; Dion, Jeanne; Gibson, Kathy; Lui, Christiana; Richards, Stuart; Rini, Brett; Sangimino, Donna-Marie; Uhle, Jennifer; Valentin, Andrea
Sent: Fri Mar 11 14:29:02 2011
Subject: FW: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

From: OPA Resource
Sent: Friday, March 11, 2011 11:59 AM
To: Ash, Darren; Barkley, Richard; Batkin, Joshua; Bell, Hubert; Belmore, Nancy; Bergman, Thomas; Bollwerk, Paul; Bonaccorso, Amy; Borchardt, Bill; Bozin, Sunny; Brenner, Eliot; Brock, Terry; Brown, Boris; Bubar, Patrice; Burnell, Scott; Burns, Stephen; Carpenter, Cynthia; Chandrathil, Prema; Clark, Theresa; Collins, Elmo; Couret, Ivonne; Crawford, Carrie; Cutler, Iris; Dacus, Eugene; Dapas, Marc; Davis, Roger; Dean, Bill; Decker, David; Dricks, Victor; Droggitis, Spiros; Flory,

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

Subject: Press Release: NRC Monitors Notice of Unusual Event at Diablo Canyon Power Plant, Tsunami Issues

Attached for immediate posting and release.

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

Wegner, Mary

From: Wegner, Mary
Sent: Friday, March 11, 2011 11:23 AM
To: Thomas, Eric
Subject: TEPCO latest
Attachments: ~~image004.gif~~

(Mar 12, 2011)

Impact to TEPCO's Facilities due to Miyagiken-Oki Earthquake (as of 0AM)

Below is major impact to TEPCO's facilities due to the Miyagiken-Oki Earthquake that occurred yesterday at 2:46PM.

*new items are underlined

[Nuclear Power Station]

Fukushima Daiichi Nuclear Power Station:

- Units 1 to 3: shutdown due to earthquake
- Units 4 to 6: outage due to regular inspection

*Evacuation has been instructed by the national government to the local residents within 3 km radius of Fukushima Daiichi Nuclear Power Station

Fukushima Daini Nuclear Power Station:

- Units 1 to 4: shutdown due to earthquake

Kashiwazaki Kariwa Nuclear Power Station:

- Units 1, 5, 6, 7: normal operation
- Units 2 to 4: outage due to regular inspection

* Survey data on radiation by exhaust stack monitors and monitoring cars have indicated no departure from normal level for all nuclear power stations.

[Thermal Power Station]

- Hirono Thermal Power Station Units 2 and 4: shutdown due to earthquake
- Hitachinaka Thermal Power Station Unit 1: shutdown due to earthquake
- Kashima Thermal Power Station Units 2, 3, 5, 6: shutdown due to earthquake
- Chiba Thermal Power Station Unit 2 Axis 1: shutdown due to earthquake
- Ohi Thermal Power Station Units 2, 3: shutdown due to earthquake
- Goi Thermal Power Station Unit 4: shutdown due to earthquake
- Higashi-Ohgishima Thermal Power Station Unit 1: shutdown due to earthquake

[Hydro Power Station]

14 stations in Fukushima Prefecture, 4 stations in Tochigi Prefecture, 4 stations in Yamanashi Prefecture were shutdown due to earthquake.

[Transmission System, etc.]

Eight substations shown below have been shutdown:

- Naka Substation
- Shin Mogi Substation
- Joban Substation
- Ibaraki Substation
- Ishioka Substation
- Nishi Mito Substation
- Kawachi Substation
- Haga Substation
- Mito Hokubu Substation

[Blackout in TEPCO's Service Area]

Total of about 2.58 million households are out of power.

Tokyo: 3,106

Kanagawa Pref.: 277,998

Tochigi Pref.: 567,925

Chiba Pref.: 347,113

Saitama Pref.: 198,468

Gunma Pref.: 224,957

Ibaraki Pref.: 734,187

Yamanashi Pref.: 117,068

Shizuoka Pref.: 113,051 (east of Fuji River)

[Supply and Demand Status within TEPCO's Service Area to Secure Stable Power Supply]

Backup supply from Shinshinano Conversion Station: 600MW

Backup supply from Sakuma Conversion Station: 300MW

Backup supply from Higashi Shimizu Conversion Station: 100MW

Because TEPCO's facilities have been seriously damaged, power shortage may occur.

TEPCO appreciates customers' cooperation in reducing electricity usage by avoiding using unnessesary lighting and electrical equipment.

We are also making requests to some large-scale customers with contracts to partially suspend operation to suppress usage of power.

We are taking all measures to restore power, however, we expect extremely challenging situation in power supply for tomorrow as well.

We kindly ask our customers to cooperate with us in reducing usage of power.

Please do NOT touch cut-off electric wires.

A temporary small fire occured at a service building in Fukushima Daini Nuclear Power Station. However, it was extinguished at 4:07 PM yesterday

Wegner, Mary

From: Wegner, Mary
Sent: Friday, March 11, 2011 12:12 PM
To: Thomas, Eric
Subject: TEPCO Update
Attachments: ~~image001.gif~~

(Mar 12, 2011)

Impact to TEPCO's Facilities due to Miyagiken-Oki Earthquake (as of 1AM)

Below is major impact to TEPCO's facilities due to the Miyagiken-Oki Earthquake that occurred yesterday at 2:46PM.

*new items are underlined

[Nuclear Power Station]

Fukushima Daiichi Nuclear Power Station:

Units 1 to 3: shutdown due to earthquake

Units 4 to 6: outage due to regular inspection

*Evacuation has been instructed by the national government to the local residents within 3 km radius of Fukushima Daiichi Nuclear Power Station

Fukushima Daini Nuclear Power Station:

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Units 1, 5, 6, 7: normal operation

Units 2 to 4: outage due to regular inspection

* Survey data on radiation by exhaust stack monitors and monitoring cars have indicated no departure from normal level for all nuclear power stations.

[Thermal Power Station]

Hirono Thermal Power Station Units 2 and 4: shutdown due to earthquake

Hitachinaka Thermal Power Station Unit 1: shutdown due to earthquake

Kashima Thermal Power Station Units 2, 3, 5, 6: shutdown due to earthquake

Chiba Thermal Power Station Unit 2 Axis 1: shutdown due to earthquake

Ohi Thermal Power Station Units 2, 3: shutdown due to earthquake

Goi Thermal Power Station Unit 4: had been shutdown due to earthquake

but has restarted

Higashi-Ohgishima Thermal Power Station Unit 1: shutdown due to earthquake

[Hydro Power Station]

14 stations in Fukushima Prefecture, 4 stations in Tochigi Prefecture,

4 stations in Yamanashi Prefecture were shutdown due to earthquake.

[Transmission System, etc.]

Eight substations shown below have been shutdown:

- Naka Substation
- Shin Mogi Substation
- Joban Substation
- Ibaraki Substation
- Ishioka Substation
- Nishi Mito Substation
- Kawachi Substation
- Haga Substation
- Mito Hokubu Substation

[Blackout in TEPCO's Service Area]

Total of about 2.4 million households are out of power.

Tokyo: 3,106

Kanagawa Pref.: 179,068

Tochigi Pref.: 568,281

Chiba Pref.: 343,142

Saitama Pref.: 164,978

Gunma Pref.: 224,957

Ibaraki Pref.: 726,110

Yamanashi Pref.: 106,044

Shizuoka Pref.: 113,051 (east of Fuji River)

[Supply and Demand Status within TEPCO's Service Area to Secure Stable Power Supply]

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Backup supply from Sakuma Conversion Station: 300MW

Backup supply from Higashi Shimizu Conversion Station: 100MW

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We kindly ask our customers to cooperate with us in reducing usage of power.

Please do NOT touch cut-off electric wires.

A temporary small fire occured at a service building in Fukushima Daini Nuclear Power Station. However, it was extinguished at 4:07 PM yesterday.

Wegner, Mary

From: Wegner, Mary
Sent: Friday, March 11, 2011 10:16 AM
To: Thomas, Eric
Subject: More from TEPCO
Attachments: image001.gif

(Mar 11, 2011)

Impact to TEPCO's Facilities due to Miyagiken-Oki Earthquake (as of 11PM)

Below is major impact to TEPCO's facilities due to the Miyagiken-Oki Earthquake that occurred today at 2:46PM.

*new items are underlined

[Nuclear Power Station]

Fukushima Daiichi Nuclear Power Station:

Units 1 to 3: shutdown due to earthquake

Units 4 to 6: outage due to regular inspection

*Evacuation has been instructed by the national government to the local residents within 3 km radius of Fukushima Daiichi Nuclear Power Station

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Units 1 to 4: shutdown due to earthquake

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Units 1, 5, 6, 7: normal operation

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* Survey data on radiation by exhaust stack monitors and monitoring cars have indicated no departure from normal level for all nuclear power stations.

[Thermal Power Station]

Hirono Thermal Power Station Units 2 and 4: shutdown due to earthquake

Hitachinaka Thermal Power Station Unit 1: shutdown due to earthquake

Kashima Thermal Power Station Units 2, 3, 5, 6: shutdown due to earthquake

Chiba Thermal Power Station Unit 2 Axis 1: shutdown due to earthquake

Ohjima Thermal Power Station Units 2, 3: shutdown due to earthquake

Goi Thermal Power Station Unit 4: shutdown due to earthquake

Higashi-Ogishima Thermal Power Station Unit 1: shutdown due to earthquake

[Hydro Power Station]

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4 stations in Yamanashi Prefecture were shutdown due to earthquake.

[Transmission System, etc.]

Eight substations shown below have been shutdown:

- Naka Substation
- Shin Mogi Substation
- Joban Substation
- Ibaraki Substation
- Ishioka Substation
- Nishi Mito Substation
- Kawachi Substation
- Haga Substation

[Blackout in TEPCO's Service Area]

Total of about 2.97 million households are out of power.

Tokyo: 78,273
Kanagawa Pref.: 463,121
Tochigi Pref.: 567,925
Chiba Pref.: 347,609
Saitama Pref: 310,772
Gunma Pref.: 225,524
Ibaraki Pref: 735,892
Yamanashi Pref: 123,925
Shizuoka Pref: 113,051 (east of Fuji River)

[Supply and Demand Status within TEPCO's Service Area to Secure Stable Power Supply]

Backup supply from Shinshinano Conversion Station: 600MW

Backup supply from Sakuma Conversion Station: 300MW

Backup supply from Higashi Shimizu Conversion Station: 100MW

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We are also making requests to some large-scale customers with contracts to partially suspend operation to suppress usage of power.

We are taking all measures to restore power, however, we expect extremely challenging situation in power supply for tomorrow as well.
We kindly ask our customers to cooperate with us in reducing usage of power.

Please do NOT touch cut-off electric wires.

A temporary small fire occurred at a service building in Fukushima Daini Nuclear Power Station. However, it was extinguished at 4:07 PM today.

Wegner, Mary

From: Wegner, Mary
Sent: Friday, March 11, 2011 8:55 AM
To: Thomas, Eric
Subject: FW: Info from TEPCO
Attachments: ~~image001.gif; image006.png; image007.png; image008.png; image009.png~~ *not fwd*

From: Wegner, Mary
Sent: Friday, March 11, 2011 8:19 AM
To: Beasley, Benjamin; Criscione, Lawrence; King, Mark; Breskovic, Clarence; Tabatabai, Omid
Subject: Info from TEPCO

(Mar 11, 2011)

The Effect of Earthquake Occurred in the Northern Part of Japan(as of 4:30 pm today)

A big earthquake occurred in the Miyagi Prefecture at 2:46 today. Due to the earthquake, about 4.05 million households are in power outage in our service area.

Due to the earthquake, our power facilities have huge damages, so we are afraid that power supply tonight would run short. We strongly ask our customers to conserve electricity.
If you find any disconnected transmission lines, please do not touch them.

The effect of the earthquake to our facilities is as follows;

Fukushima Daiichi

- Unit 1,2,3 were operated and automatically stopped.
- Unit 4,5,6 are in regular inspection.

Fukushima Daini

- Unit 1,2,3,4 were operated and automatically stopped.

Kashiwazaki-Kariwa

- Unit 1,5,6,7 are in operation.
- Unit 2,3,4 are in regular inspection.

At all the nuclear power stations, monitoring posts, which monitor radiation through exhaust stacks have shown normal values. In other words, at the present, no radiation leaks have been confirmed.

(Thermal Power Stations)

- Hirono Unit 2,4 were stopped.
- Hitachinaka Unit 1 was stopped.
- Kahshima Unit 2,3,5,6 were stopped.
- Chiba Unit 2-Group 1 was stopped.
- Yokohama Unit 8-Group 4 was stopped.
- Ohi Unit 2,3 were stopped.
- Goi Unit 4 was stopped.

(Hydro Power Stations)

- 15 power stations in Fukushima, 3 power stations in Tochigi, 3 power stations in Yamanashi, 1 power station in Gumma were stopped.

(Transmission and Distribution Facilities)

- Naka Distribution Facility was stopped.
- Shin-Mogi Distribution Facility was stopped.

(Others)

-At the service facility(not nuclear facilities) of the Fukushima Daini Nuclear Power Station, a small fire temporarily occurred but was extinguished at 4:07 pm.

(Mar 11,2011)

Occurrence of a Specific Incident Stipulated in Article 10, Clause 1 of the Act on Special Measures Concerning Nuclear Emergency Preparedness(Fukushima Daiichi)

Today at approximately 2:46PM, turbines and reactors of Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Station Unit 1 (Boiling Water Reactor, rated output 460 Megawatts) and Units 2 and 3 (Boiling Water Reactor, Rated Output 784 Megawatts) that had been operating at rated power automatically shutdown due to the Miyagiken-oki Earthquake.

For the above 3 units, off-site power was lost due to malfunction of one out of two off-site power system, leading to automatic startup of emergency diesel generators.

Subsequently, at 3:41PM, emergency diesel generators shutdown due to malfunction resulting in the complete loss of alternating current for all three units.

Hence, at 3:42PM, it was decided that a specific incident stipulated in Article 10, Clause 1 of the Act on Special Measures Concerning Nuclear Emergency Preparedness*1 has occurred and a "First Level Emergency" was declared and in accordance with the aforementioned Act, the Minister of Economy, Trade, and Industry, the Governor of Fukushima Prefecture, the Mayor of Okuma Town, and the Mayor of Futaba Town along with other involved organizations were notified of the incident.

TEPCO is taking steps to determine the exact cause behind the shutdown of the emergency diesel generators and is working towards their restoration. The exhaust pipe's monitor reading indicates that radiation levels have remained unchanged and presently there have been no confirmed radioactivity impact to external environment. Further details are in the process of being confirmed.

*1 Specific Incident Stipulated in Article 10, Clause 1 of the Act on Special Measures Concerning Nuclear Emergency Preparedness
The objective of the Act on Special Measures Concerning Nuclear Emergency Preparedness is to protect the welfare, physical wellbeing and property of Japan's citizens. To this end, when accidents and equipment breakdown have reached certain levels at nuclear power plants, the Act obligates us to notify the nation, prefectures, cities and towns in order for them to take necessary actions and to grasp information in a timely manner. Notifications are issued out under circumstances such as when the nuclear reactor cannot be shut down and/or when the water supply to the reactor is cut off.

(Mar 11,2011)

Occurrence of a Specific Incident Stipulated in Article 15, Clause 1 of the Act on Special Measures Concerning Nuclear Emergency Preparedness(Fukushima Daiichi)

Today at approximately 2:46PM, turbines and reactors of Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Station Unit 1 (Boiling

Water Reactor, rated output 460 Megawatts) and Units 2 and 3 (Boiling Water Reactor, Rated Output 784 Megawatts) that had been operating at rated power automatically shutdown due to the Miyagiken-oki Earthquake.

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TEPCO is taking steps to determine the exact cause behind the shutdown of the emergency diesel generators and is working towards their restoration.

(already notified)

Subsequently, since the status of reactor water coolant injection could not be confirmed for the emergency core cooling systems of Units 1 and 2, at 4:36PM, it was decided that a specific incident stipulated in Article 15, Clause 1 of the Act has occurred.

We have then notified the Minister of Economy, Trade, and Industry, the Governor of Fukushima Prefecture, the Mayor of Okuma Town, and the Mayor of Futaba Town along with other involved organizations of the incident.

Article 15, Clause 1 of the Act was cleared when the reactor water level monitoring function was restored for Unit 1. However, at 5:07PM, specific incident stipulated in Article 15, Clause 1 of the Act was applied again for Unit 1.

(Mar 11,2011)

Occurrence of a Specific Incident Stipulated in Article 10, Clause 1 of the Act on Special Measures Concerning Nuclear Emergency Preparedness(Fukushima Daini)

Today at 2:46PM, turbines and reactors of Tokyo Electric Power Company's Fukushima Daini Nuclear Power Station Units 1 to 4 (Boiling Water Reactor, rated output 1,100 Megawatts) that had been operating at rated power automatically shutdown due to the Miyagiken-oki Earthquake.

Currently, reactor water level for Units 1 to 4 is maintained by injecting water into the reactors by the Reactor Core Isolation Cooling System. The reactors are maintained at a subcritical condition.

For Unit 1, the emergency core cooling system automatically started up due to increase in the reactor containment pressure assumed to be caused by leakage of reactor coolant in the reactor containment.

Hence, at 5:35PM, it was decided that a specific incident stipulated in Article 10, Clause 1 of the Act on Special Measures Concerning Nuclear Emergency Preparedness *1 has occurred.

At 5:50PM, pursuant to the Act, relevant governmental institutions were notified of the incident.

Future Actions:

TEPCO is taking measures to reduce the pressure of the reactor containment.

Impact to safety and external environment:

Water level to cool the irradiated nuclear fuel in the reactor core is maintained at this moment.

Indication of the monitoring posts installed in the periphery of the power station is no different from usual and thus no radiation impact to the external environment is confirmed at this moment.

We will continue to monitor in detail the possibility of discharge of radioactive material from exhaust stacks and coolant water discharge canal.

*1 Specific Incident Stipulated in Article 10, Clause 1 of the Act on Special Measures Concerning Nuclear Emergency Preparedness

The objective of the Act on Special Measures Concerning Nuclear Emergency Preparedness is to protect the welfare, physical wellbeing and property of Japan's citizens. To this end, when accidents and equipment breakdown have reached certain levels at nuclear power plants, the Act obligates us to notify the nation, prefectures, cities and towns in order for them to take necessary actions and to grasp information in a timely manner.

Notifications are issued out under circumstances such as when the nuclear reactor cannot be shut down and/or when the water supply to the reactor is cut off.

*2 Monitoring Post

Equipment to measure the radiation level in the atmosphere. Seven units are installed in the periphery of the power station.

Lee, Richard

From: Basu, Sudhamay
Sent: Friday, March 11, 2011 10:58 PM
To: corradin@cae.wisc.edu; Farmer, Mitchell T.
Cc: Lee, Richard
Subject: RE: Fukushima

I heard the same thing about the portable generators. But I also heard it is a race against time - being able to hook up the generators before the situation worsens.

From: Michael Corradini [corradini@engr.wisc.edu]
Sent: Friday, March 11, 2011 9:08 PM
To: Farmer, Mitchell T.
Cc: Gavrilas, Mirela; Tinkler, Charles; Basu, Sudhamay; Lee, Richard; Grandy, Christopher
Subject: Re: Fukushima

I am with Dana and others at ACRS. We have gotten some small info from folks in Japan. Fukushima used up their DC battery energy powering their RCIC pumps after the AC diesel generators started and then failed. As of 7pm EST, portable generators had arrived but yet to have been hooked up. Charlie or Mirela may know more. Dana has been contacted by a DOE emergency response team (and I wished him well to Japan).

--

Michael Corradini, Chair
Engineering Physics
University of Wisconsin
(608)263-1648 [Fax: 3-7451]
corradini@engr.wisc.edu
<http://www.engr.wisc.edu/ep>

Quoting "Farmer, Mitchell T." <farmer@anl.gov>:

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

T/18

From: [Gavrilas, Mirela](#)
To: [Gibson, Kathy](#); [Case, Michael](#)
Cc: [Lee, Richard](#)
Subject: FW: Fukushima
Date: Saturday, March 12, 2011 6:55:30 AM

Any info that can be shared with our contractor at ANL? He has a very sharp mind and he is probably the world's foremost expert if the core did melt through the vessel.

They may have done exactly what Mitch said: flooded the cavity and then they got a steam explosion--Mike Corradini could give the best guess as to that. To me, the timeline fits.

M.

From: Michael Corradini [corradini@engr.wisc.edu]
Sent: Friday, March 11, 2011 9:08 PM
To: Farmer, Mitchell T.
Cc: Gavrilas, Mirela; Tinkler, Charles; Basu, Sudhamay; Lee, Richard; Grandy, Christopher
Subject: Re: Fukushima

I am with Dana and others at ACRS. We have gotten some small info from folks in Japan. Fukushima used up their DC battery energy powering their RCIC pumps after the AC diesel generators started and then failed. As of 7pm EST, portable generators had arrived but yet to have been hooked up. Charlie or Mirela may know more. Dana has been contacted by a DOE emergency response team (and I wished him well to Japan).

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Engineering Physics
University of Wisconsin
(608)263-1648 [Fax: 3-7451]
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<http://www.engr.wisc.edu/ep>

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> interaction ex-vessel w/o water and coolability is lost. Let me
> know if there is anything I can do.
>
> Mitch
>
>

7/19

From: Gavrilas, Mirela
To: Case, Michael; Gibson, Kathy
Subject: A thought
Date: Saturday, March 12, 2011 9:10:03 AM

If indeed the Fukushima 1 accident has progressed into a severe accident sequence and the agency will want to make a statement, whoever does the talking would be very wise to consult with Mike Corradini (who is as far as I know the foremost authority on steam explosion) and Mitch Farmer (who is the foremost authority on core concrete interaction).

M.

7/20

Gibson, Kathy

From: Gibson, Kathy
Sent: Saturday, March 12, 2011 2:47 PM
To: Lien, Peter
Subject: Re: Press Release: NRC Continues to Track Earthquake and Tsunami Issues

Peter,
Sandia has been thinking the same thing however we apparently aren't sure about the exact design of these Japanese plants. Charlie Tinkler wrote a one-pager for OPA based on the Peach Bottom SBO analysis we did for SOARCA.

I believe the Japanese use MELCOR and some of their own codes, so they may be using these tools to aid their recovery.

K

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

From: Lien, Peter
To: Gibson, Kathy
Sent: Sat Mar 12 14:34:09 2011
Subject: RE: Press Release: NRC Continues to Track Earthquake and Tsunami Issues

Kathy,

I have been tracking the event progression of the Japanese nuclear crisis through CNN. I was wondering if we have a MELCOR model similar to the Japanese plant. It might be meaningful to simulate the station blackout event with diesel generator failures. We might be asked about this scenario in the future.

Peter

From: Gibson, Kathy
Sent: Friday, March 11, 2011 4:29 PM
To: RES_DSA
Subject: Fw: Press Release: NRC Continues to Track Earthquake and Tsunami Issues

From: Sheron, Brian
To: Bonaccorso, Amy; Calvo, Antony; Case, Michael; Coe, Doug; Correia, Richard; Dion, Jeanne; Gibson, Kathy; Lui, Christiana; Richards, Stuart; Rini, Brett; Sangimino, Donna-Marie; Uhle, Jennifer; Valentin, Andrea
Sent: Fri Mar 11 16:27:08 2011
Subject: FW: Press Release: NRC Continues to Track Earthquake and Tsunami Issues

From: OPA Resource
Sent: Friday, March 11, 2011 4:26 PM

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

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

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

Basu, Sudhamay

From: Grandy, Christopher [cgrandy@anl.gov]
Sent: Saturday, March 12, 2011 7:21 PM
To: Basu, Sudhamay
Cc: Farmer, Mitchell T.
Subject: RE: Fukushima

Sud,

Thanks for sending this information along.

Chris

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

From: Basu, Sudhamay [mailto:Sudhamay.Basu@nrc.gov]
Sent: Saturday, March 12, 2011 10:09 AM
To: Gavrilas, Mirela; Farmer, Mitchell T.; Tinkler, Charles; Lee, Richard
Cc: Grandy, Christopher; 'corradin@cae.wisc.edu'
Subject: RE: Fukushima

Additional update

Japanese authorities have confirmed there was an explosion at the Fukushima No. 1 nuclear power plant Saturday afternoon but it did not occur at its troubled No. 1 reactor, top government spokesman Yukio Edano said.

The chief Cabinet secretary also told an urgent press conference that the operator, Tokyo Electric Power Co., has confirmed there is no damage to the steel container housing the reactor.

Edano said the 3:36 p.m. explosion resulted in the roof and the walls of the building housing the reactor's container being blown away.

The authorities expanded an evacuation area for all local residents from a 10-kilometer radius of the Fukushima No. 1 and No. 2 plants to a 20-km radius.

Officials of Japan's nuclear safety agency also said after examination that they believe there has been no serious damage to the container of the No. 1 reactor, judging from the latest radiation data monitored around the facility.

From: Gavrilas, Mirela
Sent: Saturday, March 12, 2011 7:53 AM
To: Farmer, Mitchell T.; Tinkler, Charles; Basu, Sudhamay; Lee, Richard
Cc: Grandy, Christopher; 'corradin@cae.wisc.edu'
Subject: RE: Fukushima

I just checked with one of the managers in RES and there is no additional NRC information. I think we're all getting our info from the Tepco website. If I get something, I'll forward it.

I have also conveyed your offer for assistance--thank you.

Take care,
M.

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

Hi Mirela, Charlie, Sud, Richard,

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

Mitch

From: [Hurd, Sapna](#)
To: [Rini, Brett](#); [Case, Michael](#)
Cc: [West, Stephanie](#); [Lorette, Phillip](#)
Subject: FW: Incident Response: Japan Earthquake and Tsunami Drill
Date: Sunday, March 13, 2011 12:42:22 AM

Brett/Mike - Just in case you did not get htis.

Stephanie - I will need to change my time in HRMS on monday.

Thx,

Sapna

From: Howard, Tabitha
Sent: Friday, March 11, 2011 10:24 PM
To: Morris, Scott; McDermott, Brian; Ross-Lee, MaryJane; Correia, Richard; Grant, Jeffery; Joseph.Himes@nrc.gov; Campbell, Stephen; McMurtray, Anthony; Gott, William; Marshall, Jane; Waig, Gerald; Jolicoeur, John; Bower, Anthony; Zahira.Cruz-Perez@nrc.gov; Reed, Wendy; Schrader, Eric; DiFrancesco, Nicholas; Carlson, Donald; Rubin, Stuart; Arndt, Steven; Jackson, Karen; Stransky, Robert; Khan, Omar; Figueroa, Roberto; Hickman, John; Karas, Rebecca; Kratchman, Jessica; Scarbrough, Thomas; Salus, Amy; Williamson, Linda; Crutchley, Mary Glenn; Manahan, Michelle; Larson, Emily; Howard, Tabitha; Wimbush, Andrea; Meyer, Karen; Levine, Michael; Guzzetta, Ashley; Darrel.Burrell@nrc.gov; Fiske, Jonathan; Anderson, James; Perin, Vanice; Mroz (Sahm), Sara; Chen, Yen-Ju; Pope, Tia; Christine.Merritt@nrc.gov; Stang, Annette; Hurd, Sapna
Subject: Incident Response: Japan Earthquake and Tsunami Drill

Good evening,

If you have participated in the "Japan Earthquake and Tsunami Drill" that began today (Friday March 11, 2011), please be sure to apply your time spent on this activity to the TAC Number listed below:

D92374 – Incident Response: Japan Earthquake and Tsunami Drill

If your time has already been approved please see myself or acting T&L Coordinator Bridget Curran in order to do a corrected card

Thanks, Tabitha

7/03

From: RST01 Hoc
To: Case, Michael; Skeen, David; Ruland, William; Hiland, Patrick; Brown, Frederick; Dudes, Laura; Rini, Brett; Alter, Peter; Hasselberg, Rick; Morlang, Gary; Collins, Frank; Thomas, Eric; Cheok, Michael; Circle, Jeff; Dube, Donald; Brown, Eva; Circle, Jeff; Esmaili, Hossein; Dube, Donald; Laur, Steven; Schaperow, Jason; Fuller, Edward; Salay, Michael; Kolb, Timothy; Shea, James; Isom, James; Bloom, Steven; Padovan, Mark; Williams, Joseph; Williams, Donna; Hart, Ken; Dozier, Jerry
Subject: Protracted RST Watch Bill - Extended to Friday March 18th
Date: Sunday, March 13, 2011 9:47:20 PM

RST Members...

We have been instructed to expand the list of RST responders that we are pulling into shift work. The shifts have been extended until Friday night. Here is the proposed watch bill. PLEASE DROP BY THE RST ROOM OR CALL THE RST ON-DUTY COORDINATOR AT 301-816-5100 WITH ISSUES AND CONCERNS. Don't call Rick - He'll be sleeping!!!!

Reactor Safety Team Protracted Event Staffing for Japanese Earthquake Response

Team Position	RST Director	RST Coordinator	Accident Analyst	BWR Expert	RST Communicator
03/13/11 Day 0700 - 1500	Pat Hiland	Peter Alter	Jeff Circle	Tim Kolb	Joe Williams
03/13/11 Swing 1500 - 2300	Fred Brown	R. Hasselberg	Hossein Esmaili	C. Norton	Ken Hart
03/13/11 Mid 2300 - 0700	Dave Skeen	Mike Morlang	Mike Cheok	Eva Brown	none
03/14/11 Day 0700 - 1500	Laura Dudes	Peter Alter	Jeff Circle	Tim Kolb	Steve Bloom
03/14/11 Swing 1500 - 2300	Bill Ruland	R. Hasselberg	Don Dube	C. Norton	Mark Padovan
03/14/11 Mid 2300 - 0700	Mike Case	Brett Rini	Steve Laur	Eva Brown	Jerry Dozier
03/15/11 Day 0700 - 1500	Dave Skeen	Peter Alter	Jeff Circle	Jim Shea	Donna Williams
03/15/11 Swing 1500 - 2300	Fred Brown	Frank Collins	Hossein Esmaili	C. Norton	Jim Isom
03/15/11 Mid 2300 - 0700	Pat Hiland	Mike Morlang	J. Schaperow	Eva Brown	Ken Hart
03/16/11 Day 0700 - 1500	Laura Dudes	R. Hasselberg	Ed Fuller	Tim Kolb	Joe Williams
03/16/11 Swing 1500 - 2300	Bill Ruland	Eric Thomas	Mike Salay	C. Norton	Steve Bloom
03/16/11 Mid 2300 - 0700	Mike Case	Brett Rini	Mike Cheok	Eva Brown	Mark Padovan
03/17/11 Day 0700 - 1500	Dave Skeen	Frank Collins	Don Dube	Jim Shea	Donna Williams
03/17/11 Swing 1500 - 2300	Fred Brown	Mike Morlang	Steve Laur	C. Norton	Jerry Dozier
03/17/11 Mid 2300 - 0700	Pat Hiland	Eric Thomas	Jeff Circle	Eva Brown	Ken Hart
03/18/11 Day 0700 - 1500	Laura Dudes	Peter Alter	Hossein Esmaili	Tim Kolb	Jim Isom
03/18/11 Swing 1500 - 2300	Bill Ruland	Brett Rini	J. Schaperow	C. Norton	Steve Bloom

7/24

From: Kammerer, Annie
To: Hiland, Patrick
Cc: Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer; Case, Michael; Skeen, David; Munson, Clifford; Ake, Jon
Subject: RE: Japanese Earthquake Questions
Date: Monday, March 14, 2011 12:20:02 PM
Attachments: seismic questions for structural and electrical engineers.docx

Pat,

I currently have about 17 pages of questions that we should have pulled together in a pretty useful form later today.

Attached, please see a list of unanswered engineering type questions that I pulled from the larger Q&A document. If you can get your guys working on these it would be very helpful. I am hoping to publish a version at about 4 or 5 today. So, if I can get something on these by perhaps 3 or 4, that would be great. Otherwise, we will note that we are working on it.

FYI, Jon Ake and Cliff Munson are working on a separate set of the seismic questions.

Also, I don't have any questions on Seismic PRA, which is a hot topic with industry lately (as evidenced by the recent letter from NEI asserting that SPRA is too undeveloped). I have asked Nilesch to develop some Q&As that we may see coming from industry to us as a result of all of this. Those are not likely to make it into the version I want to get out today, but we can add later.

Annie

From: Hiland, Patrick
Sent: Monday, March 14, 2011 11:05 AM
To: Kammerer, Annie
Cc: Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer; Case, Michael; Skeen, David
Subject: RE: Japanese Earthquake Questions

NRR/DE has Kamal (seismic structures) to review specific questions. I also have several very experienced structural design engineers on staff (George Thomas & Farhead Farzam) If electrical, I have qualified staff and George Wilson that can help.

From: Kammerer, Annie
Sent: Monday, March 14, 2011 10:49 AM
To: Case, Michael; Skeen, David; Hiland, Patrick
Cc: Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer
Subject: RE: Japanese Earthquake Questions

I have compiled a set of questions from all available sources, which I think are pretty complete. I am organizing them now and I have cliff and jon helping me with some of the answers. I've pulled from the questions we got a kashiwazaki, the questions we have that have come in, the GI-199 com plan, the DCNPP com plan, and other places.

I do have a request from RIV to pull a Q&A list for SONGS. If I brainstorm a list can I get

T/25

help with answers?

What kind of experts do you have?

From: Case, Michael

Sent: Monday, March 14, 2011 7:51 AM

To: Skeen, David; Hiland, Patrick

Cc: Murphy, Andrew; Pires, Jose; Kammerer, Annie; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer

Subject: Japanese Earthquake Questions

Hi guys. I don't know where we stand on the seismic related questions after Sunday's day shift activities (I assume Annie was able to continue). Nevertheless, I have access to some more experts here this morning. If there are residual activities, just let me know and we'll get them working.

Guidance: please answer the question in two parts (1) a “public response” that is high level and in layman's terms and (2) additional technical or sensitive information that in-house staff should know.

Questions:

How do we know that the equipment in plants is safe in earthquakes?

Public response: ADD

Additional, technical, non-public information: ADD

How do we know equipment will work if the magnitude is bigger than expected, like in Japan?

Public response: ADD

Additional, technical, non-public information: ADD

Are US plants susceptible to the same kind of loss of power as happened in Japan?

Public response: ADD

Additional, technical, non-public information: ADD

How do we know that the EDFs in Diablo Canyon and SONGS will not fail to operate like in Japan?

Public response: ADD

Additional, technical, non-public information: ADD

Is the earthquake safety of US plants periodically reviewed?

Public response: ADD

Additional, technical, non-public information: ADD

Is all equipment at the plant vulnerable to tsunami?

Public response: ADD

Additional, technical, non-public information: ADD

What protection measures do plants have against tsunami?

Public response: ADD

Additional, technical, non-public information: ADD

Is there a risk of loss of water during tsunami drawdown? Is it considered in design?

Public response: ADD

Additional, technical, non-public information: ADD

What is the design level flooding for DNCPP and SONGS? Can a tsunami be larger?

Public response: ADD

Additional, technical, non-public information: ADD

Are nuclear building built to withstand earthquakes? What about tsunami?

Public response: ADD

Additional, technical, non-public information: ADD

Are aftershocks considered in the design of equipment at the plants? Are aftershocks considered in design of the structure?

Public response: ADD

Additional, technical, non-public information: ADD

Why do we have confidence that US nuclear power plants are adequately designed for earthquakes and tsunamis?

Public response: ADD

Additional, technical, non-public information: ADD

If the earthquake in Japan was a larger magnitude than considered by plant design, why can't the same thing happen in the US?

Public response: ADD

Additional, technical, non-public information: ADD

What would be the results of a tsunami generated off the coast of a US plant? (Or why are we confident that large tsunamis will not occur relatively close to US shores?)

Public response: ADD

Additional, technical, non-public information: ADD

Are there any special issues associated with seismic design at the plants? For example, Diablo Canyon has special requirements. Anyone else?

Public response: ADD

Additional, technical, non-public information: ADD

Does GI-199 consider tsunami?

Public response: ADD

Additional, technical, non-public information: ADD

From: Hiland, Patrick
To: Kammerer, Annie
Cc: Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer; Case, Michael; Skeen, David
Subject: RE: Japanese Earthquake Questions
Date: Monday, March 14, 2011 11:04:48 AM

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Cc: Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer
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Sent: Monday, March 14, 2011 7:51 AM
To: Skeen, David; Hiland, Patrick
Cc: Murphy, Andrew; Pires, Jose; Kammerer, Annie; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer
Subject: Japanese Earthquake Questions

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T/26

From: [Stevens, Gary](#)
To: [RES DE CIB](#); [Richards, Stuart](#); [Case, Michael](#)
Subject: FW: FW: Fuku-1 building explosion
Date: Monday, March 14, 2011 8:04:21 AM

First-hand reports from some folks who were actually on-site. Incredible.

Gary L. Stevens
Senior Materials Engineer
NRC/RES/DE/CIB
 Gary.Stevens@nrc.gov
 301-251-7569

----- Forwarded Message -----

Difficult times for our friends in Japan and challenges for the nuclear industry in Japan and elsewhere in the world.

----- Forwarded Message -----

Thank you very much for your kind message.

Please see below status. I am barely OK.

I was at Fuku site during quake hit together with GEH-I Japanese Employee + 39 US Crew for 1F-4 RIR project. It was hell and super huge earthquake ever. However, everybody(GEH, USA, Tokai Kosan, Atox) were safe/OK and we evacuated from Fuku. GEH site office was quite messy.

1F-1 could avoid worst scenario by injecting sea water into PCV/RPV - partial top core meltdown - looks like. Top section of reactor building was broken off due to Hydrogen detonation-I believe this was not expected event, but Hydrogen was generated inside RPV due to metal/water reaction and H2 leaked from PCV to Reactor Building. PCV/RPV are maintaining its intended function.

1F-3 -- could be quite similar to 1F-1 but looks like no top core melt-down yet-we do not know.

Tokai-2 is running Standby DG and Rx is being cooled - no off site power available. They have 7 days fuel for DG so should be OK.

2F site - three reactors were auto-scrammed. They are having difficulty to cool the reactor residual heat due to no off site power and Diesel Engine Driven Generator are not operable. Could be similar to 1F-3.

It took almost 23 hours to come back to my home(traffic jammed, gas problem, engine problem, etc).

My home was heavily damaged and big headache. I do not know how to restore, no water supply, no sewage, no gas. Only electric power but from tomorrow morning, periodic power supply stoppage.

Physically, to my knowledge, all of our friend/family including our supporting company people looks OK.

----- Forwarded Message -----

We are all happy that you both are safe. Having been at Fukushima many times and having done work related to both the 1F and 2F units, I hope and pray that they will come out with minimal damage. The news outlets here are describing horror stories and at one point I was under the impression that the primary containment had exploded. Your description of this as hydrogen explosion on the operating floor makes it less alarming (it is something we have seen before!). Anyway the news media here is uninformed and is spreading all kinds of mis-information.

I have a lot of affection and admiration for the Japanese people and it pains us all to

7/27

see the extensive damage. But if anyone can come out of this successfully (like they did after Kobe), it will be the Japanese. Hope things become normal soon and the rebuilding starts soon.

----- Forwarded Message -----

This is only hydrogen explosion at 1F-1 operating floor and came off operating floor wall during steam out through off gas stack, not by PCV and reactor explosion.

H2 will Leak through valves and go up to top floor of Reactor BLDG, Media people didn't understand details.

I'm sure TEPCO can handle this issue therefore they have made decision of seawater injection with boron for RPV and Torus/SC.

----- Forwarded Message -----

... just in case you are not seeing it on Japanese television, see the NHK/twitter's link showing the before and after damage to the F1 plant building from the H2 explosion. Also included are comments relating to the explosion.

<http://twitpic.com/48pqvs>

----- Forwarded Message -----

Thanks for the link. Dramatic photo. I agree that it looks like a hydrogen explosion, but I don't recall any recombiners for the secondary containment at any BWR - just SBGT with HEPA and particle filters and heaters which may have ignited any H2. Only recombiners I recall are in the off-gas system and at some BWRs in the primary containment (some catalytic, some with spark plug igniters to burn it off). My guess is they burped the primary containment to protect it from overpressure and H2 got into the secondary containment that way.

----- Forwarded Message -----

Thanks for forwarding updates. Pasted in a link that shows photos before and after the explosion. It appears that the top section of the reactor building may have suffered damage. Photo taken at a distance, but it looks like that the steelwork is in place and secondary containment barrier is compromised (gone). If there was no power available perhaps the secondary containment hydrogen recombiners (if they exist) were not operating and the explosion was due to hydrogen buildup. Glad to hear that folks are unharmed along with their families. Prayers and hope for those who were there and are struggling to control the situation.

<http://twitpic.com/48pqvs>

From: Kammerer, Annie
To: Case, Michael; Skeen, David; Hiland, Patrick
Cc: Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer
Subject: RE: Japanese Earthquake Questions
Date: Monday, March 14, 2011 10:49:03 AM

I have compiled a set of questions from all available sources, which I think are pretty complete. I am organizing them now and I have cliff and jon helping me with some of the answers. I've pulled from the questions we got at kashiwazaki, the questions we have that have come in, the GI-199 com plan, the DCNPP com plan, and other places.

I do have a request from RIV to pull a Q&A list for SONGS. If I brainstorm a list can I get help with answers?

What kind of experts do you have?

From: Case, Michael
Sent: Monday, March 14, 2011 7:51 AM
To: Skeen, David; Hiland, Patrick
Cc: Murphy, Andrew; Pires, Jose; Kammerer, Annie; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer
Subject: Japanese Earthquake Questions

Hi guys. I don't know where we stand on the seismic related questions after Sunday's day shift activities (I assume Annie was able to continue). Nevertheless, I have access to some more experts here this morning. If there are residual activities, just let me know and we'll get them working.

7/28

From: Uhle, Jennifer
To: Coyne, Kevin; Coe, Doug; Scott, Michael; Gibson, Kathy; Richards, Stuart; Case, Michael
Subject: FW: Confirmation of names for Japan
Date: Monday, March 14, 2011 4:51:46 PM

Everyone, here are the names, see below. Thanks for your help. I contacted BNL and DSA contact SNL so everyone from RES' list is standing down. Thanks,

J

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

Folks –

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

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

Thanks again for your support!

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

T/29

From: [Donaldson, Leslie](#)
To: [Muessle, Mary](#); [Case, Michael](#)
Cc: [Baretich, Karmen](#); [Chan, Deborah](#); [Lam, Donna](#)
Subject: FW: Continuing SES Coaching Hours for RES
Date: Wednesday, March 16, 2011 3:05:26 PM

Hi Mary and Mike:

FYI (see below) re. your SES coaching with Sarah R. We're in close communication with Donna and Karmen to ensure you continue with your coaching as desired.

Leslie

From: Lam, Donna
Sent: Thursday, February 17, 2011 4:05 PM
To: Adelstein, Patricia; Donaldson, Leslie
Cc: Baretich, Karmen
Subject: RE: Continuing SES Coaching Hours for RES

I am working to extend the Interagency Agreement past March.
Don't worry, all SES who still have hours coming for the first round will be covered.
Thanks for your patience,
Donna

*Donna Lam,
Chief Professional Development and Policy Branch
Office of Human Resources
301-492-2001*

From: Uhle, Jennifer
To: Case, Michael; Coe, Doug; Coyne, Kevin; Gibson, Kathy; Scott, Michael; Richards, Stuart
Cc: Sheron, Brian
Subject: Japanese update
Date: Monday, March 14, 2011 4:49:53 PM

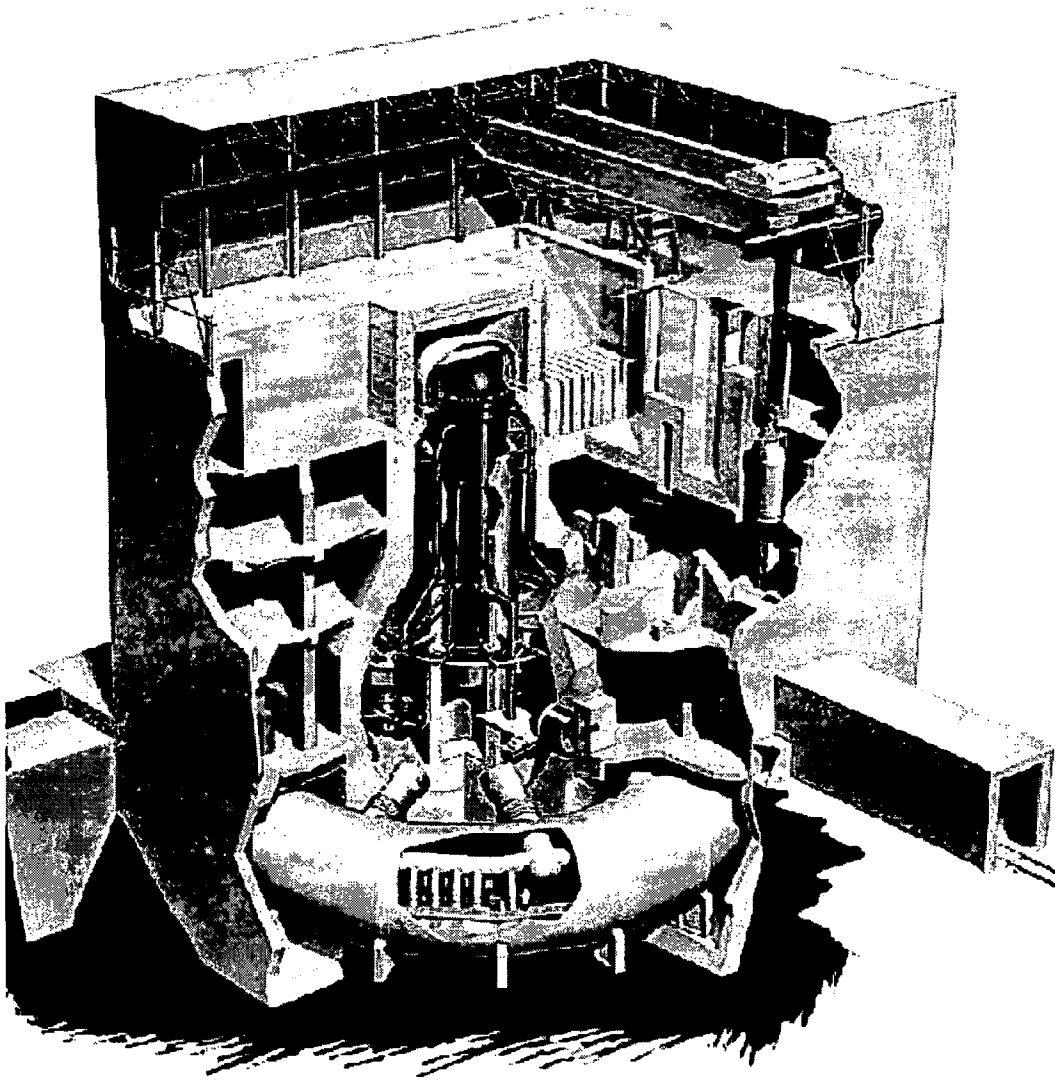
Based on a recent call at 3:30, sea water injection has been restored to each of the 3 Diachii units and containments are in tact. I will update you as I hear more. Jennifer

11/30

From: Stevens, Gary
To: RES DE CIB; Case, Michael; Richards, Stuart
Subject: Japanese Nuclear Situation
Date: Monday, March 14, 2011 7:55:59 AM
Attachments: ANS Japan Background.pdf

Several folks have been asking me questions on this topic, so I thought I would share some facts with you from my background experience.

Amidst all of the sensationalizing and speculation coming out of Japan, below and attached is the first report I've seen that seems to contain some good rational facts from NEI and ANS about the Fukushima Unit 1 accident in Japan. Note that Fukushima Daiichi Unit 1 is a GE-designed BWR-3, RPV ID = 188", ~500 MWe, that has operated for about 40 years (entered service in 1971). The explosion you saw on TV was the reactor building (see below, top portion of building) due to hydrogen build-up, as explained in the attachment. The plant has a Mark I containment, which looks like this:



I have several friends in Japan from my days working at GE, some of whom were at the

T/31

plant performing outage work. I am happy to report, based on an e-mail I received this a.m. containing correspondence from one of them, that GE's crew of about 40 engineers made it out of the area safely. Under a separate e-mail, I will share that first-hand report anonymously with you.

Gary L. Stevens
Senior Materials Engineer
NRC/RES/DE/CIB
 Gary.Stevens@nrc.gov
 301-251-7569

March 13, 2011, 7 p.m. EDT Update

Fukushima Daiichi

The hydrogen explosion on March 11 between the primary containment vessel and secondary containment building of the reactor did not damage the primary containment vessel or the reactor core. To control the pressure of the reactor core, TEPCO began to inject seawater and boric acid into the primary containment vessels of Unit 1 on March 12 and Unit 3 on March 13. There is likely some damage to the fuel rods contained in reactors 1 and 3.

At both reactors 1 and 3, seawater and boric acid is being injected into the reactor using fire pumps. On reactor 3, a pressure relief valve in the containment structure failed to open, but was restored by connecting an air pressure to the line driving valve operation.

The water level in the reactor vessel of reactor 2 reactor is steady.

Personnel from TEPCO are closely monitoring the status of all three reactors.

The highest recorded radiation level at the Fukushima Daiichi site was 155.7 millirem at 1:52 p.m. on March 13. Radiation levels were reduced to 4.4 millirem by the evening of March 13. The NRC's radiation dose limit for the public is 100 millirem per year.

Japanese government officials acknowledged the potential for partial fuel meltdowns at Fukushima Daiichi Unit 1 and 3 reactors, but there is no danger for core explosion, as occurred at the nuclear power station at Chernobyl in 1986. Control rods have been successfully inserted at all of the reactors, thereby ending the chain reaction. The reactor cores at Fukushima Daiichi and Daini power stations are surrounded by steel and concrete containment vessels of 40 to 80 inches thick that are designed to contain radioactive materials.

Fukushima Daini

The Fukushima Daini plants remains in a state of emergency. There is electricity available at all four of the reactors at Fukushima Daini, although there is limited availability of the cooling water pumps at reactors 1, 2 and 4.

TEPCO is working to maintain constant cooling in the primary containment vessels of those reactors. No radioactivity has been recorded outside of the secondary containment buildings at Fukushima Daini, according to TEPCO.

Two other nuclear power plants in the Tohoku region, Onagawa Nuclear Power Station and Tokai Nuclear Power Station, were automatically shut down in response to the earthquake. The four reactors at these plants have functioning cooling systems and are being monitored by plant operators.

The Rokkasho Reprocessing Plant and accompanying facilities, located far north of the tsunami zone in Rokkasho Town, is operating safely on backup power generation systems.

Japanese nuclear facilities are designed to withstand powerful seismic events, such as earthquakes. In this earthquake—the strongest recorded over the past 100 years in Japan—the containment structures of Fukushima Daiichi maintained their structural integrity. These facilities were designed to withstand tsunamis within a range of assumed strength, however the force of the tsunami on March 10 exceeded the assumed range and flooded diesel generators at Fukushima Daiichi power station. This precipitating the loss of power for the reactor cooling systems.

The automatic shutdown of the 11 operating reactors at the Onagawa Nuclear Power Station, Tokai Nuclear Power Station, Fukushima Daiichi and Daini, represents a loss of 3.5% of electric generation capacity for Japan.

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

3/12/2011 5:22 PM EST

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

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

What happened?

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

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

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

Can it happen here in the US?

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

Is a nuclear reactor "meltdown" a catastrophic event?

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

What is the ANS doing?

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

ANS has established an incident communications response team.

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

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

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

From: Nguyen, Quynh *NR*
To: Leeds, Eric; Boger, Bruce; Grobe, Jack; Stone, Rebecca
Cc: Ruland, William; Brown, Frederick; Hiland, Patrick; McGinty, Tim; Meighan, Sean
Subject: Comments on Protecting Our Nation (NUREG BR-0314) Electronic Concurrence
Date: Monday, March 14, 2011 10:47:52 AM
Attachments: COMMENT REQUESTED - Comments on Protecting Our Nation (NUREG BR-0314) Electronic Concurrence.msg

Rebecca,

I talked with Bruce Boger. Unless you hear otherwise, I am recommending concurrence with no comments from NRR.

Thanks,
Quynh

T/32

Attachment COMMENT REQUESTED - Comments on Protecting Our.msg (2560 Bytes) cannot be converted to PDF format.

From: Uhle, Jennifer
To: Scott, Michael; Case, Michael
Subject: Names for Japan
Date: Monday, March 14, 2011 11:15:18 AM

Mike(s),

I provided the information as is because they wanted it by 11:00, so please find out if these people are available and if they do in fact have their passports. I will get back to you as soon as I hear more.

Thanks,

J

T/33

Case, Michael

From: Case, Michael
Sent: Monday, March 14, 2011 2:25 PM
To: Kammerer, Annie
Subject: RE: Japanese Earthquake Questions

Hi Annie. Yes you can get help. My experts are just the RES staff over here.

From: Kammerer, Annie
Sent: Monday, March 14, 2011 10:49 AM
To: Case, Michael; Skeen, David; Hiland, Patrick
Cc: Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer
Subject: RE: Japanese Earthquake Questions

I have compiled a set of questions from all available sources, which I think are pretty complete. I am organizing them now and I have cliff and jon helping me with some of the answers. I've pulled from the questions we got at kashiwazaki, the questions we have that have come in, the GI-199 com plan, the DCNPP com plan, and other places.

I do have a request from RIV to pull a Q&A list for SONGS. If I brainstorm a list can I get help with answers?

What kind of experts do you have?

From: Case, Michael
Sent: Monday, March 14, 2011 7:51 AM
To: Skeen, David; Hiland, Patrick
Cc: Murphy, Andrew; Pires, Jose; Kammerer, Annie; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer
Subject: Japanese Earthquake Questions

Hi guys. I don't know where we stand on the seismic related questions after Sunday's day shift activities (I assume Annie was able to continue). Nevertheless, I have access to some more experts here this morning. If there are residual activities, just let me know and we'll get them working.

From: [Coyne, Kevin](#)
To: [Correia, Richard](#)
Cc: [Coe, Doug](#)
Subject: RE: ACTION: Assistance to Japanese
Date: Monday, March 14, 2011 5:04:47 PM
Attachments: [FW Confirmation of names for Japan.msg](#)

Rich –

Thanks for the head's up. Brian and Jennifer got the information they needed and were able to provide information to Eric Leeds (see attached) – no one from RES will be going...

-Kevin

From: Correia, Richard
Sent: Monday, March 14, 2011 7:28 AM
To: Coe, Doug; Coyne, Kevin
Subject: FW: ACTION: Assistance to Japanese

Doug, Kevin,

This is a heads up. I'm sure DRA has very capable folks that could assist here but let's see what Brian and Jennifer find out.

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

Folks –

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

Thanks for your help!

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

Attachment FW Confirmation of names for Japan.msg (2560 Bytes) cannot be converted to PDF format.

From: Boger, Bruce
To: Leeds, Eric
Subject: FW: (Action) Tsunami Fact Sheet - NUREG issued in March 2009 Link
Date: Monday, March 14, 2011 9:20:00 AM
Attachments: Natural Phenomena Limitations.wpd

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

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

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

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

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

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

Thanks Mark

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

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

TSUNAMI HAZARD ASSESSMENT AT NUCLEAR POWER PLANT SITES IN THE UNITED STATES OF AMERICA

Click link to view: [\[NUREG/CR-6966\]](#)

T/36

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

DESS
REL

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

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

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

Thanks,

John

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

REL

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

Attachment Natural Phenomena Limitations.wpd (16454 Bytes) cannot be converted to PDF format.

Lee, Richard

From: Farmer, Mitchell T. [farmer@anl.gov]
Sent: Monday, March 14, 2011 10:45 PM
To: Tinkler, Charles; Lee, Richard; Basu, Sudhamay; Gavrilas, Mirela
Subject: Fire at unit 4

I heard theres a fire at Unit 4 now. I am worried about the spent fuel pool there. Don't know what can be done but am relaying this.
Mitch

T/37

Beasley, Benjamin

From: Beasley, Benjamin
Sent: Tuesday, March 15, 2011 11:30 AM
To: Manoly, Kamal
Subject: FW: NBC deadline question for NRC on seismic hazard estimates
Attachments: image001.gif

Importance: High

Forgot to put you on copy

From: Beasley, Benjamin
Sent: Tuesday, March 15, 2011 11:29 AM
To: Couret, Ivonne
Cc: Wilson, George
Subject: FW: NBC deadline question for NRC on seismic hazard estimates
Importance: High

Ivonne,

I am coordinating the assembly of answers for the NBC reporter on GI-199. We are still working, but draft answers are:

1. His plain language understanding of the risk is correct.
2. The latest seismic hazard estimates for western U.S. nuclear plants are in the IPEEEs. Following 9-11, these documents are no longer publicly available. There are updated USGS seismic estimates for the entire U.S., but these have not been applied to the western plants.
3. The consensus hazard estimates are not out yet. We expect them by the end of the year.
4. The NRC is working on developing a Generic Letter (GL) to request information from affected licensees. The GL will likely be issued in a draft form within the next 2 months to stimulate discussions with industry in a public meeting. After that it has to be approved by CRGR, presented to ACRS and issued as a draft for formal public comments (45 days). After evaluation of the public comments it can then be finalized for issuance. We anticipate to issue the GL by the end of this calendar year. The information from licensees will likely require 3-6 months to complete. Staff's review will commence after receiving licensees' responses. Based on staff's review, a determination can be made regarding cost beneficial backfits where it can be justified.

I will send an update after I get final information. Please let me know if there is something else we can do.

Ben Beasley



Benjamin Beasley, Chief
Operating Experience and Generic Issues Branch
Division of Risk Analysis
Office of Nuclear Regulatory Research
301-251-7676

Benjamin.Beasley@nrc.gov
Generic Issues Program
Operating Experience Databases

From: Wilson, George
Sent: Tuesday, March 15, 2011 9:31 AM
To: Beasley, Benjamin
Subject: FW: NBC deadline question for NRC on seismic hazard estimates
Importance: High

fyi

From: Hiland, Patrick
Sent: Tuesday, March 15, 2011 9:20 AM
To: Wilson, George; Manoly, Kamal
Cc: Stutzke, Martin; Ake, Jon; Coe, Doug; Skeen, David; Scales, Kerby
Subject: FW: NBC deadline question for NRC on seismic hazard estimates
Importance: High

Need to work with OPA, and RES. Kamal should coordinate with RES, and I suggest Marty/Jon respond directly through RES. Doug Coe is good source also for the GI. Get OPA involved.

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

Good morning,

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

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

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

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

I have these questions:

1. I'd like to make sure that I accurately place in layman's terms the seismic hazard estimates. I need to make sure that I'm understanding the nomenclature for expressing the seismic core-damage frequencies. Let's say there's an estimate expressed as "2.5E-06." (I'm looking at Table D-2 of the safety/risk assessment of August 2010.) I believe that this expression means the same as 2.5×10^{-6} , or 0.0000025, or 2.5 divided by one million. In layman's terms, that means an expectation, on average, of 2.5 events every million years, or once every 400,000 years. Similarly, "2.5E-05" would be 2.5 divided by 100,000, or 2.5 events every 100,000 years, on average, or once every 40,000 years. Is this correct?

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

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

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

Thank you for your help.

Regards,

Bill Dedman

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Hogan, Rosemary

From: Pires, Jose
Sent: Tuesday, March 15, 2011 8:44 AM
To: Ake, Jon; Kammerer, Annie
Cc: Graves, Herman; Hogan, Rosemary; Candra, Hernando
Subject: RE: Japanese Earthquake Questions -= Table of BWRs Mark I

We are going to compare this with another database that we have (for all reactors not just BWRs).

By the way, not all Mark 1 reactors at Fukushima are BWR-3. Only unit 1 was a BWR-3. The other units are BWR-4. It may not be useful at this stage to separate the Mark 1 reactors in the 3, 4, 5 categories.

I would like to read the current version of the Q&As after a meeting this morning with NSIR.

Thanks,

Jose.

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

From: Ake, Jon
Sent: Monday, March 14, 2011 11:06 PM
To: Pires, Jose; Kammerer, Annie
Cc: Graves, Herman; Hogan, Rosemary; Candra, Hernando
Subject: RE: Japanese Earthquake Questions -= Table of BWRs Mark I

Jose et al.,
here is a another sheet to have if needed, it has summary of CEUS plants with OBE, SSE, IPEEE review level spectra etc,
cheers-
jon

From: Pires, Jose
Sent: Monday, March 14, 2011 3:46 PM
To: Pires, Jose; Kammerer, Annie; Ake, Jon
Cc: Graves, Herman; Hogan, Rosemary; Candra, Hernando
Subject: RE: Japanese Earthquake Questions -= Table of BWRs Mark I

Herman told me that of all the BWR Mark I reactors only 6 are like the ones in Fukushima, the BWR-3 version. Attached is the table with two tabs: one with the 5 US BWR-3 Mark I and the other with all of them. Millstone 1 is closed. Even the BWR-3 may differ from those in Japan (for example, security upgrades).

From: Pires, Jose
Sent: Monday, March 14, 2011 3:32 PM
To: Pires, Jose; Kammerer, Annie; Ake, Jon
Cc: Graves, Herman; Hogan, Rosemary; Candra, Hernando
Subject: RE: Japanese Earthquake Questions -= Table of BWRs Mark I

With the table.

From: Pires, Jose
Sent: Monday, March 14, 2011 3:28 PM

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To: Pires, Jose; Kammerer, Annie; Ake, Jon
Cc: Graves, Herman; Hogan, Rosemary; Candra, Hernando
Subject: RE: Japanese Earthquake Questions -= Table of BWRs Mark I

Annie,

Hernando prepared this table of BWR Mark I reactors in the US. It includes various information including dates of OLs and CPs as well OBE and SSE information as well as design pressure and accident pressure capacity.
Thanks,

Jose.

From: Pires, Jose
Sent: Monday, March 14, 2011 2:29 PM
To: Kammerer, Annie; Ake, Jon
Cc: Graves, Herman; Hogan, Rosemary
Subject: RE: Japanese Earthquake Questions

Annie,

Attached is some information on the design for some of the affected Japanese plants.

Slide 2 says that for Fukushima 1 (unit 1) the PGA was 0.17 g. The National Bureau of Standards damage report for the 1978 Miyagiken-Okai earthquake, NBS SP 592, says that the design basis for that reactor was 0.18 g (and it used the Taft record from the 1952 Kern County earthquake response spectra – design was by Blume's company - an author of the NBS report is Peter Lanev who worked for John Blume at the time of the NBS report).

Slide 10 has values for the seismic design basis loads for other plants (Onagawa, Fukushima 1 and 2 included). It went up since the 1965 design for unit 1. I do not know if unit 1 was upgraded (meaning the mechanical and electrical equipment because the buildings tend to be strong enough).

Slide 30. The first sentence on slide 30 is interesting. It says that the greatest impact of seismic requirements is on mechanical and electrical equipment. I tend to agree with that.

We will try to corroborate the information above with other sources. A comparison of these with PGA's from SHAKECAST may show that the 0.48 g covers the recorded PGA at some sites and not be far from those at other sites.

We are getting a list of US BWR Mark I reactors with their locations and some design parameters (design pressure, OBE and SSE).

Thanks,

Jose.

From: Kammerer, Annie
Sent: Monday, March 14, 2011 12:20 PM
To: Hiland, Patrick
Cc: Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer; Case, Michael; Skeen, David; Munson, Clifford; Ake, Jon
Subject: RE: Japanese Earthquake Questions

Pat,

I currently have about 17 pages of questions that we should have pulled together in a pretty useful form later today.

Attached, please see a list of unanswered engineering type questions that I pulled from the larger Q&A document. If you can get your guys working on these it would be very helpful. I am hoping to publish a version at about 4 or 5 today. So, if I can get something on these by perhaps 3 or 4, that would be great. Otherwise, we will note that we are working on it.

FYI, Jon Ake and Cliff Munson are working on a separate set of the seismic questions.

Also, I don't have any questions on Seismic PRA, which is a hot topic with industry lately (as evidenced by the recent letter from NEI asserting that SPRA is too undeveloped). I have asked Nilesch to develop some Q&As that we may see coming from industry to us as a result of all of this. Those are not likely to make it into the version I want to get out today, but we can add later.

Annie

From: Hiland, Patrick
Sent: Monday, March 14, 2011 11:05 AM
To: Kammerer, Annie
Cc: Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer; Case, Michael; Skeen, David
Subject: RE: Japanese Earthquake Questions

NRR/DE has Kamal (seismic structures) to review specific questions. I also have several very experienced structural design engineers on staff (George Thomas & Farhead Farzam) If electrical, I have qualified staff and George Wilson that can help.

From: Kammerer, Annie
Sent: Monday, March 14, 2011 10:49 AM
To: Case, Michael; Skeen, David; Hiland, Patrick
Cc: Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer
Subject: RE: Japanese Earthquake Questions

I have compiled a set of questions from all available sources, which I think are pretty complete. I am organizing them now and I have cliff and jon helping me with some of the answers. I've pulled from the questions we got at kashiwazaki, the questions we have that have come in, the GI-199 com plan, the DCNPP com plan, and other places.

I do have a request from RIV to pull a Q&A list for SONGS. If I brainstorm a list can I get help with answers?

What kind of experts do you have?

From: Case, Michael
Sent: Monday, March 14, 2011 7:51 AM
To: Skeen, David; Hiland, Patrick
Cc: Murphy, Andrew; Pires, Jose; Kammerer, Annie; Hogan, Rosemary; Sheron, Brian; Uhle, Jennifer
Subject: Japanese Earthquake Questions

Hi guys. I don't know where we stand on the seismic related questions after Sunday's day shift activities (I assume Annie was able to continue). Nevertheless, I have access to some more experts here this morning. If there are residual activities, just let me know and we'll get them working.

From: RST01 Hoc
To: Hiland, Patrick; Brown, Frederick; Skeen, David; Dudes, Laura; Ruland, William; Case, Michael; Alter, Peter; Hasselberg, Rick; Rini, Brett; Berry, Rollie; Collins, Frank; Morlang, Gary; Schoenebeck, Greg; Kowalczyk, Jeffrey; Sloan, Scott; Circle, Jeff; Esmaili, Hossein; Cheek, Michael; Ward, Leonard; Laur, Steven; Salay, Michael; Schaperow, Jason; Fuller, Edward; Marksberry, Don; Kolb, Timothy; Norton, Charles; Brown, Eva; Shea, James; Vick, Lawrence; Brown, Michael; Williams, Joseph; Hart, Ken; Bloom, Steven; Padovan, Mark; Williams, Donna; Isom, James; Dozier, Jerry; Thorp, John; Kugler, Andrew
Subject: Protracted Event Staffing for Reactor Safety Team Staffing for Japanese Earthquake.doc
Date: Tuesday, March 15, 2011 9:30:15 PM
Attachments: Protracted Event Staffing for Reactor Safety Team Staffing for Japanese Earthquake.doc

Please see attached RST staffing schedule thru 3/19 swing shift

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Reactor Safety Team Protracted Event Staffing for Japanese Earthquake Response

Team Position	RST Director	RST Coordinator	Accident Analyst	BWR Expert	RST Communicator
03/13/11 Day 0700 - 1500	Pat Hiland	Peter Alter	Jeff Circle	Tim Kolb	Joe Williams
03/13/11 Swing 1500 - 2300	Fred Brown	R. Hasselberg	Hossein Esmaili	Chuck Norton	Ken Hart
03/13/11 Mid 2300 - 0700	Dave Skeen	Brett Rini (C)	Mike Cheok (C)	Eva Brown (C)	none
03/14/11 Day 0700 - 1500	Laura Dudes	Peter Alter	Jeff Circle	Tim Kolb	Steve Bloom
03/14/11 Swing 1500 - 2300	Bill Ruland (C)	R. Berry (C)	Len Ward (C)	Chuck Norton (C)	Mark Padovan
03/14/11 Mid 2300 - 0700	Mike Case (C)	R. Berry (C)	Steve Laur (C)	Eva Brown (C)	Ken Hart (C)
03/15/11 Day 0700 - 1500	Dave Skeen (C)	R. Hasselberg (C)	Jeff Circle (C)	Jim Shea Peter Alter (C) –	Donna Williams ©
03/15/11 Swing 1500 - 2300	Fred Brown ©	Frank Collins (C)	Michael Salay (C)	Chuck Norton (C)	Jim Isom
03/15/11 Mid 2300 - 0700	Pat Hiland	Mike Morlang (C)	J. Schaperow N/A (Move)	Eva Brown (C)	Ken Hart ©
03/16/11 Day 0700 - 1500	Dave Skeen (C)	R. Hasselberg ©	Ed Fuller (C)	Larry Vick ©	Joe Williams ©
03/16/11 Swing 1500 - 2300	Bill Ruland	Mike Morlang (C)	Hossein Esmaili ©	Chuck Norton (C)	Steve Bloom ©
03/16/11 Mid 2300 - 0700	Mike Case	Rollie Berry (C)	<u>Mike Salay?</u>	Eva Brown (C)	Mark Padovan
03/17/11 Day 0700 - 1500	Laura Dudes (?)	Frank Collins (C)	Jeff Circle (C)	Jim Shea (Peter Alter?)	Donna Williams
03/17/11 Swing 1500 - 2300	Fred Brown	Schoenebeck (C)	Steve Laur	C. Norton (C)	Jerry Dozier
03/17/11 Mid 2300 - 0700	Pat Hiland	Rollie Berry (C)	TBD	Eva Brown (C)	John Thorp (C)
03/18/11 Day 0700 - 1500	Laura Dudes	Peter Alter	Hossein Esmaili	Tim Kolb (N/A) <u>Jim Shea?</u>	Jim Isom
03/18/11 Swing 1500 - 2300	Bill Ruland	<u>G.Schoenebeck</u> ©	J. Schaperow	C. Norton	
03/18/11 Mid 2300 - 0700		Rollie Berry (C)	Don Marksberry?	Mike Brown, Frank Collins,	Andy Kugler
03/19/11 Day 0700 - 1500		Jeff Kowalczyk, Scott Sloan, Greg			

		Schoenebeck			
03/19/11 Swing 1500 - 2300					

Beasley, Benjamin

From: Beasley, Benjamin
Sent: Tuesday, March 15, 2011 12:01 PM
To: Couret, Ivonne
Subject: RE: NBC deadline question for NRC on seismic hazard estimates
Attachments: image001.gif

I will have a final set of answers within the hour for you.

Ben

From: Couret, Ivonne
Sent: Tuesday, March 15, 2011 11:31 AM
To: Beasley, Benjamin
Cc: Wilson, George
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

I just spoke to the reporter if we can give him written responses and coordinate a phone interview/review of items. When you guys are ready we can do this before 5p.m. Thanks for ALL you do! Ivonne

From: Beasley, Benjamin
Sent: Tuesday, March 15, 2011 11:29 AM
To: Couret, Ivonne
Cc: Wilson, George
Subject: FW: NBC deadline question for NRC on seismic hazard estimates
Importance: High

Ivonne,

I am coordinating the assembly of answers for the NBC reporter on GI-199. We are still working, but draft answers are:

1. His plain language understanding of the risk is correct.
2. The latest seismic hazard estimates for western U.S. nuclear plants are in the IPEEEs. Following 9-11, these documents are no longer publicly available. There are updated USGS seismic estimates for the entire U.S., but these have not been applied to the western plants.
3. The consensus hazard estimates are not out yet. We expect them by the end of the year.
4. The NRC is working on developing a Generic Letter (GL) to request information from affected licensees. The GL will likely be issued in a draft form within the next 2 months to stimulate discussions with industry in a public meeting. After that it has to be approved by CRGR, presented to ACRS and issued as a draft for formal public comments (45 days). After evaluation of the public comments it can then be finalized for issuance. We anticipate to issue the GL by the end of this calendar year. The information from licensees will likely require 3-6 months to complete. Staff's review will commence after receiving licensees' responses. Based on staff's review, a determination can be made regarding cost beneficial backfits where it can be justified.

I will send an update after I get final information. Please let me know if there is something else we can do.

Ben Beasley



Benjamin Beasley, Chief
Operating Experience and Generic Issues Branch
Division of Risk Analysis
Office of Nuclear Regulatory Research
301-251-7676
Benjamin.Beasley@nrc.gov
Generic Issues Program
Operating Experience Databases

From: Wilson, George
Sent: Tuesday, March 15, 2011 9:31 AM
To: Beasley, Benjamin
Subject: FW: NBC deadline question for NRC on seismic hazard estimates
Importance: High

fyi

From: Hiland, Patrick
Sent: Tuesday, March 15, 2011 9:20 AM
To: Wilson, George; Manoly, Kamal
Cc: Stutzke, Martin; Ake, Jon; Coe, Doug; Skeen, David; Scales, Kerby
Subject: FW: NBC deadline question for NRC on seismic hazard estimates
Importance: High

Need to work with OPA, and RES. Kamal should coordinate with RES, and I suggest Marty/Jon respond directly through RES. Doug Coe is good source also for the GI. Get OPA involved.

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

Good morning,

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

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

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

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

I have these questions:

1. I'd like to make sure that I accurately place in layman's terms the seismic hazard estimates. I need to make sure that I'm understanding the nomenclature for expressing the seismic core-damage frequencies. Let's say there's an estimate expressed as "2.5E-06." (I'm looking at Table D-2 of the safety/risk assessment of August 2010.) I believe that this expression means the same as 2.5×10^{-6} , or 0.0000025, or 2.5 divided by one million. In layman's terms, that means an expectation, on average, of 2.5 events every million years, or once every 400,000 years. Similarly, "2.5E-05" would be 2.5 divided by 100,000, or 2.5 events every 100,000 years, on average, or once every 40,000 years. Is this correct?
2. These documents give updated probabilistic seismic hazard estimates for existing nuclear power plants in the Central and Eastern U.S. What document has the latest seismic hazard estimates (probabilistic or not) for existing nuclear power plants in the Western U.S.?
3. The documents refer to newer data on the way. Have NRC, USGS et al. released those? I'm referring to this: "New consensus seismic-hazard estimates will become available in late 2010 or early 2011 (these are a product of a joint NRC, U.S. Department of Energy, U.S. Geological Survey (USGS) and Electric Power Research Institute (EPRI) project). These consensus seismic hazard estimates will supersede the existing EPRI, Lawrence Livermore National Laboratory, and USGS hazard estimates used in the GI-199 Safety/Risk Assessment."
4. What is the timetable now for consideration of any regulatory changes from this research?

Thank you for your help.

Regards,

Bill Dedman

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From: [Csontos, Aladar](#)
To: [Case, Michael](#)
Subject: Nice Summary
Date: Wednesday, March 16, 2011 10:25:20 AM
Attachments: [English%20Fukushima%20Update%203-16-11\[1\].pdf](#)

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Status of nuclear power plants in Fukushima as of 19:00 March 16 (Estimated by JAIF)

Power Station	Fukushima #1 Nuclear Power Station					
Unit	1	2	3	4	5	6
Electric / Thermal Power output (MW)	460 / 1380			784 / 2381		1100 / 3293
Type of Reactor	BWR-3	BWR-4	BWR-4	BWR-4	BWR-4	BWR-5
Operation Status at the earthquake occurred	Service	Service	Service	Outage	Outage	Outage
Core and Fuel Integrity	Damaged	Damaged	Damaged	No fuel rods	Not Damaged	Not Damaged
Containment Integrity	Not Damaged	Damage Suspected	Damage Suspected	Not Damaged	Not Damaged	Not Damaged
Core cooling requiring AC power	Not Functional	Not Functional	Not Functional	Not necessary	Not necessary	Not necessary
Core cooling not requiring AC power	Not Functional	Not Functional	Not Functional	Not necessary	Not necessary	Not necessary
Building Integrity	Severely Damaged	Slightly Damaged	Severely Damaged	Severely Damaged	Not Damaged	Not Damaged
water level of the pressure vessel	Around half of the Fuel	Recovering after Dried-up	Around half of the Fuel	Safe	Safe	Safe
pressure of the pressure vessel	Stable	Fluctuating	Stable	Safe	Safe	Safe
Containment pressure	Stable	D/W: Unknown, S/P: Atmosphere	Stable	Safe	Safe	Safe
Water injection to core (Accident Management)	Continuing (Seawater)	Continuing (Seawater)	Continuing (Seawater)	Not necessary	Not necessary	Not necessary
Water injection to Containment Vessel (AM)	Continuing (Seawater)	to be decided (Seawater)	to be decided (Seawater)	Not necessary	Not necessary	Not necessary
Containment venting (AM)	Continuing (Seawater)	Preparing (Seawater)	Continuing (Seawater)	Not necessary	Not necessary	Not necessary
Fuel Integrity in the spent fuel pool	(No info)	(No info)	Level Low, Preparing Water Injection	Level Low, Preparing Water Injection Damage to Fuel Rods Suspected	Pool Temp. Increasing	Pool Temp. Increasing
Environmental effect	NPS border: 1937 μ Sv/h at 14:30, Mar. 16					
Evacuation Area	20km from NPS * People who live between 20km to 30km from the Fukushima #1NPS are to stay indoors.					
Remarks	<p>A fire broke on the 4th floor of the Unit-4 Reactor Building around 6AM, Mar. 15, and the radiation monitor readings increased outside of the building: 30mSv between Unit-2 and Unit-3, 400mSv beside Unit-3, 100mSv beside Unit-4 at 10:22, Mar. 15.</p> <p>It is estimated that spent fuels stored in the spent fuel pit heated and hydrogen was generated from these fuels, resulting in explosion. TEPCO later announced the fire was been burned out. Another fire was observed at 5:45, Mar. 16, and then disappeared later.</p> <p>Other staff and workers than fifty TEPCO employees who are engaged in water injection operation have been evacuated.</p> <p>White smoke was seen rising from the vicinity of Unit-3 at around 8:30, Mar. 16. TEPCO estimates that failing to cool the SFP has resulted in evaporation of pool water, generating steam.</p>					

Power Station	Fukushima #2 Nuclear Power Station			
Unit	1	2	3	4
Electric / Thermal Power output (MW)				1100 / 3293
Type of Reactor	BWR-5	BWR-5	BWR-5	BWR-5
Operation Status at the earthquake occurred	Service	Service	Service	Service
Core and Fuel Integrity	Not Damaged	Not Damaged	Not Damaged	Not Damaged
Containment Integrity	Not Damaged	Not Damaged	Not Damaged	Not Damaged
Core cooling requiring AC power	Functioning	Functioning	Functioning	Functioning
Core cooling not requiring AC power	Not necessary	Not necessary	Not necessary	Not necessary
Building Integrity	Not Damaged	Not Damaged	Not Damaged	Not Damaged
water level of the pressure vessel	(No info)	(No info)	(No info)	(No info)
pressure of the pressure vessel	(No info)	(No info)	(No info)	(No info)
Containment pressure	(No info)	(No info)	(No info)	(No info)
Water injection to core (Accident Management)	Not necessary	Not necessary	Not necessary	Not necessary
Water injection to Containment Vessel (AM)	Not necessary	Not necessary	Not necessary	Not necessary
Containment venting (AM)	Not necessary	Not necessary	Not necessary	Not necessary
Fuel Integrity in the spent fuel pool	(No Info)	(No Info)	(No Info)	(No Info)
Environmental effect	NPS border: 29.4 μ Sv/h at 12:00, Mar. 16			
Evacuation Area	10km from NPS			
Remarks	All the units are in cold shutdown.			

[Source]


Governmental Emergency Headquarters: News Release (3/16 7:00), Press conference (3/14 11:45, 16:15, 3/15 8:00, 11:00, 16:25, 3/16 11:15)
NISA: News Release (3/14 7:30), Press conference (3/16 12:00)
TEPCO: Press Release (3/14 16:00, 17:35, 3/15 6:00, 12:00, 16:30, 23:35, 3/16 0:00),
Press Conference (3/14 12:10, 20:00, 3/15 8:00, 8:30, 3/16 early morning)

[Abbreviations]

INES: International Nuclear Event Scale
NISA: Nuclear and Industrial Safety Agency
SFP: spent fuel pool
TEPCO: Tokyo Electric Power Company, Inc.

[Significance judged by JAIF]

 : low

 : high

 : severe

From: Dion, Jeanne
To: Case, Michael
Subject: RE: Follow-up from 4 pm teleconference on Ops Center Long Term Staffing
Date: Wednesday, March 16, 2011 2:30:06 PM

Got it.

We don't have anyone who could help out the seismologists in the IRC? Anyone in Rosemary's group who isn't already involved in the IRC?

From: Case, Michael
Sent: Wednesday, March 16, 2011 2:21 PM
To: Dion, Jeanne
Subject: RE: Follow-up from 4 pm teleconference on Ops Center Long Term Staffing

Severe Accident Management Guidelines (typically some of the PRA folks, reactor systems folks and maybe the human factors folks would have knowledge in that area.

From: Dion, Jeanne
Sent: Wednesday, March 16, 2011 2:19 PM
To: Case, Michael
Subject: RE: Follow-up from 4 pm teleconference on Ops Center Long Term Staffing

Thanks Mike,
In the table, what is SAMG?

Jeanne

From: Case, Michael
Sent: Wednesday, March 16, 2011 2:17 PM
To: Dion, Jeanne
Cc: Sheron, Brian; Uhle, Jennifer
Subject: FW: Follow-up from 4 pm teleconference on Ops Center Long Term Staffing

Hi Jeanne. With respect to the Op Center request, although about a dozen folks volunteered, I did not think any were a particularly good fit for the op center critical skills. Sapna Hurd, Tom Koshy and myself are already participating from DE.

From: Sheron, Brian
Sent: Wednesday, March 16, 2011 7:41 AM
To: Case, Michael; Coe, Doug; Correia, Richard; Gibson, Kathy; Lui, Christiana; Richards, Stuart; Sangimino, Donna-Marie; Scott, Michael; Uhle, Jennifer; Valentin, Andrea
Subject: FW: Follow-up from 4 pm teleconference on Ops Center Long Term Staffing

Here is the list of expertise the Op center is looking for.

From: Evans, Michele
Sent: Tuesday, March 15, 2011 5:53 PM
To: Hackett, Edwin; Brenner, Eliot; Schmidt, Rebecca; Powell, Amy; Droggitis, Spiros; Doane, Margaret; Mamish, Nader; Dyer, Jim; Brown, Milton; Greene, Kathryn; Stewart, Sharon; Howard, Patrick; Miller, Charles; Moore, Scott; Cohen, Miriam; Tracy, Glenn; Haney, Catherine; Dorman, Dan; Johnson, Michael; Holahan, Gary; Leeds, Eric; Boger, Bruce; Grobe, Jack; Zimmerman, Roy; Campbell, Andy; Sheron,

T/43

Brian; Uhle, Jennifer; Dean, Bill; Lew, David; McCree, Victor; Wert, Leonard; Casto, Chuck; Satorius, Mark; Pederson, Cynthia; Collins, Elmo; Howell, Art; Muesse, Mary; Andersen, James; Akstulewicz, Brenda; Belmore, Nancy; Quesenberry, Jeannette; Kreuter, Jane; Armstrong, Janine; Hudson, Sharon; Ellis, Marv; Hasan, Nasreen; Ronewicz, Lynn; Schumann, Stacy; Daniels, Stanley; Casby, Marcia; Thomas, Loretta; Walker, Dwight; Sprogeris, Patricia; Schwarz, Sherry; Ross, Robin; Cohen, Shari; Riddick, Nicole; Flory, Shirley; Veltri, Debra; Matakas, Gina; ODaniell, Cynthia; Miles, Patricia; Lee, Pamela; Dubose, Sheila; Buckley, Patricia; Tomczak, Tammy; Owen, Lucy; Tannenbaum, Anita; Gusack, Barbara; Harrington, Holly; Ricketts, Paul; Howell, Linda; Higginbotham, Tina; Ross, Brenda; Boyce, Thomas (OIS); Schaeffer, James; Jackson, Donald

Subject: Follow-up from 4 pm teleconference on Ops Center Long Term Staffing

Everyone,

Please find attached 1) a list of current positions being staffed in the Ops Center and 2) the staff identified as available to support in Japan.

Regarding additional staff available to support in the ops center, the primary needs are for the specialized positions on the PMT and anyone with previous international experience in OIP.

Regarding support in Japan, please provide any updates/changes to the list by COB March 17. The target time frame for sending these staff members is March 27-April 9, so please consider that when considering staff to put on the list.

Thanks for your support.

Michele

From: Dion, Jeanne
To: Case, Michael
Subject: RE: Follow-up from 4 pm teleconference on Ops Center Long Term Staffing
Date: Wednesday, March 16, 2011 2:19:16 PM

Thanks Mike,
In the table, what is SAMG?

Jeanne

From: Case, Michael
Sent: Wednesday, March 16, 2011 2:17 PM
To: Dion, Jeanne
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Sent: Wednesday, March 16, 2011 7:41 AM
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Sent: Tuesday, March 15, 2011 5:53 PM
To: Hackett, Edwin; Brenner, Eliot; Schmidt, Rebecca; Powell, Amy; Droggitis, Spiros; Doane, Margaret; Mamish, Nader; Dyer, Jim; Brown, Milton; Greene, Kathryn; Stewart, Sharon; Howard, Patrick; Miller, Charles; Moore, Scott; Cohen, Miriam; Tracy, Glenn; Haney, Catherine; Dorman, Dan; Johnson, Michael; Holahan, Gary; Leeds, Eric; Boger, Bruce; Grobe, Jack; Zimmerman, Roy; Campbell, Andy; Sheron, Brian; Uhle, Jennifer; Dean, Bill; Lew, David; McCree, Victor; Wert, Leonard; Casto, Chuck; Satorius, Mark; Pederson, Cynthia; Collins, Elmo; Howell, Art; Muessle, Mary; Andersen, James; Akstulewicz, Brenda; Belmore, Nancy; Quesenberry, Jeannette; Kreuter, Jane; Armstrong, Janine; Hudson, Sharon; Ellis, Marv; Hasan, Nasreen; Ronewicz, Lynn; Schumann, Stacy; Daniels, Stanley; Casby, Marcia; Thomas, Loretta; Walker, Dwight; Sprogeris, Patricia; Schwarz, Sherry; Ross, Robin; Cohen, Shari; Riddick, Nicole; Flory, Shirley; Veltri, Debra; Matakas, Gina; ODaniell, Cynthia; Miles, Patricia; Lee, Pamela; Dubose, Sheila; Buckley, Patricia; Tomczak, Tammy; Owen, Lucy; Tannenbaum, Anita; Gusack, Barbara; Harrington, Holly; Ricketts, Paul; Howell, Linda; Higginbotham, Tina; Ross, Brenda; Boyce, Thomas (OIS); Schaeffer, James; Jackson, Donald
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T/44

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Thanks for your support.

Michele

NSIR

Murphy, Andrew

From: Case, Michael
Sent: Wednesday, March 16, 2011 8:42 AM
To: Sheron, Brian; Dean, Bill; Uhle, Jennifer; Richards, Stuart; Hogan, Rosemary; Kammerer, Annie; Ake, Jon; Murphy, Andrew
Cc: Weber, Michael; Virgilio, Martin; Leeds, Eric; Grobe, Jack; Lew, David
Subject: RE: NBC deadline question for NRC on seismic hazard estimates
Attachments: Seismic Q&As 3-16-11 3am version

Good morning Bill. The 3am version of seismic Q&As are attached.

From: Sheron, Brian
Sent: Wednesday, March 16, 2011 8:37 AM
To: Dean, Bill; Uhle, Jennifer; Case, Michael; Richards, Stuart; Hogan, Rosemary; Kammerer, Annie; Ake, Jon; Murphy, Andrew
Cc: Weber, Michael; Virgilio, Martin; Leeds, Eric; Grobe, Jack; Lew, David
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

Yes, seismic folks have been working on Q&As. I need to check and see if they are working on any that will address the stuff in this article.

From: Dean, Bill
Sent: Wednesday, March 16, 2011 8:35 AM
To: Sheron, Brian; Uhle, Jennifer; Case, Michael; Richards, Stuart; Hogan, Rosemary; Kammerer, Annie; Ake, Jon; Murphy, Andrew
Cc: Weber, Michael; Virgilio, Martin; Leeds, Eric; Grobe, Jack; Lew, David
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

Brian,
I Assume that our team in HQ is working up proper communications for this that we can leverage. I know there is an existing comm. plan for GSI 199, but my guess it likely needs to be updated in light of current events.

Bill

From: Sheron, Brian
Sent: Wednesday, March 16, 2011 8:10 AM
To: Uhle, Jennifer; Case, Michael; Richards, Stuart; Hogan, Rosemary; Kammerer, Annie; Ake, Jon; Murphy, Andrew
Cc: Weber, Michael; Virgilio, Martin; Leeds, Eric; Grobe, Jack; Dean, Bill; Lew, David
Subject: FW: NBC deadline question for NRC on seismic hazard estimates

FYI. I imagine this should generate some new interest in IP.

From: Bill Dedman [mailto:Bill.Dedman@msnbc.com]
Sent: Wednesday, March 16, 2011 6:44 AM
To: Manoly, Kamal; Sheron, Brian; Hiland, Patrick; OPA Resource
Subject: RE: NBC deadline question for NRC on seismic hazard estimates

This story is online now. If you see any error, please let me know right away.

Thanks,

Bill

T/45

From: Bill Dedman

Sent: Tuesday, March 15, 2011 9:06 AM

To: 'Kamal.Manoly@nrc.gov'; 'brian.sheron@nrc.gov'; 'patrick.hiland@nrc.gov'; 'OPA.Resource@nrc.gov'

Subject: NBC deadline question for NRC on seismic hazard estimates

Good morning,

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

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

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

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

I have these questions:

1. I'd like to make sure that I accurately place in layman's terms the seismic hazard estimates. I need to make sure that I'm understanding the nomenclature for expressing the seismic core-damage frequencies. Let's say there's an estimate expressed as "2.5E-06." (I'm looking at Table D-2 of the safety/risk assessment of August 2010.) I believe that this expression means the same as 2.5×10^{-6} , or 0.0000025, or 2.5 divided by one million. In layman's terms, that means an expectation, on average, of 2.5 events every million years, or once every 400,000 years. Similarly, "2.5E-05" would be 2.5 divided by 100,000, or 2.5 events every 100,000 years, on average, or once every 40,000 years. Is this correct?
2. These documents give updated probabilistic seismic hazard estimates for existing nuclear power plants in the Central and Eastern U.S. What document has the latest seismic hazard estimates (probabilistic or not) for existing nuclear power plants in the Western U.S.?
3. The documents refer to newer data on the way. Have NRC, USGS et al. released those? I'm referring to this: "New consensus seismic-hazard estimates will become available in late 2010 or early 2011 (these are a product of a joint NRC, U.S. Department of Energy, U.S. Geological Survey (USGS) and Electric Power Research Institute (EPRI) project). These consensus seismic hazard estimates will supersede the existing EPRI, Lawrence Livermore National Laboratory, and USGS hazard estimates used in the GI-199 Safety/Risk Assessment."
4. What is the timetable now for consideration of any regulatory changes from this research?

Thank you for your help.

Regards,

Bill Dedman

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

Valentine, Nicholee

From: McGinty, Tim
Sent: Wednesday, March 16, 2011 5:44 PM
To: Bergman, Thomas; Webber, Robert; Adams, John; Bailey, Marissa; Giitter, Joseph; Tschiltz, Michael; Thaggard, Mark; Lombard, Mark; Blount, Tom; McGinty, Tim; LIA08 Hoc
Cc: Evans, Michele; OST02 HOC; Temple, Jeffrey; Morris, Scott
Subject: Staffing the Liaison Team Director Position in the Ops Center 24/7
Attachments: Liaison Team Director Schedule_1.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Liaison Team (LT) Directors (both Existing and New):

Really appreciate your willingness to step up and help the LT during the Japan Event.

Attached you will find a proposed Liaison Team Director schedule for March 19-April 10. I tried to rotate shifts around and level out the burden. A couple of constraints on the proposed schedule:

- Joe Giitter needs to do swing shift, specifically, so I have made that allowance in this proposal
- Tim McGinty and Tom Blount cannot be on shift at the same time (per Eric Leeds ... same Division),
- We are setting them up in 4 day blocks,
- We need to settle on the staffing for this coming weekend,
- Yes, I did propose staffing this weekend with "new people", it is not meant to be punitive for volunteering but most of the existing did work through last weekend ..., and
- We are going with 8 hour shifts based on negative feedback for 12 hour shifts, and also that we should be able to now that so many people have volunteered.

Most importantly – if you are new, please find a way to spend a couple of hours in the Operations Center Thursday or Friday getting familiar with the routine and the environment. NSIR will provide any specific training that is needed, but I think that familiarity with the routine that has already been established is the most valuable asset, for this particular event.

Again, thanks to all of you for your willingness to support. This is just a proposal. If you can do what is proposed, please let the Liaison Team coordinator know at email "LIA08 Hoc". If you can't or need to make trades or have other constraints, please let the LT Coordinator know.

The LT Coordinator will be the keeper for the Director schedule. Thanks, Tim

From: OST02 HOC
To: Uhle, Jennifer; Skeen, David; Dudes, Laura; Hiland, Patrick; Monninger, John; Case, Michael; Holahan, Gary; Ruland, William; Brown, Frederick
Cc: Evans, Michele
Sent: Tue Mar 15 18:20:18 2011
Subject: Staffing the Ops Center 24/7

RST Directors:

From: Koshy, Thomas
To: Case, Michael
Subject: RE: IRC Staffing
Date: Wednesday, March 16, 2011 12:12:08 PM

I am in the Liaison Team (I can do other duties as needed)

Sheila Ray would be available from next week (Her study is on Westinghouse series)

Bruce Lin would be available too

Thomas Koshy, Chief
Mechanical & Electrical Engineering Branch
Division of Engineering
Office of Research
U S Nuclear Regulatory Commission
Tel: (301) 251-7663

From: Case, Michael
Sent: Wednesday, March 16, 2011 7:16 AM
To: Graves, Herman; Hogan, Rosemary; Csontos, Aladar; Koshy, Thomas; Lin, Bruce; Boyce, Tom (RES); Ali, Syed; Murphy, Andrew; Tregoning, Robert; Gavrilas, Mirela; Sydnor, Russell; Lorette, Phillip
Cc: Richards, Stuart
Subject: FW: IRC Staffing

Can you all start to think about this and let me know of any potential names by around noon?

From: Sheron, Brian
Sent: Tuesday, March 15, 2011 5:27 PM
To: Coyne, Kevin; Case, Michael; Coe, Doug; Correia, Richard; Gibson, Kathy; Lui, Christiana; Richards, Stuart; Sangimino, Donna-Marie; Scott, Michael; Uhle, Jennifer; Valentin, Andrea
Cc: Dion, Jeanne
Subject: IRC Staffing

I participated on a conference call with other ODs and led by Michele Evans, acting deputy OD in NSIR at 4 pm today.

The purpose of the conference call was to discuss staffing for the IRC for the near future. The IRC is currently staffed with members of the Reactor safety team, the Protective Measures team, Liaison Team, etc. There is also an ET member there. None of the teams are at their full compliment. What Michele is looking for is people that can staff the IRC and relieve the staff that are currently there. She said they are currently running 3 shifts (11pm-7am, 7am – 3pm, and 3pm to 11 pm). They would like to find staff that can work shifts for 4 days in a row (I think she wants 4 days on, 3 days off). She said the staff do not have to have had IRC training.

Several of us said we would certainly canvas our staff to see who was qualified to work in the IRC and could work there, but we needed to know what technical disciplines they were

T/47

looking for. Michele did not have a list of needed disciplines, but said she would generate one and send it out. As of 5:15 pm I have not received a list yet.

However, I am assuming they will be looking for staff with expertise in such areas as systems analysis, severe accidents, radiological dose assessment, etc. In anticipation that these are the technical disciplines of interest, can you please start identifying your staff that you believe have some of the requisite skills needed for the IRC, and start asking if they would be available to work shifts in the IRC if asked to. HR said they would be eligible for normal overtime compensation.

Also, they will be looking for staff to go to Japan and relieve the technical staff that recently went there. There were 2 BWR experts that left over the weekend, and a team of 9 more (6 engineers and 3 OIP staff) left yesterday. The thinking is that the staff that recently went over would come back in 2 weeks, which is when they want to send a replacement team over there. So please check to see if you have any staff with the proper technical credentials, are reasonably good communicators, and would be willing to spend about 2 weeks in Japan as part of the team there.

I will forward the list of desired disciplines as soon as I receive them from Michele. Michele said she will be looking for the list of potential IRC replacements by COB tomorrow (3/16/11), thus, I will need your candidates by mid-afternoon.

For the team that will replace the one that was just sent to Japan, she said she would like us to update the list we previously sent by COB 3/17.

From: Sydnor, Russell
To: Case, Michael; Graves, Herman; Hogan, Rosemary; Csontos, Aladar; Koshy, Thomas; Lin, Bruce; Boyce, Tom (RES); Ali, Syed; Murphy, Andrew; Tregoning, Robert; Gavrilas, Mirela; Lorette, Phillip
Cc: Richards, Stuart
Subject: RE: IRC Staffing
Date: Wednesday, March 16, 2011 11:58:51 AM

Mike, I do not think DICB has the primary areas of expertise needed, but the following people expressed a desire to help out;

Milton Concepcion
Leroy Hardin
Karl Sturzebecher
Luis Betancourt
Paul Rebstock
Yaguang Yang

Russell Sydnor
Branch Chief
NRC/RES/DE/DICB
301-251-7405
Russell.Sydnor@nrc.gov

From: Case, Michael
Sent: Wednesday, March 16, 2011 7:16 AM
To: Graves, Herman; Hogan, Rosemary; Csontos, Aladar; Koshy, Thomas; Lin, Bruce; Boyce, Tom (RES); Ali, Syed; Murphy, Andrew; Tregoning, Robert; Gavrilas, Mirela; Sydnor, Russell; Lorette, Phillip
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For the team that will replace the one that was just sent to Japan, she said she would like us to update the list we previously sent by COB 3/17.

From: [Csontos, Aladar](#)
To: [Case, Michael](#)
Cc: [Richards, Stuart](#)
Subject: RE: IRC Staffing
Date: Wednesday, March 16, 2011 10:28:17 AM

No one from our branch has the critical skill sets that you mentioned. Sapna told us today that they need people badly. In case you do, we have several staff who are willing to help out including myself. Take care.

From: Case, Michael
Sent: Wednesday, March 16, 2011 7:16 AM
To: Graves, Herman; Hogan, Rosemary; Csontos, Aladar; Koshy, Thomas; Lin, Bruce; Boyce, Tom (RES); Ali, Syed; Murphy, Andrew; Tregoning, Robert; Gavrilas, Mirela; Sydnor, Russell; Lorette, Phillip
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From: Gavrilas, Mirela
To: Case, Michael
Subject: RE: IRC Staffing
Date: Wednesday, March 16, 2011 9:14:03 AM

Mike,

I cannot think of anyone else in CMB, but I would do it, especially if I can have some flexibility in choosing the shifts.

M.

From: Case, Michael
Sent: Wednesday, March 16, 2011 7:16 AM
To: Graves, Herman; Hogan, Rosemary; Csontos, Aladar; Koshy, Thomas; Lin, Bruce; Boyce, Tom (RES); Ali, Syed; Murphy, Andrew; Tregoning, Robert; Gavrilas, Mirela; Sydnor, Russell; Lorette, Phillip
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Murphy, Andrew

From: Kammerer, Annie
Sent: Wednesday, March 16, 2011 12:18 PM
To: RES Distribution
Cc: Karas, Rebecca
Subject: FW: Calls for answering questions on earthquakes, etc, in support of Japanese event activities
Attachments: Seismic Questions for Incident Response 3-16-11 3am.pdf

All,

Please read Becky's email below and follow the procedures she laid out to NRO staff.

It is important that we keep the NRC's message consistent and moving through appropriate channels. I have added the latest version of the seismic Q&As for the convenience of those of you who are getting in-house questions related to your projects and responsibilities. Currently we are updating this daily with the questions (and answers) we collect each day.

Thanks,
Annie

From: Karas, Rebecca
Sent: Wednesday, March 16, 2011 12:05 PM
To: NRO_DSER Distribution
Cc: Chokshi, Nilesh; Kammerer, Annie; Munson, Clifford
Subject: Calls for answering questions on earthquakes, etc, in support of Japanese event activities

All,

Based on what just happened, individuals within NRC appear to be either randomly calling geologists/geophysicists/hydrologists or people they happen to know to answer questions.

For callers who are NRC staff who ask you a question, please direct them to call the Ops Center and ask to be connected to the RST seismologist (Cliff on day shift, Annie on evening shift). That person will coordinate all question responses (if Cliff or Annie call you, provide any support they need to help answer these questions).

For callers who are NOT NRC staff (including people from other agencies), please continue to follow the direction of the EDO here:

THIS IS NOT A DRILL

The Office of Public Affairs is expecting a large volume of calls from media and the general public regarding the latest statements from the State Department and the NRC regarding the situation in Japan. ALL CALLS from media or the general public on this topic must be referred to the 301-415-8200 number.

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

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

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

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

Two important reminders:

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

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

Other Sources of Information:

USAID – www.usaid.gov

U.S. Department of State – www.state.gov

FEMA – www.fema.gov

White House – www.whitehouse.gov

Nuclear Energy Institute – www.nei.org

International Atomic Energy Agency – www.iaea.org/press

No response to this message is required.

THIS IS NOT A DRILL

Rebecca Karas, Chief
Geosciences and Geotechnical Engineering Branch 1
Division of Site and Environmental Reviews
Office of New Reactors
U.S. Nuclear Regulatory Commission
Phone: 301-415-7533
Fax: 301-415-5397

From: Boyce, Tom (RES)
To: Case, Michael
Cc: Richards, Stuart; Sheron, Brian
Subject: RE: IRC Staffing
Date: Wednesday, March 16, 2011 5:15:07 PM

The following people have expressed interest from RGDB:

IRC staffing:

- Hector Luis Rodriguez-Luccioni, NSPDP
- Mark Orr, 25 years of nuclear and large plant construction experience in PWRs
- Rick Jervey, former plant STA who played various roles in emergency response, particularly radiological response teams in the ops center, EOF and TSC
- Tom Boyce, RGDB Branch Chief, 20 years in NRR doing new reactor licensing for ABWR and System 80+, operating plant licensing in DORL, Technical Specifications in DIRS, and inspection program branch in DIRS.

Japan Team

- Hector Luis Rodriguez-Luccioni, NSPDP

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Shannon, Valerie

From: Shannon, Valerie
Sent: Wednesday, March 16, 2011 10:51 AM
To: McIntyre, David
Subject: FW:
Attachments: EMAILS to the FOIA Resource Mailbox RE FW: Please immediately close older reactors for inspection; EMail to the FOIA Resource Mailbox RE: FW: Please immediately close older reactors for inspection; Email to the FOIA.Resource Mailbox RE: FW: Please immediately close older reactors for inspection

Dave,

I was not sure who to send these to (if anyone). Please let me know if I need to send them to anyone else.

Thanks, Val

From: OPA Resource
Sent: Wednesday, March 16, 2011 10:33 AM
To: Shannon, Valerie
Subject:

1/52

Deavers, Ron

From: Akstulewicz, Brenda
Sent: Wednesday, March 16, 2011 2:23 PM
To: Deavers, Ron; Bonaccorso, Amy
Subject: Citizen Inquiry
Attachments: image001.jpg

Follow Up Flag: Follow up
Flag Status: Completed

/ Todd Barber
/ Gulf Stream Aerospace ,
/ 912-965-5317
/ How safe is it to fly over Japan (Northern)

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



T/S4

Hogan, Rosemary

From: Dion, Jeanne
Sent: Wednesday, March 16, 2011 12:36 PM
To: Weerakkody, Sunil
Cc: Uhle, Jennifer; Sheron, Brian; Richards, Stuart; Case, Michael; Hogan, Rosemary; Rini, Brett; Rivera-Lugo, Richard; Armstrong, Kenneth; Kammerer, Annie
Subject: Tsunami documents from RES
Attachments: FW: Quick Question regarding any Published RES Documents Related to Tsunamis

Sunil,

Per your request, here are two letter reports regarding tsunamis. If you have additional specific questions please call the Op center and ask to speak with a Reactor Safety team seismologist.

"Evaluation of Tsunami Sources with the Potential to Impact the US Atlantic and Gulf Coasts" ML082960196

"The Current State of Knowledge Regarding Potential Tsunami Sources Affecting U.S. Atlantic and Gulf Coasts." ML082960196

Let me know if I can be of further assistance.
Thanks,

Jeanne Dion
Technical Assistant (Acting)
U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
jeanne.dion@nrc.gov
301-251-7482

T/SS

Hogan, Rosemary

From: Armstrong, Kenneth
Sent: Wednesday, March 16, 2011 11:12 AM
To: Dion, Jeanne
Cc: Rini, Brett
Subject: FW: Quick Question regarding any Published RES Documents Related to Tsunamis

This would be DE no?

From: Scott, Michael
Sent: Wednesday, March 16, 2011 11:08 AM
To: Zaki, Tarek; Bush-Goddard, Stephanie; Elkins, Scott; Hoxie, Chris; Lee, Richard; Santiago, Patricia; Armstrong, Kenneth; Bajorek, Stephen; Boyd, Christopher; Rubin, Stuart; Sherbini, Sami; Tinkler, Charles; Voglewede, John; Zigh, Ghani
Subject: FW: Quick Question regarding any Published RES Documents Related to Tsunamis

Is anyone aware of any recent RES-generated tsunami documents? If so, please respond to me ASAP.
Thanks.

From: Weerakkody, Sunil
Sent: Wednesday, March 16, 2011 10:30 AM
To: Scott, Michael; Richards, Stuart; Coe, Doug
Cc: Gibson, Kathy; Uhle, Jennifer; Wilson, Peter
Subject: Quick Question regarding any Published RES Documents Related to Tsunamis

Mike, Doug, and Stu,

Region 1 is getting ready to perform End-of-Cycle meetings with regional licensees. Ironically, our first EOC is scheduled at TMI!

As you know, these are public meetings. RGN I is expecting sophisticated informed members of public to show up at these meetings. As such, regional management is performing necessary thinking and preparation at this time.

While we plan to rely heavily on communications developed by HQ, in getting ready for the EOC meetings, we want to become aware of any Tsunami related publications (e.g., NUREGs or NUREG\CRs). Are there any recent documents that you are aware of published by RES?

Just so that you or your staff doesn't spend too much time, we are simply trying to be aware (i.e., an answer can be simply a NUREG title or ML#...). In other word, if nothing comes to your or (your BC)'s mind, that is OK.

Sunil D. Weerakkody
Deputy Director - DRS (Acting)
NRC - RGN I
Tel: 610-337-5128

Hogan, Rosemary

From: NEIGA@nei.org
Sent: Wednesday, March 16, 2011 2:01 PM
To: Hogan, Rosemary
Subject: **Update 1:15pm March 16** Information on the Japanese Earthquake and Reactors in that Region



UPDATE AS OF 1:15 P.M. EDT, WEDNESDAY, MARCH 16:

NEI has posted an updated version of the fact sheet [Used Nuclear Fuel Storage at the Fukushima Daiichi Nuclear Power Plant](#). Also available is a new fact sheet called [Industry Taking Action to Ensure Continued Safety at U.S. Nuclear Energy Plants](#).

As always, please go to <http://resources.nei.org/japan> for the latest updates.

Click [here](#) to unsubscribe

7/57

Hogan, Rosemary

From: Kammerer, Annie
Sent: Wednesday, March 16, 2011 6:20 PM
To: Pires, Jose; Anooshehpour, Rasool
Cc: Graves, Herman; Hogan, Rosemary; Candra, Hernando; Munson, Clifford; Ake, Jon
Subject: RE: Japanese Earthquake Questions -= Table of BWRs Mark I

We're missing a one or 2 (or more if necessary) page summary of the earthquake from a seismological perspective. If Rasool could develop that it would be great. Something (perhaps with some nice pictures) that we can put in the "additional information" section would be good. There is actually a placeholder on page 44 of the 3/15 3 am version, but Jon hasn't gotten to it today because of more stuff coming in.

If Rasool can do it, we would be appreciative and will reassign to him.

Annie

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

From: Pires, Jose
Sent: Tuesday, March 15, 2011 11:32 AM
To: Kammerer, Annie; Ake, Jon
Cc: Graves, Herman; Hogan, Rosemary; Candra, Hernando; Munson, Clifford
Subject: RE: Japanese Earthquake Questions -= Table of BWRs Mark I

We will do. We had a project review meeting at NSIR this morning but will start with this now. We will coordinate among ourselves to avoid sending you scattered information.

If you happen to need strong motion information, please let me know. Rasool has been looking at that with a few seismologists that he knows and is getting information (some of it a bit different from ShakeCast).

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

From: Kammerer, Annie
Sent: Tuesday, March 15, 2011 11:23 AM
To: Pires, Jose; Ake, Jon
Cc: Graves, Herman; Hogan, Rosemary; Candra, Hernando; Munson, Clifford
Subject: RE: Japanese Earthquake Questions -= Table of BWRs Mark I

Jose et al:

Can you guys look at some of the engineering questions and help us out. We got back the responses from the folks tasked with helping and they answered 70% of the questions.. "see GDC 2" not very helpful.

Please just look at the unanswered questions and pick the ones most suited to you (and especially those which Cliff, Jon and I would be challenged to answer).

Please provide 2 responses (1) high level answer for the public (2) additional technical or sensitive info for in-house staff only. There are some examples in the document.

Hogan, Rosemary

From: Bayssie, Mekonen
Sent: Thursday, March 17, 2011 8:43 AM
To: Rivera-Lugo, Richard; RES_DE
Subject: RE: NRC's Congressional Hearing - March 16th

The Full Hearing could be found on C-span on
<http://www.c-span.org/Events/Congress-looks-at-Nuclear-Safety-and-Crisis-in-Japan/10737420229-1/>

From: Rivera-Lugo, Richard
Sent: Thursday, March 17, 2011 8:39 AM
To: RES_DE
Subject: NRC's Congressional Hearing - March 16th

FYI - Article from the NY Times about Chairman Jaczko's Congressional hearing on March 16th.

http://www.nytimes.com/2011/03/17/science/earth/17nrc.html?_r=2

Richard Rivera-Lugo, EIT, MSEM
Technical Assistant (Acting)
U.S. Nuclear Regulatory Commission – HQ
RES/DE
Ph. 301-251-7652
Fax 301-251-7420
Mail M.S. C5C07M
E-mail Richard.Rivera-Lugo@nrc.gov



Please consider the Environment before printing this e-mail.

Rosales-Cooper, Cindy

From: Applestein, Lisa
Sent: Wednesday, March 16, 2011 5:20 PM
To: Stirewalt, Gerry; Perin, Vanice; Williams, Donna; Rosales-Cooper, Cindy; Scarbrough, Thomas; Williams, Joseph; Chazell, Russell; Hale, Jerry; Hart, Michelle; Mazaika, Michael; Bloom, Steven; Stieve, Alice; Seber, Dogan; Karas, Rebecca; Munson, Clifford; Quinlan, Kevin; Brown, David; Devlin, Stephanie; Li, Yong; Barnhurst, Daniel; Tiruneh, Nebiyu; Fuller, Edward
Cc: NRO_TA; Lo, Eileen
Subject: Japan Shift work
Attachments: JapanShiftOps.xlsx

I have created a spreadsheet of everyone whom I received a request to receive the Japan Earthquake/Tsunami Drill TAC number. I've been tasked to keep track of everyone's shift work so far at the ops center. Please use this spreadsheet to help me in recording your shifts.

TAs – Could you please add any other names that you may know of that is doing shift work in the ops center?

Thank you,

Lisa D. Applestein

T&L Coordinator
NRO/PMDA/ITMB
T-6F35
Phone #: 301-415-6175

T/59

From: Williams, Donna
To: NRO SES Distribution
Cc: Araguas, Christian; Clark, Theresa; Erwin, Kenneth; Holmes, Beverly; Lauron, Carolyn; McGovern, Denise; Rivera-Varona, Aida; Rosales-Cooper, Cindy; Shams, Mohamed; Snyder, Amy; Williams, Donna
Subject: Planning for upcoming, short notice Commission meeting
Date: Wednesday, March 16, 2011 4:37:42 PM
Attachments: Scheduling NoteMar2011 JapaneseEvent agh 3-16-2011.docx

FYI

NRO has been asked to provide support for a Commission meeting to be held Monday, March 21 on the Japanese event. While the focus will be on operating reactors, Marty Virgilio will briefly address the applicable requirements for new reactors. No input is required at this time from the divisions, but I may reach out to you over the next two days for specific information.

Donna

T/60

Titus, Brett

From: Correia, Richard *INSIR*
Sent: Wednesday, March 16, 2011 2:38 PM
To: Ruland, William; Evans, Michele
Cc: Erlanger, Craig; Westreich, Barry; Layton, Michael; Shropshire, Alan; VandenBerghe, John; Holahan, Patricia
Subject: Fw: Planning for upcoming, short notice Commission meeting
Attachments: Scheduling NoteMar2011_JapaneseEvent agh 3-16-2011.docx

Bill. The NSIR POCs are:
John Vanden Berghe and Alan Shropshire.
Rich Correia, Director
Division of Security Policy
NSIR

From: Evans, Michele *INSIR*
To: Correia, Richard
Sent: Wed Mar 16 14:05:39 2011
Subject: FW: Planning for upcoming, short notice Commission meeting

Please provide the POC as we discussed. Thanks

From: Ruland, William *INSIR*
Sent: Wednesday, March 16, 2011 1:19 PM
To: Williams, Donna; Uhle, Jennifer; Sheron, Brian; Moore, Scott; Miller, Charles; Brenner, Eliot; Haney, Catherine; Dorman, Dan; Wiggins, Jim; Evans, Michele; Doane, Margaret; Mamish, Nader
Cc: Johnson, Michael; Holahan, Gary; Leeds, Eric; Grobe, Jack; Howe, Allen
Subject: Planning for upcoming, short notice Commission meeting

Folks,

Attached find a early draft of a scheduling note for a Commission meeting that may be held as early as this coming Monday, March 21st. NRR has been assigned as the lead to pull the meeting together. As you could imagine, this will take some effort. To help with coordination, please provide me a contact so that we can draw on your expertise and help to make this happen. Alan Howe, currently deputy director of DORL, has the lead to pull this together.

I know you have many questions. I'd ask for your patience as we try to get this done. I'll keep you updated through the contact that you provide to us.

Thank you very much.

Bill Ruland

please

T/16/1

Cohen, Shari

From: Leeds, Eric, NRR
Sent: Wednesday, March 16, 2011 9:56 AM
To: Virgilio, Martin
Cc: Borchardt, Bill; Weber, Michael; Boger, Bruce; Grobe, Jack
Subject: ACTION: NRR taking the lead for commission meeting

Marty –

NRR was asked to take the lead for this Commission meeting. In addition, we're also taking the following actions:

1. Establishing a media guru to help facilitate Q&As (beyond the current Share-point site) – Bob Nelson will lead the effort.
2. We've started work on a generic communication to NRC licensees based on the Japanese events. We're following the INPO work.

FYI.

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

release

From: Virgilio, Martin EDO
Sent: Wednesday, March 16, 2011 3:29 AM
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

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

T/62

Maier, Bill

From: Erickson, Randy
Sent: Wednesday, March 16, 2011 4:22 PM
To: Maier, Bill
Cc: Browder, Rachel
Subject: FW: Latest Attached NRC Press Releases and associated computer calculations (see web or the attached)

Question from California regarding Press Release 11-050. I told Rob that I would pass his question along to HQ.

From: Greger, Robert (CDPH-DFDRS-RHB) [<mailto:Robert.Greger@cdph.ca.gov>]
Sent: Wednesday, March 16, 2011 2:58 PM
To: Erickson, Randy
Subject: Re: Latest Attached NRC Press Releases and associated computer calculations (see web or the attached)

Randy,

Do you have any idea of the assumptions re- releases that prompted this press release by NRC? As I'm sure you are aware, these are extremely high dose projections. They would be more believable at $1E-3$ these doses.

Rob Greger

T/63u

From: Operations Center Bulletin
To: Operations Center Bulletin
Subject: UPDATE: NRC IS RESPONDING TO JAPANESE EVENTS
Date: Wednesday, March 16, 2011 12:52:08 PM

THIS IS NOT A DRILL

The Office of Public Affairs is expecting a large volume of calls from media and the general public regarding the latest statements from the State Department and the NRC regarding the situation in Japan. ALL CALLS from media or the general public on this topic must be referred to Regional Public Affairs or the 301-415-8200 number for HQ employees.

THIS IS NOT A DRILL

*****Event Information is Attached*****

The NRC is responding to an event.

Please contact the NRC Executive Support Team if necessary at 301-816-5100 or reply to this e-mail.

Handwritten signature/initials

Deavers, Ron

From: Akstulewicz, Brenda
Sent: Wednesday, March 16, 2011 12:37 PM
To: Deavers, Ron; Bonaccorso, Amy
Subject: Information Request
Attachments: image001.jpg

Follow Up Flag: Follow up
Flag Status: Completed

Rubin Crosslin
Tenn. Division Radiological Health
615-532-0424
Ruben.crosslin@tn.gov
Are we monitoring visitors from Japan for radiation?

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



T/65

Deavers, Ron

From: Akstulewicz, Brenda
Sent: Wednesday, March 16, 2011 11:24 AM
To: Deavers, Ron; Bonaccorso, Amy
Subject: Media Question
Attachments: image001.jpg

Follow Up Flag: Follow up
Flag Status: Completed

Jack Dante
ABC News, DC
202-222-7662

Wants confirmation that things are definitely taking a turn for the worse.

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



T/64

Deavers, Ron

From: Deavers, Ron
Sent: Wednesday, March 16, 2011 11:36 AM
To: Harrington, Holly
Cc: Bonaccorso, Amy
Subject: RE: Media Question
Attachments: image001.jpg

Ok, thanks.

From: Harrington, Holly
Sent: Wednesday, March 16, 2011 11:36 AM
To: Deavers, Ron
Subject: RE: Media Question

Ignore. It's a media call

From: Deavers, Ron
Sent: Wednesday, March 16, 2011 11:34 AM
To: Harrington, Holly
Cc: Bonaccorso, Amy
Subject: FW: Media Question

Holly,

Thanks for language to respond to this.

Ron

From: Akstulewicz, Brenda
Sent: Wednesday, March 16, 2011 11:24 AM
To: Deavers, Ron; Bonaccorso, Amy
Subject: Media Question

Jack Dante

ABC News, DC
202-222-7662

Wants confirmation that things are definitely taking a turn for the worse.

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



1/67

From: Sangimino, Donna-Marie
To: Case, Michael
Cc: Sheron, Brian; Uhle, Jennifer; Gibson, Kathy; Coe, Doug; Valentin, Andrea; Dion, Jeanne; Grancorvitz, Teresa; Kardaras, Tom; Eisenberg, Wendy
Subject: NRC travel to Japan
Date: Wednesday, March 16, 2011 1:50:03 PM

Mike,

Per your inquiry at the 845 meeting today, we spoke with Charlotte Abrams, Chief, International Cooperation and Assistance Branch/OIP, and inquired as to Agency guidelines on upcoming travel to Japan by NRC staff. Charlotte indicated that an Agency Announcement would be issued this week providing guidance on this question, but early indications are that "routine" travel to Japan (not including travel associated with the ongoing emergency) will be curtailed for the next several weeks.

We have only a few RES travelers slated to attend routine meetings in Japan over the next several weeks. I suggest we hold their travel until that announcement comes out, and then the IPT will work with the traveler to formulate an appropriate response to our international counterpart conducting the meeting.

Donna-Marie Sangimino

International Programs Team Leader
US Nuclear Regulatory Commission
Office of Nuclear Regulatory Research (RES)

Donna-Marie.Sangimino@nrc.gov
(+1) 301-251-7673

7/68

Deavers, Ron

From: Bonaccorso, Amy
Sent: Wednesday, March 16, 2011 3:08 PM
To: Deavers, Ron
Subject: RE: Citizen Inquiry
Attachments: image001.jpg

Follow Up Flag: Follow up
Flag Status: Completed

Calling them.

From: Deavers, Ron
Sent: Wednesday, March 16, 2011 3:06 PM
To: Bonaccorso, Amy
Subject: RE: Citizen Inquiry

yes

From: Bonaccorso, Amy
Sent: Wednesday, March 16, 2011 2:37 PM
To: Deavers, Ron
Subject: RE: Citizen Inquiry

I think this is a company – should we just say that they should take with the airlines?

From: Akstulewicz, Brenda
Sent: Wednesday, March 16, 2011 2:23 PM
To: Deavers, Ron; Bonaccorso, Amy
Subject: Citizen Inquiry

Todd Barber
Gulf Stream Aerospace
912-965-5317
How safe is it to fly over Japan (Northern)

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



T/69

From: [Dion, Jeanne](#)
To: [Coe, Doug](#); [Gibson, Kathy](#); [Coyne, Kevin](#); [Case, Michael](#); [Sheron, Brian](#); [Uhle, Jennifer](#)
Cc: [Rini, Brett](#); [Armstrong, Kenneth](#)
Subject: RES support for commission meeting on Monday 3/21.
Date: Wednesday, March 16, 2011 6:42:37 PM
Attachments: [Assistance with Commission Brief.msg](#)

NRR has requested RES to support a commission briefing on Monday 3/21. They are looking for background information, slides, key messages, talking points and possible Q&A- see the attached message. This might be a public meeting- our input will need to be fairly high level. NRR will provide more information after the EDO alignment meeting tomorrow 3/17.

Bill Borchardt's presentation, "Overview of Japanese Event and US response"

- RES to provide slides/information on "Advancing our understanding of safety and risk" (more info to come)

Mike Weber's presentation, "Situation assessment for US reactors and applicants"

- RES to provide slides/information on "Consequence Projections in Japan and what we might expect to see in the US"

Marty Virgilio's presentation, "Situation assessment for US reactors and applicants."

- RES to assist NRR as requested.

I will be in a meeting tomorrow morning (8am to noon)- Kenneth Armstrong will attend the 8:45am meeting.

Thanks,

Jeanne Dion
Technical Assistant (Acting)
U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
jeanne.dion@nrc.gov
301-251-7482

T/70

Attachment Assistance with Commission Brief.msg (2560 Bytes) cannot be converted to PDF format.

Hogan, Rosemary

From: Kammerer, Annie
Sent: Wednesday, March 16, 2011 5:29 PM
To: RES Distribution
Subject: sharepoint site where latest and greatest seismic Q&As can be found moving forward

Please see the file that contains the latest document at...

<http://portal.nrc.gov/edo/nrr/NRR%20TA/FAQ%20Related%20to%20Events%20Occuring%20in%20Japan/Forms/AllItems.aspx>

We will be updating this daily or almost daily in the foreseeable future. So please go to this site if you'd like to see the latest.

The site gives RES the credit since we're the lead and started it; but there is a big team supporting this that includes staff from RES, NRO, NRR and the regions.

Annie

Satorius, Mark

From: LIA04 Hoc
Sent: Wednesday, March 16, 2011 3:00 PM
To: Piccone, Josephine; Jackson, Deborah; Barker, Allan; Browder, Rachel; Erickson, Randy; Logaras, Harral; Maier, Bill; McNamara, Nancy; Tifft, Doug; Trojanowski, Robert; Woodruff, Gena; Collins, Elmo; Dean, Bill; Heck, Jared; McCree, Victor; Satorius, Mark; Flannery, Cindy; Lukes, Kim; Noonan, Amanda; Rautzen, William; Rivera, Alison; Ryan, Michelle; Turtill, Richard; Virgilio, Rosetta
Subject: FW: Joint Statement from California's Department of Public Health and Emergency Management Agency on Risk of Radiation Exposure

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

From: Logaras, Harral
Sent: Wednesday, March 16, 2011 3:42 PM
To: OST05 Hoc; LIA04 Hoc; LIA07 Hoc
Subject: FW: Joint Statement from California's Department of Public Health and Emergency Management Agency on Risk of Radiation Exposure

FYI - Forwarding a news release from California forwarded by FEMA Region V

Sincerely,

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

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

From: King, William [mailto:William.King@dhs.gov]
Sent: Wednesday, March 16, 2011 1:53 PM
To: Barker, Allan; Logaras, Harral; VanHorn, Christine; rifkind@anl.gov; Jeffry McSpaden-Federal Highway Admn.; Jablonowski.Eugene@EPA.GOV; Ostrodka.Stephen@epa.gov; Evans, Rachel T; Adrianopoli, Carl (HHS/ASPR/OPEO); Bates, Kerris; Bebrich, Carl; Bellone, Christopher; Crackel, Clint; Diaz, Edward; Fulk, Deborah; Gemskie, Todd; King, James; King, William; Kinsley, Delwyn; Naskrent, Gary; Nettles-Bey, Rosie; Ortman, David; Rabenhorst, Karl; Scott, Kara; Simpson, John; Sturghill, Carolyn; Tulley, Stephen; Warren, Dwaine; kevin.leuer@state.mn.us; COCLAIRE@DPS.STATE.OH.US; Idresen@dhs.in.gov; teri.engelhart@dma.state.wi.us; Thomas Higinbotham; William Conway
Subject: FW: Joint Statement from California's Department of Public Health and Emergency Management Agency on Risk of Radiation Exposure

FYI:

I thought this Statement from California's Department of Public Health and Emergency Management Agency on Risk of Radiation Exposure would be of interest to all:

T/72

Forwarded for your information and situational awareness.

Cal EMA News Release

NEWS RELEASE

Tuesday, March 15, 2011

FOR IMMEDIATE RELEASE

Contact:

Jay Alan, Cal EMA, Dir. of
Communications

(916) 825-6544

media@calema.ca.gov
Al Lundeen, CA Dept. of Public Health

(916) 440-7259

Statement from California's Department of Public Health and
Emergency Management Agency on Risk of Radiation Exposure

SACRAMENTO - Today the interim director of the California

Department of Public Health, Dr. Howard Backer, and acting secretary of the California Emergency Management Agency, Mike Dayton, issued the following statement emphasizing Californians' safety from radiation exposure and the risks of taking potassium iodide as a precautionary measure.

"The safety of all Californians is our highest priority, and we are in constant contact with the federal agencies responsible for monitoring radiation levels across the West Coast.

We want to emphasize that the U.S. Environmental Protection Agency, the Nuclear Regulatory Commission and the U.S. Department of Health and Human Services have all stated that there is no risk expected to California or its residents as a result of the situation in Japan.

We are actively monitoring the situation in Japan and are ready to take all steps necessary to protect Californians should risks develop.

We urge Californians to not take potassium iodide as a precautionary measure. It is not necessary given the current circumstances in Japan, it can present a danger to people with allergies to iodine, shellfish or who have thyroid problems, and taken inappropriately it can have serious side effects including abnormal heart rhythms, nausea, vomiting, electrolyte abnormalities and bleeding.

Our thoughts are with the people of Japan at this tragic time."

Californians with questions about radiation exposure can contact the California Department of Public Health's Emergency Operations information line at 916 341-3947.

For updated information on monitoring, response and relief efforts in California and Japan, please visit the California Emergency Management Agency website at www.calema.ca.gov.

###

Forward email

[IMAGE]

This email was sent to randy.schulley@calema.ca.gov by
media@calema.ca.gov |
Update Profile/Email Address |Instant removal with SafeUnsubscribe™
|Privacy Policy.
California Emergency Management Agency| 3650 Schriever Avenue| State
Emergency Operations Center| Mather| CA| 95655

[IMAGE]

Hogan, Rosemary

From: Graves, Herman
Sent: Thursday, March 17, 2011 4:08 PM
To: Tadesse, Rebecca
Cc: Hogan, Rosemary; Rivera-Lugo, Richard; Csontos, Aladar; Richards, Stuart; Case, Michael; Chokshi, Niles; Dion, Jeanne
Subject: TSUNAMI QUESTION
Attachments: TsunamiRequirementsAndMeasures_3.ppt

Ms. Tadesse (Rebecca),

As discussed with you and Al Csontos this afternoon I have attached a set of slides prepared by myself and Niles Chokshi that may answer any questions Commissioner Magwood has on tsunamis. Please note that the slide were prepared in 2005.

The NUREG/CR-6996 is entitled "**Tsunami Hazard Assessment at Nuclear Power Plant Sites in the United States of America**," published March 2009.

Feel free to contact me if there anymore questions.

~~~~~

**Herman L. Graves, P. E., F. ACI**

Sr. Structural Engineer

USNRC-RES

Mail Stop : C-5A24M

Telephone: 301.251.7625

Fax: 301-251-7425

email: [Herman.Graves@NRC.GOV](mailto:Herman.Graves@NRC.GOV)

~~~~~

"The contents of this message are mine personally and do not necessarily reflect any position of NRC"

7/73



5th NRC – AERB Nuclear Safety Projects Meeting
February 7 – 11, 2005
Mumbai, India

Tsunami Requirements and Measures

Nilesh C. Chokshi, Chief
Operating Experience Risk Analysis Branch
Division of Risk Analysis and Applications
Office of Nuclear Regulatory Research
ncc@nrc.gov 301-415-0190



Tsunami Regulations, Guidelines and References

10 CFR PT. 100.23

American National Standard Institute (ANSI)
N170-1992, "Standards for Determining Design
Basis Flooding at Power Reactor Sites"

Regulatory Guide 1.102, "Flood Protection for
Nuclear Power Plants," Rev. 1 1976

Regulatory Guide 1.59, "Design Basis for Nuclear
Power Plants," Rev. 2. 1977

US NRC, Standard Review Plan, "Probable
Maximum Tsunami Flooding," Section 2.4.6



Regulations and Guidelines on Tsunami

10 CFR 100.23 – Geological and seismic siting criteria

- The size of seismically induced floods and water waves that could affect a site from either locally or distantly generated seismic activity must be determined

ANSI N170 – Standards for Determining Design Basis Flooding at Power Reactor Sites

- Probable maximum flood is the hypothetical flood (peak discharge, volume, and hydrograph shape) that is considered to be the most severe reasonably possible, based on hydrologic factors favorable for maximum flood runoff such as sequential storms or snowmelt.



Regulations and Guidelines on Tsunami (Cont.)

RG 1.102 – Flood Protection for Nuclear Power Plants

Describes types of flood protection acceptable to the NRC staff

- Exterior Barriers

- Levee** – embankment to protect land from inundation

- Seawall or floodwall** – a structure separating land and water areas, primarily to prevent erosion and other damages due to wave action

- Bulkhead** – similar to seawall, purpose is to restrain the land area

- Incorporated Barriers

- Protection provided by specially designed walls and penetration closures. Walls are usually reinforced concrete designed to resist static and dynamic forces of a Design Basis Flood Level of Probable Maximum Flood.



Regulations and Guidelines on Tsunami (Cont.)

RG 1.59 – Design Basis Floods for Nuclear Power Plants

- The most severe seismically induced floods reasonably possible should be considered for each site.
- Tsunami requires consideration of seismic events of the severity of the Safe Shutdown Earthquake occurring at the location that would produce the worst such flood at the nuclear power plant site.

US NRC, Standard Review Plan, "Probable Maximum Tsunami Flooding," Section 2.4.6, Rev. 2

➤ Areas of Review

Probable maximum tsunami postulated for a site should include wave runup and drawdown

Hydrologic characteristics of maximum locally and distantly generated tsunami (e.g., volcanoes, landslides)

Geological and seismic characteristics of potential tsunami faults (e.g., magnitude, focal depth, source dimensions, fault orientation, and vertical displacement)



Tsunami Requirements and Measures taken at U.S. NPPs on the West Coast

Diablo Canyon

The licensing basis for tsunami represents the following two classes on tsunamis:

- Distantly-generated tsunami: a tsunami whose generator is located more than several times the principal source dimension (e.g., length of postulated fault rupture) from the plant

The predominant sources of distantly-generated tsunamis are limited to areas of earthquake and volcanic activity on the circum-Pacific belt. (e.g., Aleutian area, Kuril-Kamchatka region, and the South American coast)

- Locally-generated (near-shore) tsunami: a tsunami whose generator is closer than the distance defined for distantly-generated tsunami

Near-Shore Earthquake faults

Santa Lucia Bank Fault, located approximately 29 mile from the site, considering a resultant displacement of 9.8 feet and a vertical displacement (6.6 feet) equal to $2/3$ of the resultant displacement

Santa Maria Basin Fault (later identified as the Hosgri fault), located approximately 3.5 miles from the site, considering a resultant displacement of 11 feet and a vertical displacement (7.3 feet) equal to $2/3$ of the resultant displacement



Tsunami Requirements and Measures taken at U.S. NPPs on the West Coast

Diablo Canyon

Protective Structures

- Auxiliary seawater system (ASWS) – is the only safety-related system that has components within the projected sea wave zone. The ASW pump motors are housed in watertight compartments within the intake structure.
- These compartments are designed for a combination tsunami-storm wave activity to elevation +48 feet mllw (+45 feet MSL). The massive concrete intake structure ensures that the pumps remain in place and operate during extreme wave events.
- The intake structure is also arranged to provide redundant paths for seawater to the pumps, ensuring a dependable supply of water.
- In addition to the ASW pumps, the buried ASW piping outside of the intake structure, which is not attached to the circulating water tunnels, is vulnerable to the effects of tsunami and storm waves.
- An evaluation was conducted and based on this evaluation, erosion protection, consisting of gabion mattresses, reinforced concrete pavement above this buried piping, and an armored embankment southeast of the intake structure, were designed and installed to resist the effects of tsunami and storm waves



Tsunami Requirements and Measures taken at U.S. NPPs on the West Coast

San Onofre Probable Maximum Tsunami

- The maximum possible tsunami wave heights that could occur at the San Onofre site would be generated by local offshore earthquake activity
- The effects of distantly generated tsunamis are minimized at southern California by the presence of a broad continental borderland, which reflects much incident low frequency energy back out to sea
- The wave induced by this earthquake occurring during simultaneous high tide and storm surge would have a maximum elevation of 15.6 feet mllw
- When storm waves are superimposed, the resulting is to elevation of +27.5 feet mllw



Tsunami Requirements and Measures taken at U.S. NPPs on the West Coast

San Onofree

Protective Structures

- Reinforced concrete cantilevered retaining seawall and screen well parameter wall at +30 feet mllw designed to withstand, without loss of functional capacity, the design basis earthquake (DBE) followed by the maximum predicted tsunami with coincident storm wave action
- No further design provisions for protection of safety-related structures from waves are necessary because wave action will not generate water levels above the elevation at the top of the seawall

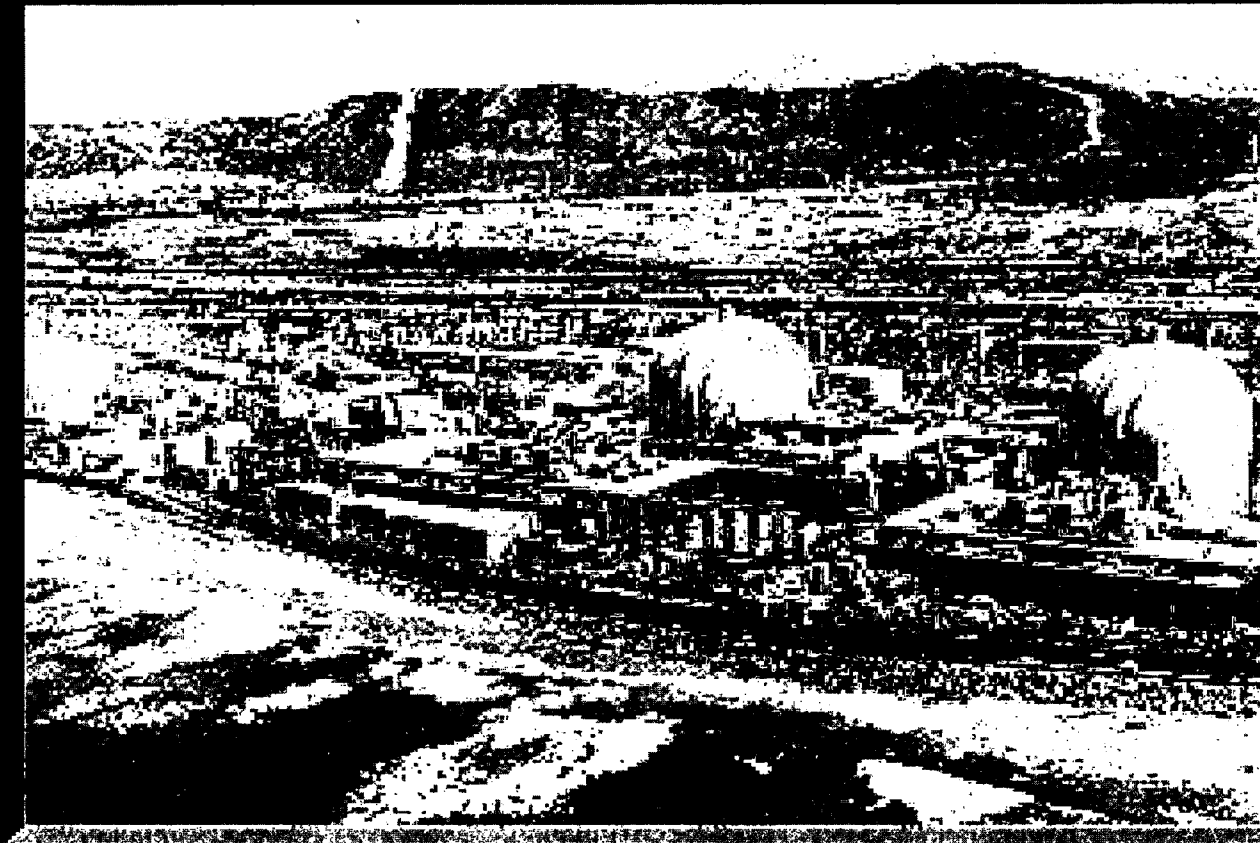


US NPP Tsunami Design Parameters

Design Parameters	Diablo Canyon 1&2	San Onofre 2&3
Plant elevation above MLLW	15.5 ft	30 ft
PMT		
Distant generated tsunami combined runup	30 ft	6.32 ft
Local generated tsunami combined runup	34.6 ft	-2.63 ft
Distant generated tsunami combined drawdown	9.0 ft	15.6 ft
Local generated tsunami combined drawdown	4.07 ft	-11.9 ft
Source of Tsunami wave height		
Distant	Aleutian area, Kuril-Kamchatka region, South American coast	Aleutian trench
Local or near	Santa Lucia Bank fault Santa Maria Basin fault	Santa Ana wind
Exterior Barriers		
Seawall, intake structure	Intake structure	Reinforced concrete seawall



San Onofre NPP



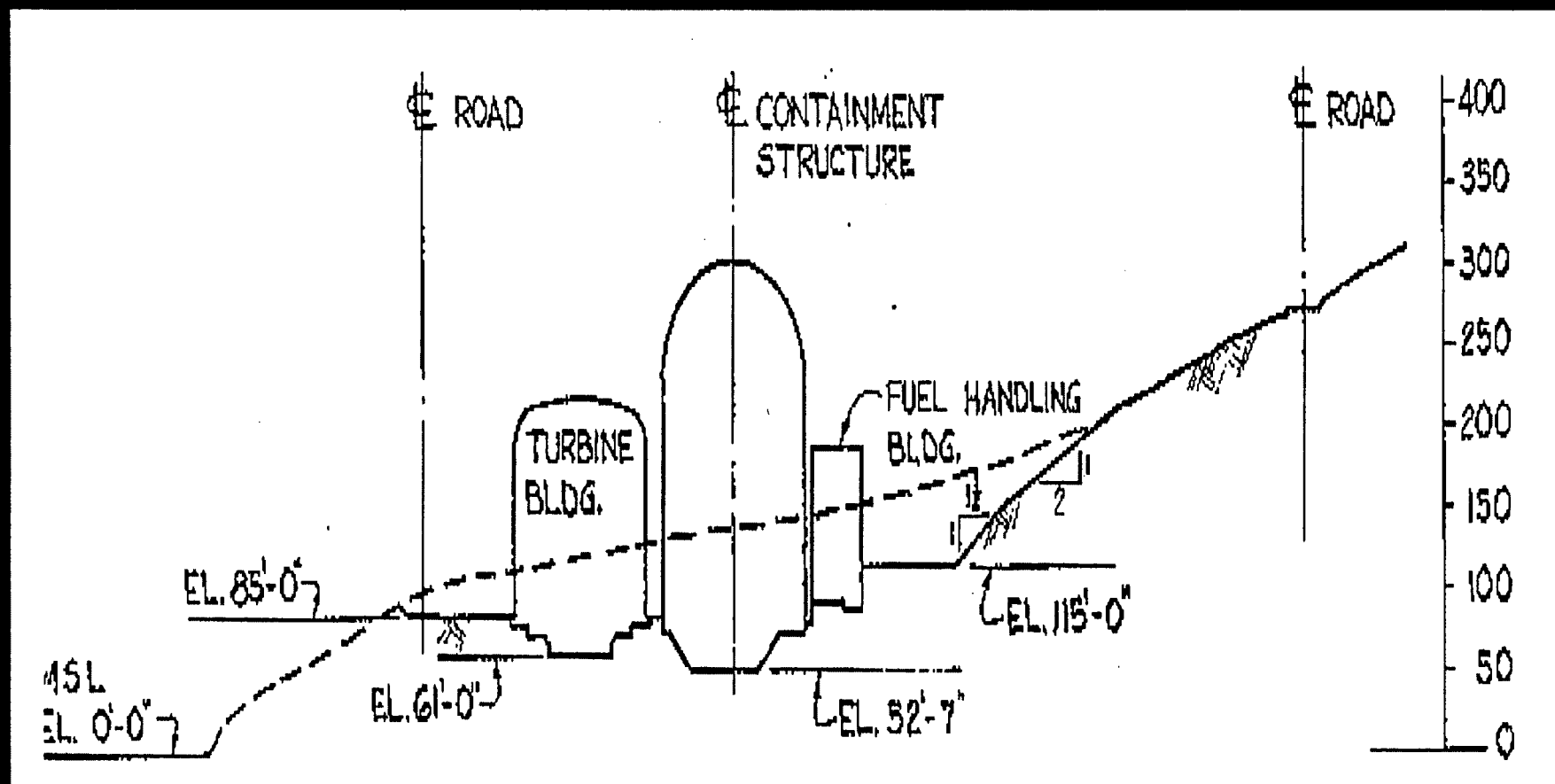
February 7 - 11, 2005

5th NRC-AERB Safety Meeting

11

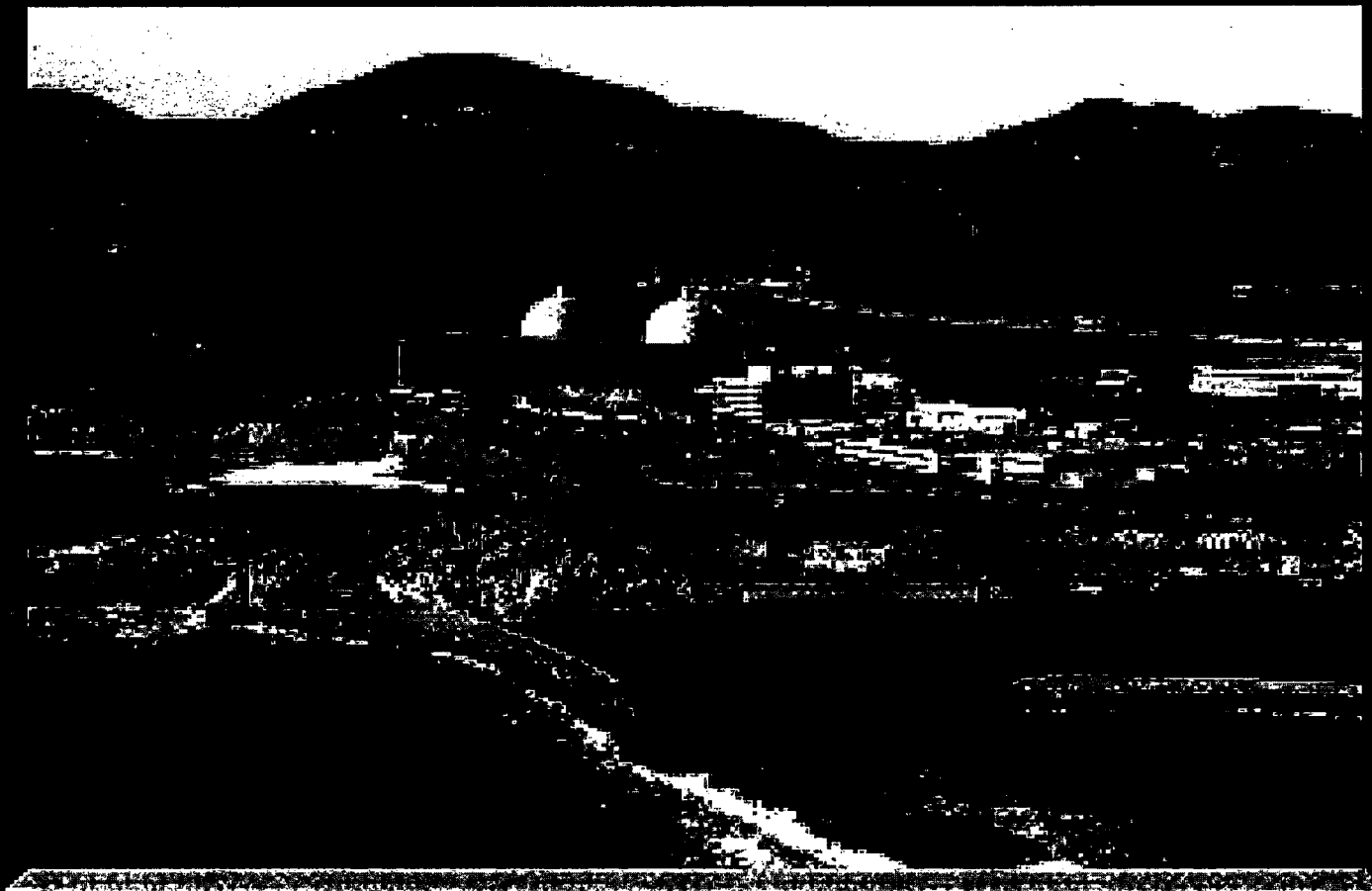


Diablo Canyon Site (Excavation and Backfill)





Diablo Canyon NPP



February 7 - 11, 2005

5th NRC-AERB Safety Meeting

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PGA Hazard Estimates

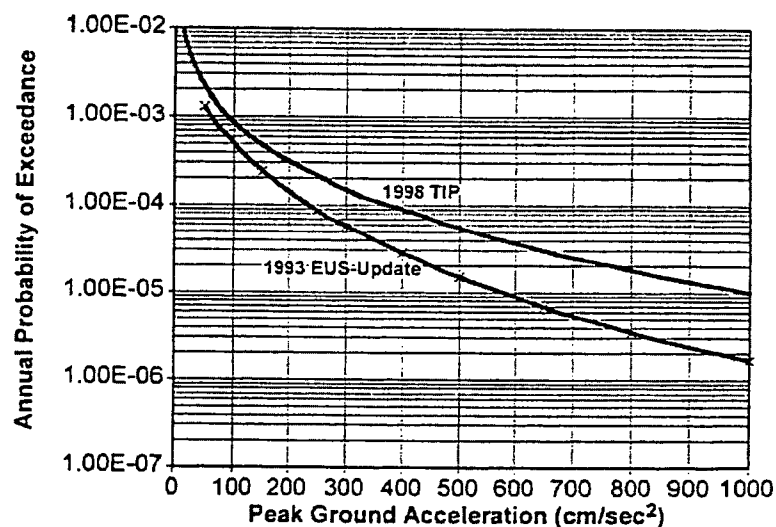


Figure 2.1: Mean PGA hazard estimates for Watts Bar.

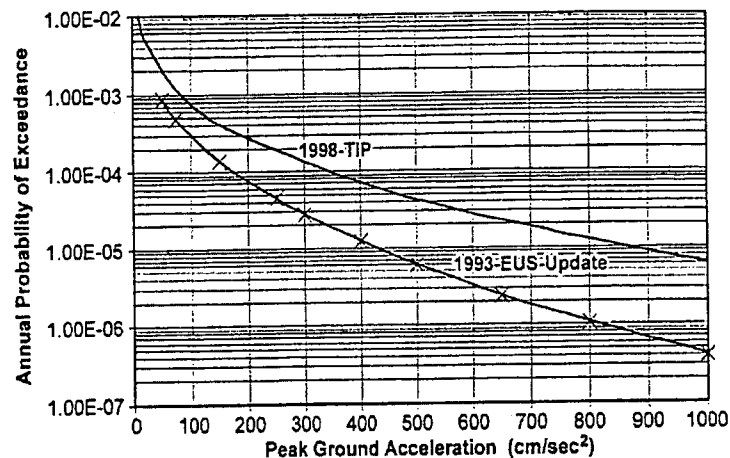


Figure 2.2: Median PGA Hazard Estimates for Watts Bar.

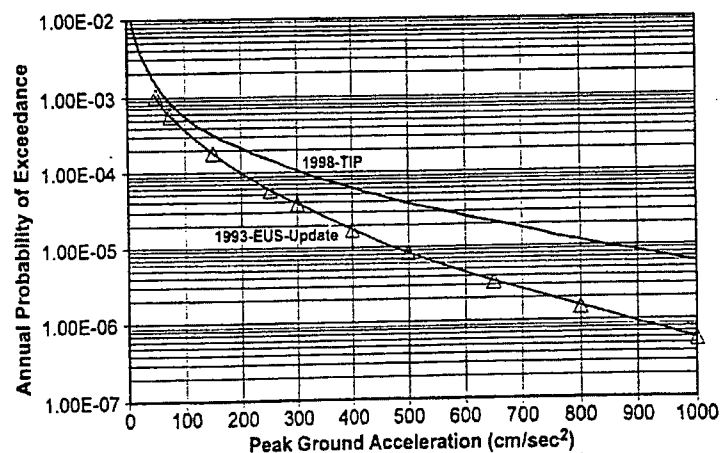



Figure 2.3: "Best Estimate" PGA Hazard for Watts Bar.

Release

From: Coffin, Stephanie 
To: Case, Michael
Subject: RE: Differing Views Panel Discussion
Date: Thursday, March 17, 2011 10:59:41 AM

I had a great time with RES, you especially.

From: Case, Michael
Sent: Thursday, March 17, 2011 9:36 AM
To: Coffin, Stephanie
Subject: RE: Differing Views Panel Discussion

Thanks Steph. We missed you at our last meeting!

From: Coffin, Stephanie
Sent: Thursday, March 17, 2011 6:34 AM
To: Ott, William; Pedersen, Renee
Cc: Case, Michael; Sircar, Madhumita; Kardaras, Tom
Subject: RE: Differing Views Panel Discussion

I thought the panel format was very powerful, especially because of the candidness and openness of the panelists.

Attached is my email (and Ben Beasley's) that summarized the Q&A session.

From: Ott, William
Sent: Wednesday, March 16, 2011 11:58 AM
To: Pedersen, Renee
Cc: Case, Michael; Sircar, Madhumita; Kardaras, Tom; Coffin, Stephanie
Subject: RE: Differing Views Panel Discussion

Hi, Renee - As much as you may want answers on a scale of one to five, I would rather not. The panel discussion went well. We were fortunate that Commissioner Apostolakis had to cancel so we had extra time on the agenda and didn't feel pressed. Both our panel discussion and a technical presentation went longer than planned. Both Chris and Joe gave very Frank descriptions of their experience and we had a lot of questions from the audience. We had prepared a list of questions to start things off if the staff were reticent but did not need them. I also think that all of us on the panel found the experience "enlightening." One aspect of the process is a certain amount of isolation and some negative reaction from your peers and being a part of a panel discussion like this helps. I know that you felt that my experience and Doug's were not as relevant because they were not in the "modern era" but I think that letting people know that this process and these opportunities have been around in one form or another since the beginning of the agency and that people do survive with their careers in tact was a good feature. I think it also showed that the process has only changed in the details. It still takes dedication, determination, and a certain amount of self confidence to pursue these actions and it is naïve to expect that there won't be any negative consequences. It still comes down to staff realizing that in many cases they have a responsibility to their peers, the agency, and the public to raise these issues. We tried to emphasize in our responses to several questions that these actions are supported and processes are supported at the highest levels of the agency. I think that Joe and Chris both had a positive

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experience and would be willing to participate in other panel discussions. I can't give you a good list of the questions that we received. Stephanie was taking notes and is supposed to pull something together. We are also planning an article for the researcher and putting together a focus group report for the Office Director that we hope he will forward on to the appropriate agency location.

If another organization wanted to do something similar I would recommend at least 45 minutes, perhaps an hour. If Commissioner Apostolakis had not been so accommodating we would have been rushed and the experience might not have been as positive. Having enough time was really important from my perspective. I feel that the number of panelists was about right and am glad we did not waste a lot of time trying to explain OCWE or the mechanics of the various processes. These presentations and discussions were very personal and would have been less effective if we had also included a lot of "educational material."

We are currently meeting in Mike Case's office (CSB 5A04) at 11:00 on Wednesday every two weeks starting on March 16. The group would like to invite you to come over and join us at one of these meetings at your convenience. Our next meeting will be March 30 and we plan to discuss our report to the Office Director and mechanisms for increasing the familiarity of the staff with the Division Directors (the agency survey results for RES indicated a fall off in staff confidence as you rise past the immediate supervisors). If these meetings are inconvenient we would be happy to work on scheduling something in addition.

Bill Ott

From: Pedersen, Renee
Sent: Wednesday, February 09, 2011 2:55 PM
To: Ott, William; Case, Michael; Coe, Doug
Cc: Thompson, Catherine
Subject: Differing Views Panel Discussion

Hi guys,

I wanted to touch base with you and get some feedback on the panel discussion last week.

On a scale of 1-5 (5 being outstanding), how did it go?


On a scale of 1-5 (1 being I'd never do it again--5 being it's a great process), how did the members characterize their experiences?

Did you have enough time—especially for questions?

What kind of questions did you get?

If another organization were conducting a similar panel, what lessons learned would you share?

Renée


From: Brown, Frederick
To: Glitter, Joseph; Hows, Allen; Hiland, Patrick; Skeen, David; Case, Michael; Ruland, William; Dudes, Laura
Cc: McDermott, Brian; Ross-Lee, MaryJane; Kammerer, Annie; Hasselberg, Rick
Subject: FW: (Action) Tsunami Fact Sheet - NUREG issued in March 2009 Link
Date: Monday, March 14, 2011 7:12:46 AM

FYI

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

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

TSUNAMI HAZARD ASSESSMENT AT NUCLEAR POWER PLANT SITES IN THE UNITED STATES OF AMERICA

Click link to view: [\[NUREG/CR-6966\]](#)

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

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

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

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

Thanks,

John

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

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

T/75

Esmaili, Hossein

From: Lee, Richard
Sent: Thursday, March 17, 2011 8:00 AM
To: RES_DSA_FSTB
Cc: Voglewede, John; Sudhamay Basu
Subject: FW: RES support for commission meeting on Monday 3/21.
Attachments: Assistance with Commission Brief

For your information.

Sud: We need to dig up the Mark -1 liner issue resolution stuff.

From: Gibson, Kathy
Sent: Wednesday, March 16, 2011 11:36 PM
To: Scott, Michael; Lee, Richard; Santiago, Patricia; Tinkler, Charles; Zigh, Ghani; Navarro, Carlos
Cc: Armstrong, Kenneth
Subject: Fw: RES support for commission meeting on Monday 3/21.

This is a heads up. You will likely be involved in preparing materials for this briefing.

Mike, would you please coordinate this effort and keep me informed? I will be on the night shift Saturday and Sunday night in the Ops Center, so I may or may not be available (I.e. Awake) for the briefing depending on what time the briefing is scheduled.

Thanks, all!

From: Dion, Jeanne
To: Coe, Doug; Gibson, Kathy; Coyne, Kevin; Case, Michael; Sheron, Brian; Uhle, Jennifer
Cc: Rini, Brett; Armstrong, Kenneth
Sent: Wed Mar 16 18:42:32 2011
Subject: RES support for commission meeting on Monday 3/21.

NRR has requested RES to support a commission briefing on Monday 3/21. They are looking for background information, slides, key messages, talking points and possible Q&A- see the attached message. This might be a public meeting- our input will need to be fairly high level. NRR will provide more information after the EDO alignment meeting tomorrow 3/17.

Bill Borchardt's presentation, "Overview of Japanese Event and US response"

- RES to provide slides/information on "Advancing our understanding of safety and risk" (more info to come)

Mike Weber's presentation, "Situation assessment for US reactors and applicants"

- RES to provide slides/information on "Consequence Projections in Japan and what we might expect to see in the US"

Marty Virgilio's presentation, "Situation assessment for US reactors and applicants."

- RES to assist NRR as requested.

I will be in a meeting tomorrow morning (8am to noon)- Kenneth Armstrong will attend the 8:45am meeting.

Thanks,

Jeanne Dion
Technical Assistant (Acting)

U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
jeanne.dion@nrc.gov
301-251-7482

From: RST01 Hoc
To: RST01 Hoc; Hiland, Patrick; Brown, Frederick; Skeen, David; Dudes, Laura; Ruland, William; Case, Michael; Alter, Peter; Hasselberg, Rick; Rini, Brett; Berry, Rollie; Collins, Frank; Morlang, Gary; Schoenebeck, Greg; Kowalczyk, Jeffrey; Sloan, Scott; Circle, Jeff; Esmaili, Hossein; Cheok, Michael; Ward, Leonard; Laur, Steven; Salay, Michael; Schaperow, Jason; Fuller, Edward; Marksberry, Don; Kolb, Timothy; Norton, Charles; Brown, Eva; Shea, James; Vick, Lawrence; Brown, Michael; Williams, Joseph; Hart, Ken; Bloom, Steven; Padovan, Mark; Williams, Donna; Isom, James; Dozier, Jerry; Thorp, John; Kugler, Andrew
Subject: Protracted Event Staffing for Reactor Safety Team Staffing for Japanese Earthquake.doc
Date: Thursday, March 17, 2011 7:05:33 PM
Attachments: Protracted Event Staffing for Reactor Safety Team Staffing for Japanese Earthquake.doc

All,

As you may be aware, the EOC is preparing extended EOC staffing. Attached is the most current draft of the watchbill which extends through 3/26/2011. We are a couple shy for this weekend, but more importantly there are significant gaps to fill for next week. Please review and if your schedule permits let an RST Coordinator know if you have availability to support. Thanks in advance for your help.

Greg Schoenebeck

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Reactor Safety Team Protracted Event Staffing for Japanese Earthquake Response

Team Position	RST Director	RST Coordinator	Accident Analyst	BWR Expert	RST Communicator
03/13/11 Day 0700 - 1500	Pat Hiland	Peter Alter	Jeff Circle	Tim Kolb	Joe Williams
03/13/11 Swing 1500 - 2300	Fred Brown	R. Hasselberg	Hossein Esmaili	Chuck Norton	Ken Hart
03/13/11 Mid 2300 - 0700	Dave Skeen	Brett Rini (C)	Mike Cheok (C)	Eva Brown (C)	none
03/14/11 Day 0700 - 1500	Laura Dudes	Peter Alter	Jeff Circle	Tim Kolb	Steve Bloom
03/14/11 Swing 1500 - 2300	Bill Ruland (C)	R. Berry (C)	Len Ward (C)	Chuck Norton (C)	Mark Padovan
03/14/11 Mid 2300 - 0700	Mike Case (C)	R. Berry (C)	Steve Laur (C)	Eva Brown (C)	Ken Hart (C)
03/15/11 Day 0700 - 1500	Dave Skeen (C)	R. Hasselberg (C)	Jeff Circle (C)	Jim Shea Peter Alter (C) –	Donna Williams ©
03/15/11 Swing 1500 - 2300	Fred Brown ©	Frank Collins (C)	Michael Salay (C)	Chuck Norton (C)	Jim Isom
03/15/11 Mid 2300 - 0700	Pat Hiland	Mike Morlang (C)	J. Schaperow N/A (Move)	Eva Brown (C)	Ken Hart ©
03/16/11 Day 0700 - 1500	Dave Skeen (C)	R. Hasselberg ©	Ed Fuller (C)	Larry Vick ©	Joe Williams ©
03/16/11 Swing 1500 - 2300	Bill Ruland	G. Schoenebeck (C)	Hossein Esmaili ©	Chuck Norton (C)	Steve Bloom ©
03/16/11 Mid 2300 - 0700	Mike Case	Rollie Berry (C)	Mike Salay	Eva Brown (C)	Mark Padovan
03/17/11 Day 0700 - 1500	Laura Dudes (?)	Frank Collins (C)	Jeff Circle (C)	Jim Shea (Peter Alter?)	Donna Williams
03/17/11 Swing 1500 - 2300	Fred Brown	Schoenebeck (C)	Steve Laur	C. Norton (C)	Frank Collins/John Thorp
03/17/11 Mid 2300 - 0700	Pat Hiland	Rollie Berry (C)	Mike Salay (C)	Eva Brown (C)	John Thorp (C)
03/18/11 Day 0700 - 1500	Laura Dudes	Peter Alter	Hossein Esmaili	Jim Shea?	Jim Isom
03/18/11 Swing 1500 - 2300	Bill Ruland	<u>G.Schoenebeck</u> ©	J. Schaperow	C. Norton	Ken Hart ©
03/19/11 Mid 2300 - 0700	Jennifer Uhle	Rollie Berry ©	Don Marksberry	Mike Brown	Andy Kugler (C)
03/19/11 Day 0700 - 1500	Laura Dudes	Scott Sloan		Peter Alter (C)	Joe Williams ©

03/19/11 Swing 1500 - 2300	Dave Skeen	Oleg Bukhrin (c)	Ed Fuller (C)	Chuck Norton (C)	
03/20/11 Mid 2300 - 0700	Jennifer Uhle	Frank Collins (c)	Mike Salay (C)		
03/20/11 Day 0700 - 1500	Laura Dudes	Peter Alter (C)		Larry Vick (C)	
03/20/11 Swing 1500 - 2300	Dave Skeen	Eric Thomas (c)		Chuck Norton (C)	
03/21/11 Mid 2300 - 0700	Jennifer Uhle	Mike Morlang (C)		Mike Brown (C)	
03/21/11 Day 0700 - 1500	Fred Brown	Peter Alter (C)	Jeff Circle ©		Joe Williams (C)
03/21/11 Swing 1500 - 2300	Dave Skeen	Greg Schoenebeck ©		Chuck Norton (C)	
03/22/11 Mid 2300 - 0700	Jennifer Uhle	Frank Collins ©		Mike Brown (C)	
03/22/11 Day 0700 - 1500	Fred Brown	Rick Hasselberg ©	Ed Fuller (C)		Steve Bloom ©
03/22/11 Swing 1500 - 2300	Dave Skeen	Mike Morlang ©		Chuck Norton (C)	
03/23/11 Mid 2300 - 0700	Brian Holian	Oleg Bukhrin (c)		Mike Brown (C)	
03/23/11 Day 0700 - 1500	Fred Brown	Eric Thomas (c)	Jeff Circle ©	Larry Vick (C)	Joe Williams (C)
03/23/11 Swing 1500 - 2300	Bill Ruland	Greg Schoenebeck ©		Chuck Norton (C)	Ken Hart ©
03/24/11 Mid 2300 - 0700	Brian Holian	Frank Collins ©			
03/24/11 Day 0700 - 1500	Fred Brown	Rick Hasselberg ©	Jeff Circle ©		
03/24/11 Swing 1500 - 2300	Bill Ruland	Brett Rini ©		Chuck Norton (C)	
03/25/11 Mid 2300 - 0700	Brian Holian				
03/25/11 Day 0700 - 1500	Pat Hiland	Eric Thomas (c)			Donna Williams (c)
03/25/11 Swing 1500 - 2300	Bill Ruland	Brett Rini ©			
03/26/11 Mid 2300 - 0700	Brian Holian	Frank Collins ©			

Rosales-Cooper, Cindy

From: RidsNroMailCenter Resource
Sent: Thursday, March 17, 2011 12:12 PM
To: NRO_TA
Cc: NRO_Deputy_Division_Directors; Correa, Yessie; Coates, Anissa; Anderson, Patricia; Lo, Eileen
Subject: FW: WAIVER OF WORK SCHEDULE AND PAY CAP RULES FOR WORK IN RESPONSE TO THE EVENTS IN JAPAN
Attachments: Memo re- Waiver of Work Schedule and Pay Cap Rules for Work in Response to the Events in Japan..pdf

Important Information – Please read attached. Distribute to interested staff.

Management should advise Jackie Jones, Financial Services Branch, HR, of the names of employees who perform emergency-related premium work as well as the dates of such work. Submit information to Ms. Jones via memo mailed to T9E-2 or via e-mail to Jackie.Jones@nrc.gov . Information is requested as soon as practicable after work begins to avoid difficulties processing the appropriate payments as the annual cap will be made effective at the beginning of the pay period in which the work was performed.
HR Contacts: Jackie Jones or Larry Davidson

NRO Correspondence Team

From: Khan, Charline
Sent: Thursday, March 17, 2011 7:29 AM
To: RidsAcraAcnw_MailCTR Resource; RidsAslbpManagement Resource; RidsOgcMailCenter Resource; RidsOcaaMailCenter Resource; RidsOcfoMailCenter Resource; RidsOigMailCenter Resource; RidsOipMailCenter Resource; RidsOcaMailCenter Resource; RidsOpaMail Resource; RidsSecyMailCenter Resource; RidsSecyCorrespondenceMCTR Resource; RidsEdoMailCenter Resource; RidsAdmMailCenter Resource; RidsCsoMailCenter Resource; RidsOeMailCenter Resource; RidsFsmeOd Resource; RidsOiMailCenter Resource; RidsOIS Resource; RidsHrMailCenter Resource; RidsNroOd Resource; RidsNroMailCenter Resource; RidsNmssOd Resource; RidsNrrOd Resource; RidsNrrMailCenter Resource; RidsResOd Resource; RidsResPmdaMail Resource; RidsSbcrMailCenter Resource; RidsNsirOd Resource; RidsNsirMailCenter Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource
Cc: Davidson, Lawrence; Buchholz, Jeri; Johns, Nancy
Subject: WAIVER OF WORK SCHEDULE AND PAY CAP RULES FOR WORK IN RESPONSE TO THE EVENTS IN JAPAN

MEMORANDUM TO: Those on the Attached List

FROM: Miriam L. Cohen, Director/RA by J. Buchholz for/
Office of Human Resources

DATED: March 16, 2011

SUBJECT: WAIVER OF WORK SCHEDULE AND PAY CAP RULES FOR WORK IN RESPONSE TO THE EVENTS IN JAPAN

ADAMS Accession No. ML11075A003 refers

NOTE: Electronic distribution only

T/78

Charline Khan

Administrative Assistant (Rotation)

U.S. NUCLEAR REGULATORY COMMISSION

Office of Human Resources

P:301-492-2318

Charline.Khan@nrc.gov

From:
To:

Davidson, Lawrence

Abraham, Susan; Abrams, Charlotte; Ader, Charles; Akstulewicz, Frank; Albert, Ronald; Allwein, Russell; Alston, Timothy; Andersen, James; Anderson, Joseph; Armentrout, Deborah; Ash, Darren; Ash, Melissa; Astwood, Heather; Auluck, Rajender; Austin, Joseph; Ayres, David; Bahadur, Sher; Bailey, Marissa; Bailey, Stewart; Baker, Pamela; Banas, Paul; Barss, Dan; Bartlett, Bruce; Bartley, Jonathan; Bartley, Malion; Batkin, Joshua; Baum, Robin; Bayliff, Shirley; Beardsley, James; Beasley, Benjamin; Bell, Hubert; Bell, Marvin; Bellamy, Ronald; Bellinger, Alesha; Benjamin, Jamie; Benner, Eric; Benney, Brian; Bergman, Thomas; Biggins, James; Bladey, Cindy; Blamey, Alan; Bloom, Steven; Bloomer, Tamara; Blount, Tom; Boger, Bruce; Boland, Anne; Bolduc, Angela; Bonser, Brian; Borchardt, Bill; Borden, William; Bouling, Ramona; Bower, Fred; Bower, Phyllis; Boyce, Tom (RES); Boyce, Thomas (OIS); Brady, Joseph; Brenner, Eliot; Brezovec, Michael; Broadbush, Doug; Brooks, Kenneth; Brown, Frederick; Brown, Tony; Brown, Milton; Brown, Rohn; Bubar, Patrice; Buchholz, Jeri; Buckley, Michael; Bumpass, Sheila; Burns, Stephen; Burritt, Arthur; Burton, Stephen; Burton, William; Bush-Goddard, Stephanie; Cain, Chuck; Caldwell, Robert; Calle, Joselito; Cameron, James; Campbell, Andy; Campbell, Larry; Campbell, Stephen; Campbell, Vivian; Camper, Larry; Caniano, Roy; Cardenas, Daniel; Carlson, Robert; Carpenter, Cynthia; Case, Michael; Casto, Chuck; Casto, Greg; Cataldo, Paul; Catts, Michelle; Champion, Bryan; Chang, Helen; Chang, Lydia; Cheok, Michael; Chernoff, Harold; Chernoff, Margaret; Chokshi, Nilesh; Christensen, Harold; Clark, Jeff; Clay, Ernestine; Clayton, Brent; Clifford, James; Cobey, Eugene; Cochrum, Steven; Coe, Doug; Cohen, Miriam; Cohen, Ronald; Cohen, Stephen; Colaccino, Joseph; Coleman, Judy; Collins, Daniel; Collins, Elmo; Conte, Richard; Cook, Christopher; Corbett, James; Cordes, John; Correia, Richard; Costello, Ralph; Coyne, Kevin; Croteau, Rick; Crowe, Eddy; Cruz, Jeffrey; Csontos, Aladar; Cabbage, Amy; Cubellis, Louis; Cullison, David; Curtis, David; Daley, Robert; Daly, Jill; Dambly, Jan; Daniel, Susan; Danna, James; Dapas, Marc; Davis, Henry; Davis, Jack; Davis, Marlene; Dean, Michael; Dean, Bill; Dehn, Janine; Delligatti, Mark; Dembek, Stephen; Demoss, Gary; Dennig, Robert; Dentel, Glenn; Desai, Binoy; Dias, Antonio; Diaz-Toro, Diana; Dickson, Billy; Dingbaum, Stephen; DiPaolo, Eugene; Dixon, John; Dixon-Herrity, Jennifer; Doane, Margaret; Dodmead, James; Doerflein, Lawrence; Donaldson, Leslie; Donnell, Tremaine; Donoghue, Joseph; Doornbos, Roger; Dorman, Dan; Dorsey, Jeryll; Dosch, William; Dreisbach, Jason; Droggtis, Spiros; Dudes, Laura; Dumbacher, David; Duncan, Eric; Dwyer, James; Over, Jim; Eads, Johnny; Easson, Pamela; Egan, Dennis; Egli, Richard; Einberg, Christian; Elkins, Scott; Ellegood, John; Elliott, Robert; Ellsbury, Richard; Erlanger, Craig; Ernstes, Michael; Brown, Cris; Evans, Carolyn; Michele.ca@nrc.gov; Farnholtz, Thomas; Felts, Russell; Fenton, Darlene; Ferdas, Marc; Ferrell, Kimberly; Ficks, Ben; Fields, Leslie; Finney, Patrick; Fitch, Karen; Flanders, Scott; Flynn, Sean; Foster, Jack; Franke, Mark; Franovich, Rani; Fredericks, Carl; Freeman, Scott; Fretz, Robert; Frumkin, Daniel; Frye, Timothy; Fuller, Michael; Gaddy, Vincent; Gallo, Jenny; Galloway, Melanie; Gartman, Michael; Gavrilas, Mirela; Giantelli, Adelaide; Gibson, Kathy; Giessner, John; Glitter, Joseph; Givines, Mary; Gody, Tony; Golder, Jennifer; Golshan, KG; Gorham, Tajuan; Gott, William; Graham, Thorne; Grancorvitz, Teresa; Grant, Jeffery; Graser, Dan; Gray, Mel; Greene, Kathryn; Grice, Thomas; Griffin, Steven; Grobe, Jack; Hawkins, Kimberly; Gusack, Barbara; Guthrie, Eugene; Guttmann, Jack; Haag, Robert; Habighorst, Peter; Hackett, Edwin; Haeg, Lucas; Haire, Mark; Hall, Donald; Hall, Patricia; Hamzehee, Hossein; Haney, Catherine; Hansell, Samuel; Harris, Tim; Harrison, Donnie; Hatchett, Gregory; Hawkins, Roy; Hay, Michael; Hayden, Elizabeth; Hays, Myra; Heck, James; Heck, Jared; Helton, Shana; Henderson, Pamela; Hickey, James; Hiland, Patrick; Hills, David; Hilton, Nick; Hiltz, Thomas; Hirsch, Patricia; Hoeg, Tim; Hogan, Rosemary; Holahan, Gary; Holahan, Patricia; Holian, Brian; Holland, Crystal; Holody, Daniel; Holonich, Joseph; Holt, BJ; Hopper, George; Howard, Patrick; Howe, Allen; Howell, Art; Howell, Linda; Hoxie, Chris; Hsia, Anthony; Hsu, Caroline; Hsueh, Kevin; Huber, Deborah; Hudson, Jody; Humerick, David; Hunegs, Gordon; Hunter, James; Huth, Virginia; Hutto, Andy; Huyck, Doug; Imboden, Andy; Itzkowitz, Marvin; Jackson, Deborah; Jackson, Donald; Jackson, Terry; James, Lois; Jankovich, John; Janney, Margie; Jarvis, Rodney; Jenkins, Ronaldo; Jernell, Fleni; Johns, Nancy; Johnson, Michael; Johnson, Clay; Johnson, Robert; Jolicoeur, John; Jones, Bradley; Jones, Evan; Jones, William; Josey, Jeffrey; Joustra, Judith; Julian, Emile; Jung, Ian; Junge, Michael; Kahler, Robert; Kaplan, Michele; Karas, Rebecca; Kellar, Ray; Kelley, Corentis; Kemmerer, Myron; Kemker, Brian; Kennedy, Kriss; Kennedy, Silas; Kerben, Valerie; Kern, David; Khanna, Meena; Kim, Yong; Kimble, Daniel; King, Donald; King, Michael; Kinneman, John; Kirkland, John; Kirkwood, Sara; Klein, Alex; Knutson, Ed; Kobetz, Timothy; Kokajko, Lawrence; Kolaczky, Kenneth; Konzman, Carl; Koshy, Thomas; Kowal, Mark; Kramer, John; Krohn, Paul; Krsek, Robert; Krupnick, David; Kulesa, Gloria; Kulp, Jeffrey; Kunowski, Michael; Lam, Donna; Lambert, Kenneth; Landau, Mindy; Langan, Scott; Lankford, Jeffrey; Lantz, Ryan; Lara, Julio; Larkin, Grant; Laura, Richard; Layton, Michael; Le, Hong; Lee, Bert; Lee, David; Lee, Richard; Lee, Samson; Lee, Samuel; Leeds, Eric; Lennartz, Jay; Lesser, Mark; Lew, David; Lewis, Robert; Lipa, Christine; Lombard, Mark; Long, Chris; Lopez, Joseph; Lorson, Raymond; Loudon, Patrick; Lubinski, John; Luehman, James; Lui, Christiana; Lukes, Robert; Lund, Louise; Lupold, Timothy; Lyons-Burke, Kathy; Ma, May; Madden, Patrick; Madison, Wil; Magruder, Stewart; Mamish, Nader; Markley, Michael; Marshall, Jane; Marshfield, Mark; Martin, Gillian; Masnik, Michael; Masse, Todd; Matheson, Mary; Mathew, Roy; Matthews, David; Mattingley, Joel; Maxin, Mark; Mayfield, Michael; McCann, Carrie; McConnell, Keith; McCoppin, Michael; McCoy, Gerald; McCrary, Cheryl; McCree, Victor; McDermott, Brian; McGhee, James; McGill, Clinton; McGinty, Tim; McGowan, Anna; McHale, John; McKelvey, Harold; McKenna, Eileen; McKenney, Christopher; McKirgan, John; McMillan, Joseph; McMurtray, Anthony; Mendiola, Anthony; Meyer, David; Michalak, Paul; Miller, Charles; Miller, Chris; Miller, Geoffrey; Miller, Marie; Miller, Mark; Miller, Michael; Miotla, Sherri; Mitchell, Matthew; Mitchell, Reggie; Mohseni, Aby; Monk, Robert; Monninger, John; Montgomery, Jack; Moore, Scott; Moore, Thomas; Moorman, James; Morris, Eddie; Morris, James; Morris, R. Michael; Morris, Scott; Morrissey, Thomas; Moulding, Patrick; Moy, Romona; Mrowca, Lynn; Muessle, Mary; Munday, Joel; Murphy, Jerome; Murphy, Martin; Musser, Randy; Narick, Marianne; Nazario, Tony; Nease, Rebecca; Neff, Deborah; Nelson, Robert; Nichols, Russell; Nieh, Ho; Norato, Michael; Norris, Michael; Nute-Blackshear, Lora; OBrien, Kenneth; OBryan, Phil; O'Donohue, Kathleen; Offutt, David; Ogle, Chuck; OKeefe, Neil; Oklesson, Edward; Ordaz, Vonna; Orth, Steven; O'Sullivan, Kevin; Ott, William; Ousley, Elizabeth; Owens, Janice; Paradiso, Karen; Partlow, Benjamin; Pascarella, Robert; Peck, Michael; Pederson, Cynthia; Pelke, Patricia; Pellet, John; Pelton, David; Peralta, Juan; Perry, Jamila; Perry, Neil; Persinko, Andrew; Peters, Sean; Peterson, Gordon; Peterson, Hironori; Pham, Bo; Phillips, Charles; Piccone, Josephine; Pool, Stephen; Poole, Brooke; Powell, Amy; Powell, Dawn; Powell, Raymond; Prescott, Peter; Pretzello, Andrew; Price, Georgette; Pruett, Troy; Pstrak, David; Pulliam, Timothy;

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

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

Date: Thursday, March 17, 2011 2:06:49 PM

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

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

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

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

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

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

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

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

Work Schedules

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

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

Possible work schedules include:

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

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

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

Premium Pay

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

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

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

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

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

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

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

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

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

Miscellaneous

Employee Assistance Program (EAP)

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

Travel

If you travel to/from Japan:

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

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

From: Ledford, Joey
To: McIntyre, David; Brenner, Eliot; Harrington, Holly; Burnell, Scott; Couret, Ivonne; Janbergs, Holly; Hannah, Roger; Screnci, Diane; Sheehan, Neil; Chandrathil, Prema; Mitlvyng, Viktoria; Widomski, Michael; Landau, Mindy; Uselding, Lara
Subject: Presidential directive
Date: Thursday, March 17, 2011 4:02:15 PM
Attachments: image001.png

Reuters says the President has directed us to do a systematic review of all plants. True? They want a comment, and I'm not willing to tackle this one blind.

Joey Ledford
Public Affairs Officer
Region II -- Atlanta, Ga.
O: 404.997.4416
C: 404.567.0311
joey.ledford@nrc.gov



7/80

From: Gray, Kathy
To: Brown, Frederick; Uhle, Jennifer; Skeen, David; Dudes, Laura; Hiland, Patrick; Case, Michael; Ruland, William; Holian, Brian
Cc: Evans, Michele; Thorp, John; Thomas, Eric; Collins, Frank; Hasselberg, Rick; Holahan, Gary; OST02 HOC; McGinty, Tim; Lubinski, John; Gray, Kathy
Subject: (Resending) RST Director Schedule for March 19-April 10 (Resending)
Date: Thursday, March 17, 2011 10:45:43 AM
Attachments: RST Director Schedule 1.docx
Importance: High

I thought it might be best to resend the RST Director Schedule for March 19 – April 10 since we were experiencing slow service yesterday.

If you have any questions or conflicts with the proposed schedule please let me know ASAP w/cc to Eric Thomas. Thanks!

From: Gray, Kathy
Sent: Wednesday, March 16, 2011 4:48 PM
To: Brown, Frederick; Uhle, Jennifer; Skeen, David; Dudes, Laura; Hiland, Patrick; Case, Michael; Ruland, William; Holian, Brian
Cc: Evans, Michele; Thorp, John; Thomas, Eric; Collins, Frank; Hasselberg, Rick; Holahan, Gary; OST02 HOC; McGinty, Tim; Lubinski, John
Subject: RE: Staffing the Ops Center 24/7

RST Directors:

Attached you will find the RST Director schedule for March 19-April 10. If you have any questions or conflicts, please let me know. Thanks!

From: Brown, Frederick
Sent: Tuesday, March 15, 2011 9:28 PM
To: Uhle, Jennifer; Skeen, David; Dudes, Laura; Hiland, Patrick; Monninger, John; Case, Michael; Holahan, Gary; Ruland, William; Giitter, Joseph
Cc: Evans, Michele; Thorp, John; Thomas, Eric; Gray, Kathy; Collins, Frank; Hasselberg, Rick
Subject: Re: Staffing the Ops Center 24/7

I'm going to ask John Thorp to have Kathy Gray coordinate the RST director position for us.

From: OST02 HOC
To: Uhle, Jennifer; Skeen, David; Dudes, Laura; Hiland, Patrick; Monninger, John; Case, Michael; Holahan, Gary; Ruland, William; Brown, Frederick
Cc: Evans, Michele
Sent: Tue Mar 15 18:20:18 2011
Subject: Staffing the Ops Center 24/7

RST Directors:

Per EDO direction we plan to staff the Ops Center 24/7 while we have staff dispatched in Japan. And we are currently planning to identify a second team to send to Japan in about 2 weeks, with the idea that they may stay there for an additional two weeks. That would take us out to April 10 or so.

T/81

Staffing in the IRC will remain at the current levels for potentially another week. Possibly we will be able to scale back somewhat at that point. The intent is to develop a schedule through April 10 at this point. The immediate focus is to staff for the first week, starting Saturday March 19.

We'd like to have a little more consistency in the staffing of most positions. So we'd like to staff the RST director in 4 day blocks, three shifts each day, starting March 19.

Fred Brown/Tim McGinty/John Lubinski has offered to take the lead to coordinate among the potential RST Directors to fill the schedule. Please work with him and provide at least the schedule for the first four day block by COB Wednesday March 16.

Michele

3/16/2011

4:30pm

Reactor Safety Team (RST) Director Schedule

March 18 – March 25, 2011

Shift	3/18 (Fri)	3/19 (Sat)	3/20 (Sun)	3/21 (Mon)	3/22 (Tues)	3/23 (Wed)	3/24 (Thur)	3/25 (Fri)
7am–3pm	(Laura Dudes)	Laura Dudes	Laura Dudes	Fred Brown	Fred Brown	Fred Brown	Fred Brown	Pat Hiland
3pm–11pm	(Bill Ruland)	Dave Skeen	Dave Skeen	Dave Skeen	Dave Skeen	Bill Ruland	Bill Ruland	Bill Ruland
11pm–7am	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Brian Holian	Brian Holian	Brian Holian	Brian Holian

March 26 – April 2, 2011

Shift	3/26 (Sat)	3/27 (Sun)	3/28 (Mon)	3/29 (Tues)	3/30 (Wed)	3/31 (Thur)	4/1 (Fri)	4/2 (Sat)
7am–3pm	Pat Hiland	Pat Hiland	Pat Hiland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Brian Holian
3pm–11pm	Bill Ruland	Fred Brown	Fred Brown	Fred Brown	Fred Brown	Bill Ruland	Bill Ruland	Bill Ruland
11pm–7am	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen	Dave Skeen	Dave Skeen	Dave Skeen

April 3 – April 10, 2011

Shift	4/3 (Sun)	4/4 (Mon)	4/5 (Tues)	4/6 (Wed)	4/7 (Thur)	4/8 (Fri)	4/9 (Sat)	4/10 (Sun)
7am–3pm	Brian Holian	Brian Holian	Brian Holian	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen
3pm–11pm	Bill Ruland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Pat Hiland	Pat Hiland	Pat Hiland
11pm–7am	Laura Dudes	Laura Dudes	Laura Dudes	Laura Dudes	Fred Brown	Fred Brown	Fred Brown	Fred Brown

USIR
w/attach
NRR

From: Case, Michael
To: Hiland, Patrick; Coe, Doug; Skeen, David
Cc: Beasley, Benjamin; Coyne, Kevin; Correia, Richard
Subject: RE: Response requested: Assistance with Commission Brief
Date: Thursday, March 17, 2011 9:06:41 AM
Attachments: Seismic QAs March 17th 2am update.msg

Seismic folks have been working in the Ops Center to pull together just about every question imaginable on seismic and tsunamis. The 2am version is attached.

From: Hiland, Patrick
Sent: Thursday, March 17, 2011 7:55 AM
To: Coe, Doug; Skeen, David
Cc: Beasley, Benjamin; Coyne, Kevin; Correia, Richard; Case, Michael
Subject: RE: Response requested: Assistance with Commission Brief
Importance: High

Thanks Doug.

David, I believe Mike Case has folks to handle seismic and tsunami. I'm adding him to cc list and perhaps he can take part. As you know our seismic folks focus on structures and SRP vs. detailed seismic- tsunami design. Mike should be able to participate or provide a senior staff person.

From: Coe, Doug
Sent: Wednesday, March 16, 2011 10:47 PM
To: Hiland, Patrick; Skeen, David
Cc: Beasley, Benjamin; Coyne, Kevin; Correia, Richard
Subject: RE: Response requested: Assistance with Commission Brief

Pat/Dave,
I'm out of country and Kevin Coyne is acting Director RES/DRA, and I'll be back late Sunday night and in the office on Monday. Rich Correia is coming over to replace Chris Lui on Mar 28. We can provide you with GI-199 bullets or back you up as needed at the Commission meeting. Please let Kevin and Ben know how you want to present GI-199 and what we can do to support you. One thought is that we may need to indicate a consideration of tsunami for coastal or near-coastal plants in the information we request from licensees although that isn't something we've discussed to-date.
Doug

From: Hiland, Patrick
Sent: Wednesday, March 16, 2011 8:57 PM
To: Skeen, David
Cc: Coe, Doug; Beasley, Benjamin
Subject: FW: Response requested: Assistance with Commission Brief

p.s. I can handle GI-199, but RES (Coe or Beasly) did the heavy lifting.

From: Howe, Allen (NRR)
Sent: Wednesday, March 16, 2011 4:47 PM
To: Ruland, William; Brown, Frederick; McGinty, Tim; Blount, Tom; Quay, Theodore; Lubinski, John; Thomas, Brian; Nelson, Robert; Glitter, Joseph; Westreich, Barry; Bahadur, Sher; Holian, Brian; Cheok, Michael; Lee, Samson; Wilson, George; Hiland, Patrick; Skeen, David
Cc: Martin, Robert; Meighan, Sean
Subject: Response requested: Assistance with Commission Brief

7/82

Importance: High

LT – I am looking for the right folks to pull together background information, slides, key messages, talking points and possible Q&A for the Commission briefing on the Japan event. The briefing is likely to happen Monday. Looks like a busy weekend. I will attend the ET standup tomorrow to discuss. Please let me know who will support. The areas where NRR has the lead and where specific support is needed are as follows:

Situation Assessment For US Reactors and Applicants – Marty Virgilio– lead NRR, RES support

- External Events
 - Seismic – DE
 - Flood -DE
 - Tsunamis - DE
- Severe Accidents
 - SBO - DE/DRA
 - B.5.b/50.54 (hh)(2) – DRA/DIRS
 - SAMGs - DSS
 - Hydrogen control DSS
 - Emergency planning - NSIR
- Spent fuel – DSS, NMSS support for dry casks

Path Forward and Priorities – Eric Leeds – lead NRR

- Near Term Actions
 - In Support of Response
 - Near term regulatory actions - DPR
 - TI for inspections - DIRS
 - Generic Communications - DPR
 - Licensing actions – DORL
- Longer Term Actions
 - Lessons Learned From this Event – process based on past lessons learned
e.g. TMI, Chernobyl, Davis-Besse, Japan earthquake at KK
 - Resolution of GSI 199 - DE
- Industry actions

Attachment Seismic QAs March 17th 2am update.msg (2560 Bytes) cannot be converted to PDF format.

Thanks - Allen

Weaver, Tonna

From: Lyon, Warren *note*
Sent: Friday, March 18, 2011 9:17 AM
To: Parks, Benjamin
Subject: Latest GL version
Attachments: GL 03-18-2011.docx

This is a back burner effort so far since I've been told not to work on it. But I'll continue to play with it as ideas come in.

7/83

Bozin, Sunny

From: Herr, Linda
Sent: Friday, March 18, 2011 2:20 PM
To: Bozin, Sunny
Cc: Nieh, Ho
Subject: FW: Letter from New York State Attorney General Eric T. Schneiderman
Attachments: 3 18 11 Schneiderman Letter to NRC.pdf

Sunny:
Please log, print and circulate. Ho may request that a copy be put in his and WCO's Japan binders.
Thanks,
Linda

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

From: CMRAPOSTOLAKIS Resource
Sent: Friday, March 18, 2011 2:06 PM
To: Pace, Patti; Gibbs, Catina; Batkin, Joshua; Lepre, Janet; Harves, Carolyn; Crawford, Carrie; Herr, Linda; Bozin, Sunny; Blake, Kathleen; Savoy, Carmel
Subject: FW: Letter from New York State Attorney General Eric T. Schneiderman

Correspondence will handle.

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

From: Janice Dean [<mailto:Janice.Dean@ag.ny.gov>]
Sent: Friday, March 18, 2011 1:32 PM
To: CMRAPOSTOLAKIS Resource; CMRJACZKO@nrc.gov; CMRMAGWOOD Resource; CMROSTENDORFF Resource; CMRSVINICKI Resource
Cc: Janice Dean; John Sipos; Daniel O'Neill; Manna Jo Greene; Robert Snook; Michael Delaney; William Dennis; Ross Gould; Stephen Filler; Elise Zoli; Joan Matthews; John Parker; Kathryn Sutton; Martin O'Neill; Paul Bessette; Jones, Andrea; Mizuno, Beth; Harris, Brian; Newell, Brian; Roth(OGC), David; Monteith, Emily; Docket, Hearing; Kirstein, Josh; Lathrop, Kaye; McDade, Lawrence; Wright, Megan; OCAAMAIL Resource; Wardwell, Richard; Turk, Sherwin; Deborah Brancato; Phillip Musegaas; Daniel Riesel; Jessica Steinberg; Melissa-Jean Rotini
Subject: Letter from New York State Attorney General Eric T. Schneiderman

Dear Chairman Jaczko and Commissioners Svinicki, Apostolakis, Magwood, and Ostendorff,

Attached please see a letter from New York State Attorney General Eric Schneiderman concerning Indian Point.

Respectfully submitted,

Janice A. Dean

Janice A. Dean
Assistant Attorney General
Office of the NYS Attorney General
120 Broadway, 26th Floor
New York, New York 10271
(212) 416-8459 voice
(212) 416-6007 fax
janice.dean@ag.ny.gov

Bozin, Sunny

From: Ostendorff, William
Sent: Friday, March 18, 2011 5:00 PM
To: Nieh, Ho
Subject: 2011-03-18- Briefing on NRC Response to Nuclear Events in Japan-WCO-opening.doc.docx
Attachments: 2011-03-18- Briefing on NRC Response to Nuclear Events in Japan-WCO-opening.doc.docx

Ho-please take a quick read of this.

1/85

From: Mamish, Nader
To: English, Lance; Schwartzman, Jennifer; Stahl, Eric; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; Owens, Janice; Tobin, Jennifer; Smirolido, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian
Cc: Doane, Margaret; Young, Francis; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Jones, Andrea; Dembek, Stephen
Subject: RE: OIP Ops Center Coverage: March 21-April 15
Date: Friday, March 18, 2011 6:36:36 AM
Attachments: RE OIP Ops Center Coverage March 21-April 15.msg

The attached should help answer all your Qs. Please contact Larry Davidson or me if you have further Qs.

Thanks

From: English, Lance
Sent: Thursday, March 17, 2011 2:51 PM
To: Schwartzman, Jennifer; Mamish, Nader; Stahl, Eric; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; Owens, Janice; Tobin, Jennifer; Smirolido, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian
Cc: Doane, Margaret; Young, Francis; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Jones, Andrea; Dembek, Stephen
Subject: RE: OIP Ops Center Coverage: March 21-April 15

I spoke with Bill Gott, the head of the Ops center regarding accounting for OT, night differential, sunday premium, etc. He said that this is going to be handled differently for folks who are assigned to the ops center full time than for those pulling this ad hoc task force duty. HOOs and HERO's have a list of TAC codes for them because they are perminately assigned to shift work. Bill says that our Admin folks will have to figure out what TAC codes we will use for our augmentees.

-- Lance

From: Schwartzman, Jennifer
Sent: Thursday, March 17, 2011 1:40 PM
To: Mamish, Nader; Stahl, Eric; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolido, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian
Cc: Doane, Margaret; Young, Francis; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Jones, Andrea; Dembek, Stephen
Subject: Re: OIP Ops Center Coverage: March 21-April 15

It would be very helpful if we could ask one person to get the necessary T&A info from the HOOs and share with the collective so we do not keep asking them the same questions. Thanks!
Sent from an NRC Blackberry

From: Mamish, Nader
To: Stahl, Eric; Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolido, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian
Cc: Doane, Margaret; Young, Francis; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Jones, Andrea; Dembek, Stephen
Sent: Thu Mar 17 13:39:14 2011
Subject: RE: OIP Ops Center Coverage: March 21-April 15

Great work, Eric and thanks to all for your continued support and assistance. A couple of reminders/thoughts ...

7/86

1. Please remember to charge your hours in the ops ctr to TAC # ZG0061, and to ensure that you get compensated for shift/night differential pay, etc. (see the HOO for details).
2. There are a couple of empty slots in the schedule between now and April 15. If you are unable to fill the slots, please see me or Steve.

Thanks again

From: Stahl, Eric

Sent: Thursday, March 17, 2011 11:44 AM

To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smiroldo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian

Cc: Doane, Margaret; Young, Francis; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Jones, Andrea; Mamish, Nader; Dembek, Stephen

Subject: OIP Ops Center Coverage: March 21-April 15

Team OIP –

First of all, thank you for providing input on such short notice concerning OIP's coverage of the international liaison desks in the Ops Center. Attached you will find the coverage sheet from March 21 through April 15. Most of you will work for three days on, followed by six days off. The reason for this is that management believed it was important to maintain staff consistency in the Ops Center, while not overburdening specific people.

Please read the following information carefully:

- I did my best to incorporate when you all preferred to work. Since most people preferred 7am-3pm, this did not always work.
- I did my best to incorporate feedback concerning you leave, CWS and travel into the document, this did not always work.
- If you are scheduled to work a shift that you cannot work (whether because you have leave, have other obligations, are on CWS, etc.), it is your responsibility to find a replacement. I will maintain the master copy, so if there is a change, please email it to me. I will plan on sending out updates to the sheet as necessary every few days.
- In addition to the people who have already been working in the Ops Center or will start shifts there soon, feel free to reach out to Gerri, Wilkins, Andrea, Kirk and Brooke when they return to the office. We have 20+ people in the office who are available and eager to help, so it should not be too difficult to find a replacement when needed.
- At this point, we are under the assumption that we will need two people manning the international liaison desk through April 15. If this changes, we will let you know.

Once again, please look at the coverage spreadsheet closely. Your name may only appear a few times or it may appear 10+ times. In some cases you may have been substituted for people who are away on travel in what may appear to be random fashion. It is your responsibility to show up during your designated shift or to find a replacement for it. If you have any questions or concerns, please reply directly to me only.

Please note: coverage through this Sunday (March 20) has already been finalized. The document with this information is also attached.

Once again, thank you all for your contributions. Everyone understands this has been an overwhelming and challenging time for OIP, but I think everyone's eagerness to help and flexibility have been clearly demonstrated.

From: Bonaccorso, Amy
To: Janbergs, Holly
Subject: DISASTER RESPONSES
Date: Friday, March 18, 2011 9:56:07 AM

These are some things that I have piecemealed together for responses.

-
-
-
-

SUGGESTIONS

The person who picks up the phone should say this. Or, this can be emailed.

We appreciate the suggestions of folks with ideas to resolve the situation in Japan. Please understand that the NRC has some of the most expert people in the world available to assist the Japanese authorities in whatever way they request. We are fully staffed in all our response teams at this time and working 24-hours a day.

SCREENING

We have received several requests through the RSLOs regarding the screening of planes/passengers/baggage landing in the U.S. from Japan. We have a contact, Helen Sterling (202-344-2433), with DHS/Customs and Border Protection.

They (DHS/CBP) are developing a sheet on just this topic she anticipates will be released tomorrow. As soon as the State Liaison receives her document, which she indicates will be releasable to the public, we will forward to everyone on to: and cc:

RSLOs: Inquiries have come in from several States, including HI (Eckerd) and TN (Crosslin).

Richard Turtill
State Liaison – Liaison Team
Incident Response Center

EMAILS FROM STATE OFFICIALS

Please e-mail questions from state officials to lia04.hoc@nrc.gov

RADIATION HEALTH-RELATED Qs

We have permission from the CDC to forward radiation health-related public callers to:

1-800-CDC-INFO

Do not post this, however. Internal use only

CA Dep't of Health

T/87

He can also contact the CA Dept of Health, POC at:

<http://nrc-stp.ornl.gov/asdirectory.html#CA>

Early Warning Detection System

Dear Sir,

In response to your recent request for information from the United States Nuclear Regulatory Commission (U.S. NRC):

“Is it required for plants to employ the most advanced public warning capability available?”.

Each plant is required to have an early public warning system that meets U.S. NRC regulations and is tested on a routine basis. You can find out more about this subject on our Internet web site:

www.nrc.gov.

PHONE TEAM

Jennifer Tobin – 17C4 – x3589

Christianne Ridge – 17C2b – x1805

Ron Deavers – 17A1 - x2589

Amy Bonaccorso – 17C4 - x1822

EMAIL SUBSCRIPTION

<http://www.nrc.gov/public-involve/listserver.html>

BLOG:

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

California Radiologic Health Branch

Ca Department of Radiation Safety – click on CA

<http://nrc-stp.ornl.gov/asdirectory.html>

NRC Operations Officer at 301-816-5100

From: [Khanna, Meena](#)
To: [Case, Michael](#)
Cc: [Sheron, Brian](#); [Chokshi, Niles](#); [Kammerer, Annie](#); [Ake, Jon](#); [Munson, Clifford](#); [Wilson, George](#)
Subject: RE: Fact Sheet on NRC Seismic Regulations
Date: Friday, March 18, 2011 1:26:29 PM
Attachments: [Draft Fact Sheet on NRC Seismic Regulations JPA BT GB MK CM.docx](#)
[Draft Fact Sheet on NRC Seismic Regulations JPA BT GB MK CM bullets.docx](#)

Hi Mike,
Cliff asked me to send you the clean versions of the fact sheet...one has the information bulletized and the other is in narrative form...thanks!
meena

From: Munson, Clifford
Sent: Friday, March 18, 2011 12:51 PM
To: Case, Michael
Cc: Sheron, Brian; Chokshi, Niles; Khanna, Meena; Kammerer, Annie; Ake, Jon
Subject: Fact Sheet on NRC Seismic Regulations

Mike,

See attached. I worked on this with Jon Ake with input from NRR as well. Let me know if you need me to make changes.

Thanks,
Cliff
Clifford Munson, Ph.D.
Senior Level Advisor
U.S. NRC - Office of New Reactors
Division of Site and Environmental Reviews
301-415-6947
clifford.munson@nrc.gov

T/88

Fact Sheet: Summarization of the NRC's Regulatory Framework for Seismic Safety

The seismic regulatory basis for licensing of the currently operating nuclear power reactors is contained in the following regulations: 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," including the "General Design Criteria for Nuclear Power Plants," and 10 CFR Part 100 ("Seismic and Geologic Siting Criteria For Nuclear Power Plants") and Appendix A to that Part, which describes the general criteria that guide the evaluation of the suitability of proposed sites for nuclear power plants.

General Design Criterion (GDC) 2, "Design Bases for Protection Against Natural Phenomena," in Appendix A requires that the structures and components in nuclear power plants be designed to withstand the effects of natural phenomena, including earthquakes and tsunamis, without loss of capability to perform their intended safety functions. GDC 2 also requires that the design bases include sufficient margin to account for the limited accuracy, quantity, and period of time in which the historical data have been accumulated. The earthquake which could cause the maximum vibratory ground motion at the site is designated as the **Safe Shutdown Earthquake (SSE)**. Under SSE ground motions, nuclear power plant structures and components must remain functional and within applicable stress, strain, and deformation limits. Each plant must also have seismic instrumentation to determine if the **Operating Basis Earthquake (OBE)**, typically one-half or one-third the level of the SSE, has been exceeded. If the OBE is exceeded or significant plant damage has occurred, then the nuclear power plant must be shutdown.

Each plant is designed to a ground-shaking level (the SSE) 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, the distance of the earthquake to the site, and the local geology. The magnitude alone cannot be used to predict ground motions. The existing plants were designed on a "deterministic" or "scenario earthquake" basis that accounted for the largest earthquake expected in the area around the plant. This required an assessment of earthquakes that had occurred in the region around each plant site.

Design basis loads for nuclear power plant structures include combined loads for seismic, wind, tornado, normal operating conditions (pressure and thermal), and accident conditions. Codes and standards, such as the American Society of Mechanical Engineers, the American Concrete Institute, and the American Institute of Steel Construction, are used in the design of nuclear power plant structures to ensure a conservative, safe design under design basis loads.

In the mid to late 1990s, NRC staff reviewed the potential consequences of severe earthquakes (earthquakes beyond the safety margin included in each plant's design basis), as part of the Individual Plant Examination of External Events (or IPEEE) program. From this review, the staff determined that seismic designs of operating plants in the United States have adequate safety margins, for withstanding earthquakes, built into the designs. Currently, the NRC staff is reassessing the seismic designs of operating plants through our Generic Issues program. The initial results of this assessment found that: 1) seismic hazard estimates have increased at some operating plants in the central and eastern US; 2) there is no immediate safety concern, plants have significant safety margin and overall seismic risk estimates remain small; and 3) assessment of updated seismic hazards and plant performance should continue.

NRC's Regulatory Framework for Seismic Safety

NRC Regulations and Guidelines for Seismic Safety:

- The seismic regulatory basis for licensing of the currently operating nuclear power reactors is contained in the following regulations:
 - 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," including the "General Design Criteria for Nuclear Power Plants," and
 - 10 CFR Part 100 ("Seismic and Geologic Siting Criteria For Nuclear Power Plants") and Appendix A to that Part, which describes the general criteria that guide the evaluation of the suitability of proposed sites for nuclear power plants.
- In addition, General Design Criterion (GDC) 2, "Design Bases for Protection Against Natural Phenomena," in Appendix A requires that:
 - The structures and components in nuclear power plants be designed to withstand the effects of natural phenomena, including earthquakes and tsunamis, without loss of capability to perform their intended safety functions.
 - GDC 2 also requires that the design bases include sufficient margin to account for the limited accuracy, quantity, and period of time in which the historical data have been accumulated.
 - The earthquake which could cause the maximum vibratory ground motion at the site is designated as the **Safe Shutdown Earthquake (SSE)**. Under SSE ground motions, nuclear power plant structures and components must remain functional and within applicable stress, strain, and deformation limits.
 - Each plant must also have seismic instrumentation to determine if the **Operating Basis Earthquake (OBE)**, typically one-half or one-third the level of the SSE, has been exceeded. If the OBE is exceeded or significant plant damage has occurred, then the nuclear power plant must be shutdown.

Plant Design /Design Basis (Seismic):

- Each plant is designed to a ground-shaking level (the SSE) 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, the distance of the earthquake to the site, and the local geology. The magnitude alone cannot be used to predict ground motions. The existing plants were designed on a "deterministic" or "scenario earthquake" basis that accounted for the largest earthquake expected in the area around the plant. This required an assessment of earthquakes that had occurred in the region around each plant site.
- Design basis loads for nuclear power plant structures include combined loads for seismic, wind, tornado, normal operating conditions (pressure and thermal), and accident conditions. Codes and standards, such as the American Society of Mechanical Engineers, the American Concrete Institute, and the American Institute of Steel Construction, are used in the design of nuclear power plant structures to ensure a conservative, safe design under design basis loads.

NRC Current Reviews/Initiatives:

- In the mid to late 1990s, NRC staff reviewed the potential consequences of severe earthquakes (earthquakes beyond the safety margin included in each plant's design basis), as part of the Individual Plant Examination of External Events (or IPEEE) program. From this review, the staff determined that seismic designs of operating plants in the United States have adequate safety margins, for withstanding earthquakes, built into the designs. Currently, the NRC staff is reassessing the seismic designs of operating plants through our Generic Issues program. The initial results of this assessment found that: 1) seismic hazard estimates have increased at some operating plants in the central and eastern US; 2) there is no immediate safety concern, plants have significant safety margin and overall seismic risk estimates remain small; and 3) assessment of updated seismic hazards and plant performance should continue.

Steger (Tucci), Christine

From: Steger (Tucci), Christine
Sent: Friday, March 18, 2011 9:44 AM
To: Couret, Ivonne
Subject: Request Interview: MSNBC Morning Joe (Monday March 21 - 7:15am)
Attachments: Request Interview: MSNBC Morning Joe (Monday March 21 - 7:15am); Request Interview: MSNBC Morning Joe (Monday March 21 - 7:15am)

Call from: Alex Korson
Organization: MSNBC Morning Joe (NY)
Number: 908-377-1940 ~~EXT 6~~
E-mail: alex.korson@nbcuni.com

Request Interview with Chairman or other NRC Expert
Monday, March 21, Live at 7:15am – can record from DC

- Had Deputy Secretary of Energy on the show, when asked a few questions he said that they would have to ask the NRC – hence the request for an interview with us.

From: [Correia, Richard](#)
To: [Case, Michael](#)
Subject: FW: Daily: 4 New Items from Thursday, March 17, 2011
Date: Friday, March 18, 2011 12:21:09 PM

Mike,

There are a couple of folks her in NSIR that are interested in doing some non-security type work. We think PM work might be a good place for them to rotate into. Your posting below requires an 801 person (engineer). How flexible is RES on allowing non 801s to apply for this position? If RES would accept non 801s, the opportunity would have to be reposted I'm sure.

Thx

From: NRC Announcement [mailto:nrc.announcement@nrc.gov]
Sent: Thursday, March 17, 2011 10:00 PM
To: NRC Announcement
Subject: Daily: 4 New Items from Thursday, March 17, 2011

NRC Daily Announcements

Highlighted Information and Messages



Thursday March 17, 2011 -- Headquarters Edition

General Interest: White Flint Complex Daily Parking

General Interest: Financial Seminars Planned

Employee Resources: Solicitation of Interest - RES/DE/RGDB, Sr. Program Manager, GG-15

General Interest: Relocation of the Supply Store

[View item in a new window](#)

General Interest: White Flint Complex Daily Parking

Effective Monday, March 21, 2011, the Office of Administration (ADM) will be suspending the issuance of daily parking passes at the White Flint Complex (WFC) garage to provide parking for the increased staff required to support the Operations Center 24/7 in response to the tragic events in Japan. During this time, staff are reminded that daily parking is available at the White Flint Metro for \$8.50 per day.

ADM has issued temporary emergency parking permits for staff supporting the Operations Center who do not currently possess a permanent WFC parking permit.

A subsequent announcement will be posted specifying the date when ADM will resume issuing daily parking permits. Thank you in advance for your patience and understanding.

Contact: Administrative Services Center, 301-415-4272



(2011-03-17 00:00:00.0)

[View item in a new window](#)

T/90

General Interest: Financial Seminars Planned

The Employees Welfare and Recreation Association is sponsoring two sessions of a noontime financial seminar. Brian Thoms, a certified financial planner from Ameriprise Financial, will present a seminar: Investment Planning. During this seminar, you will learn ways to:

- Evaluate your investing progress.
- Keep emotions from affecting your financial decisions.
- Make smart, value-based decisions with your money.
- Manage risk to help optimize your portfolio.
- Understand how to coordinate various investment strategies to help support your investment goals.

Two sessions will be offered from 12 noon to 1 p.m. ET:

March 30, O-4 B-6

April 5, T-10 A-1

To ensure adequate seating, please make reservations by contacting Crystal Rivers at 240-314-4363.



(2011-03-17 00:00:00.0)

[View item in a new window](#)

Employee Resources: Solicitation of Interest - RES/DE/RGDB, Sr. Program Manager, GG-15

The **Office of Nuclear Regulatory Research** is soliciting interest from **GG-15** employees for a lateral reassignment opportunity in the **Division of Engineering** as a **Sr. Program Manager** for the **Regulatory Guide Development Branch**.

Detailed information is available on the NRC internal Web page.

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



(2011-03-17 00:00:00.0)

[View item in a new window](#)

General Interest: Relocation of the Supply Store

On Monday, March 14, 2011, the Office of Administration (ADM) opened its new supply store, which has been relocated to O-P1 C12, adjacent to the loading dock guard station. The new supply store has improved lighting and better shelving to allow easier access to supplies. Operating hours remain Monday through Friday, 8:00

a.m. to 4:30 p.m. ADM looks forward to seeing you soon.

Contact: JoAnne Thweatt, 301-415-0187



(2011-03-17 00:00:00.0)

[View item in a new window](#)

The latest Announcements are always on the [NRC@WORK Home Page](#).

[Announcements by Date](#) | [Announcements by Category](#)

Search Announcements: term term [Go]

[Frequently Asked Questions About the NRC Daily Announcements Email](#)

From: Johnson, Michael
To: Holahan, Gary
Subject: FW: Briefing on NRC Response to Recent Nuclear Events in Japan followed by Agenda Planning, Monday, 3/21 Beginning 9 am
Date: Friday, March 18, 2011 11:33:00 AM
Attachments: 110321 NRC Response to Events in Japan VERSION B Scheduling Note.docx

Did you get this? We will want to have someone on hand to answer questions.

From: Andersen, James
Sent: Friday, March 18, 2011 7:46 AM
To: Johnson, Michael
Subject: FW: Briefing on NRC Response to Recent Nuclear Events in Japan followed by Agenda Planning, Monday, 3/21 Beginning 9 am

Mike, latest scheduling note for the Commission meeting and the SECY plan to announce the meeting.

Jim A.

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

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

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

Annette

7/9/11

From: Sheron, Brian
To: Evans, Michele; Uhle, Jennifer; Pederson, Cynthia; McCree, Victor; Mamish, Nader; Lew, David; Leeds, Eric
Cc: Satorius, Mark; Wert, Leonard; Doane, Margaret; Grobe, Jack; Johnson, Michael
Subject: RE: ACTION NEEDED: Proposed replacement staff for team in Japan
Date: Friday, March 18, 2011 10:25:19 PM

Michele, not sure what you mean regarding the need to confirm if their current medical condition supports their travel to Japan. Are there some unique medical restrictions they need to know about due to conditions in Japan? Both of these individuals have no medical restrictions regarding normal foreign travel.

From: Evans, Michele
Sent: Friday, March 18, 2011 7:07 PM
To: Uhle, Jennifer; Pederson, Cynthia; McCree, Victor; Mamish, Nader; Lew, David; Leeds, Eric
Cc: Sheron, Brian; Satorius, Mark; Wert, Leonard; Doane, Margaret; Grobe, Jack; Johnson, Michael
Subject: ACTION NEEDED: Proposed replacement staff for team in Japan

Please do not share this list any farther, since it has not been finalized/approved. At this point, I have provided the attached to Chuck and asked him to provide any comment by Saturday morning.

Meanwhile, I am requesting that the appropriate office management contact their staff on the list and confirm that their current medical condition supports this travel to Japan. When contacting them, it would be fine to indicate that their name is proceeding forward in the process, but it has not been finalized. Please provide the response to me as soon as practicable via email.

To help, I provided the names by office below:

RES: Mike Scott, Syed Ali
NRR: Rob Taylor, Abdul Sheikh
Region I: Todd Jackson, Marie Miller
Region II: Alan Blamey
Region III: Jack Giessner
NSIR: Ralph Way
OIP: Jack Ramsey and TBD?

Thanks for everyone's support.

Michele

From: Evans, Michele
Sent: Friday, March 18, 2011 6:47 PM
To: Casto, Chuck; Monninger, John; Dorman, Dan
Cc: Weber, Michael; Borchardt, Bill; Virgilio, Martin; Boger, Bruce; Zimmerman, Roy; Wiggins, Jim
Subject: Proposed replacement staff for team in Japan

Chuck,

Based on the input you provided this morning regarding expertise for the next wave of staff going to Japan, we're proposing the attached team.

All the individuals were selected with interpersonal skills in mind and are all available to travel in the required time period.

We propose that Mike Scott and Alan Blamey depart the USA on Tuesday, in order to provide time for turnover and then enable Jim Trapp and Tony Ulises to return to the USA potentially on Saturday March 26.

The remaining individuals would leave the USA later in the week (target date is March 24), to allow time for turnover and then enable the remaining team members to return to the USA on or around March

1/92

28.

If you want to further discuss the skill sets, the staff, the timing, or any other needs please let me know. I can be on the phone in the Ops Center to discuss with you on Saturday morning as early as 7 am Washington time. Please communicate your preference for a discussion with the ET in the Ops Center.

Thanks

Michele

From: Tegeler, Bret
Sent: Friday, March 18, 2011 5:42 AM
To: Patel, Pravin; Ma, John
Cc: Shams, Mohamed
Subject: RE: Spent fuel pool filled with sand Unit 4 Japan

At 9:45 last night, John had OP Ctr (RST01 Hoc) send an email to a Toshiba contact to obtain SFP drawings for Unit 3. The contact replied at 11:30 pm last night that he was collecting the drawings. As of this morning, I have no further detail on that issue. In lieu of more detail, I used the Quad Cities pool design dwgs to estimate SFP pool capacity based on cracked moment and yield line theory. Taking no credit for reinforcement (as they might be damaged), I only looked at the cracking moments.

Based on this, I calculated an SFP floor capacity to be approximately 6,500 psf. Based on a conservative loading estimate of 5,000 psf (SFP fully loaded with wet sand), the pool floor should have reserve strength even with bottom rebar damage (spalling, heat, etc). Regarding the concern of dropping concrete, I don't think this is an issue. I checked the capacity of a Chinook helicopter and found it to be 20,000 lbs. The bottom SFP slab weight is approximately 1.2E6 lbs so the impact mass is only 2% of the floor mass (I conservatively neglected fuel assemblies). Even applying a dynamic load increase factor, the added load will be small. Given the significant mass differential, I don't think the dynamic load from dropping concrete will be a significant factor. I did not report this OPs, as I only performed the calc to inform my own opinion.

Bret

From: Patel, Pravin
Sent: Thursday, March 17, 2011 12:53 PM
To: Ma, John
Cc: Shams, Mohamed; Tegeler, Bret
Subject: RE: Spent fuel pool filled with sand Unit 4 Japan

This morning at turnover someone mentioned that Ops Ctr are trying to get some details of the design. I am not sure what could be that.

From: Ma, John
Sent: Thursday, March 17, 2011 11:44 AM
To: Patel, Pravin
Cc: Shams, Mohamed; Tegeler, Bret
Subject: RE: Spent fuel pool filled with sand Unit 4 Japan

Pravin:

My gut feeling is that the base slab can take the additional weight if it is been placed by loaders or conveyors knowing the Japanese design codes. If the weight (sand or concrete) has to be dropped from helicopters, more information is needed. Please request a drawing of the spent fuel pool, including dimensions and reinforcement.

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From: Patel, Pravin

Sent: Thursday, March 17, 2011 10:56

To: RST01 Hoc; RST01 Hoc

Cc: Shams, Mohamed; Patel, Pravin; Tegeler, Bret; Ma, John; Shea, James

Subject: Spent fuel pool filled with sand Unit 4 Japan

Jim,

I have calculated spent fuel pool weight difference using san/gravel mix(wet) filled in the pool instead of water.

Assumption:

- 1) Quad City pool is same as Japan Unit 4
- 2) Unit 4 pool has 600 assemblies

Current volume at Quad city pool = $44,471 \text{ ft}^3$

Assume sand filled to the top of the pool (minus assembly volume) = 50216 ft^3

Weight of water = $50216 \text{ cu ft} \times 62.4 \text{ \#/cu ft} = 3,133,478 \text{ lbs}$

Weight of wet send/gravel mix = $118 \times 50216 = 5,925,488 \text{ lbs}$

Spent fuel floor area 1683 sq ft

Therefore,

Weight increase on floor = $(5925488 - 3133478) / 1683 = 1659 \text{ \#/sq ft}$ this is significant load change on the floor. I am not sure what is the condition of SF pool floor at Japan's Units?

Pravin

From: Case, Michael
Subject: FW: ACTION NEEDED: Proposed replacement staff for team in Japan
Date: Saturday, March 19, 2011 12:06:54 PM

From: Sheron, Brian
Sent: Friday, March 18, 2011 10:20 PM
To: Evans, Michele; Uhle, Jennifer; Pederson, Cynthia; McCree, Victor; Mamish, Nader; Lew, David; Leeds, Eric
Cc: Satorius, Mark; Wert, Leonard; Doane, Margaret; Grobe, Jack; Johnson, Michael
Subject: RE: ACTION NEEDED: Proposed replacement staff for team in Japan

Michele, not sure what you mean regarding the need to confirm if their current medical condition supports their travel to Japan. Are there some unique medical restrictions they need to know about due to conditions in Japan? Both of these individuals have no medical restrictions regarding normal foreign travel.

From: Evans, Michele
Sent: Friday, March 18, 2011 7:07 PM
To: Uhle, Jennifer; Pederson, Cynthia; McCree, Victor; Mamish, Nader; Lew, David; Leeds, Eric
Cc: Sheron, Brian; Satorius, Mark; Wert, Leonard; Doane, Margaret; Grobe, Jack; Johnson, Michael
Subject: ACTION NEEDED: Proposed replacement staff for team in Japan

Please do not share this list any farther, since it has not been finalized/approved. At this point, I have provided the attached to Chuck and asked him to provide any comment by Saturday morning.

Meanwhile, I am requesting that the appropriate office management contact their staff on the list and confirm that their current medical condition supports this travel to Japan. When contacting them, it would be fine to indicate that their name is proceeding forward in the process, but it has not been finalized. Please provide the response to me as soon as practicable via email.

To help, I provided the names by office below:

RES: Mike Scott, Syed Ali
NRR: Rob Taylor, Abdul Sheikh
Region I: Todd Jackson, Marie Miller
Region II: Alan Blamey
Region III: Jack Giessner
NSIR: Ralph Way
OIP: Jack Ramsey and TBD?

Thanks for everyone's support.

Michele

From: Evans, Michele
Sent: Friday, March 18, 2011 6:47 PM
To: Casto, Chuck; Monninger, John; Dorman, Dan
Cc: Weber, Michael; Borchardt, Bill; Virgilio, Martin; Boger, Bruce; Zimmerman, Roy; Wiggins, Jim
Subject: Proposed replacement staff for team in Japan

Chuck,

Based on the input you provided this morning regarding expertise for the next wave of staff going to Japan, we're proposing the attached team.

All the individuals were selected with interpersonal skills in mind and are all available to travel in the

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required time period.

We propose that Mike Scott and Alan Blamey depart the USA on Tuesday, in order to provide time for turnover and then enable Jim Trapp and Tony Ulses to return to the USA potentially on Saturday March 26.

The remaining individuals would leave the USA later in the week (target date is March 24), to allow time for turnover and then enable the remaining team members to return to the USA on or around March 28.

If you want to further discuss the skill sets, the staff, the timing, or any other needs please let me know. I can be on the phone in the Ops Center to discuss with you on Saturday morning as early as 7 am Washington time. Please communicate your preference for a discussion with the ET in the Ops Center.

Thanks

Michele

Release

From:

OST02 HOC

(NSIR)

To:

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

Subject:

NRC Operations Center Watchbill for Japan Event

Date:

Saturday, March 19, 2011 6:23:31 AM

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

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JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Position	Date	Time	Staff
Executive Team			
ET Director			
Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
ET Response Advisor			
Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

ET Rx Prot Measures & State Coordinator			
Fri-Sat	3/25-3/26	11pm-7am	C. Carpenter
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	P. Holahan
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	P. Holahan
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	P. Holahan
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	P. Holahan
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
Executive Briefing Team			
EBT Admin. Assistant			
Fri-Sat	3/25-3/26	11pm-7am	Sapna Hurd
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	Carolyn Kahler/Sapna Hurd
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	Carolyn Kahler/Sapna Hurd
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	Sapna Hurd
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	Sapna Hurd
Fri-Sat	4/1-4/2	11pm-7am	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

EBT Coordinator			
Fri-Sat	3/25-3/26	11pm-7am	Jim Anderson
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	

Executive Support Team

EST Status Officer			
Fri-Sat	3/25-3/26	11pm-7am	Jeff Grant
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

EST Actions Officer			
Fri-Sat	3/25-3/26	11pm-7am	Jonathan Fiske
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
EST Coordinator			
Fri-Sat	3/25-3/26	11pm-7am	Clyde Ragland
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

EST Chronology Officer			
Fri-Sat	3/25-3/26	11pm-7am	Thomas Scarbrough
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
EST Response Ops Mgr			
Fri-Sat	3/25-3/26	11pm-7am	Roberto Figueroa
Sat	26-Mar	7am - 3pm	Omar Khan
Sat	26-Mar	3pm-11pm	Cris Brown
Sat-Sun	3/26-3/27	11pm - 7am	Roberto Figueroa
Sun	27-Mar	7am - 3pm	Omar Khan
Sun	27-Mar	3pm-11pm	Cris Brown
Sun-Mon	3/27-3/28	11pm - 7am	Karen Jackson
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
EST Admin. Assistant			

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Fri-Sat	3/25-3/26	11pm-7am	Michelle Manahan ?
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	Linda Williamson
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	Mary Glenn Crutchley
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	Mary Glenn Crutchley
Wed-Thur	3/30-3/31	11pm - 7am	Linda Williamson
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	Tabitha Howard
Thur-Fri	3/31-4/1	11pm - 7am	Linda Williamson
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	Tabitha Howard
Fri-Sat	4/1-4/2	11pm-7am	

Liason Team

LT Director			
Fri-Sat	3/25-3/26	11pm-7am	Milt Murray
Sat	26-Mar	7am - 3pm	Nathan SanFilippo
Sat	26-Mar	3pm-11pm	Rani Franovich
Sat-Sun	3/26-3/27	11pm - 7am	Milt Murray
Sun	27-Mar	7am - 3pm	Nathan SanFilippo
Sun	27-Mar	3pm-11pm	Rani Franovich
Sun-Mon	3/27-3/28	11pm - 7am	Milt Murray
Mon	28-Mar	7am - 3pm	Nathan SanFilippo
Mon	28-Mar	3pm-11pm	Rani Franovich
Mon-Tue	3/28-3/29	11pm - 7am	Janelle Jesse
Tue	29-Mar	7am - 3pm	Nathan SanFilippo
Tue	29-Mar	3pm-11pm	Rani Franovich
Tue-Wed	3/29-3/30	11pm - 7am	Janelle Jesse
Wed	30-Mar	7am - 3pm	Nathan SanFilippo
Wed	30-Mar	3pm-11pm	Rani Franovich
Wed-Thur	3/30-3/31	11pm - 7am	Janelle Jesse
Thur	31-Mar	7am - 3pm	Milt Murray
Thur	31-Mar	3pm-11pm	Jeff Temple
Thur-Fri	3/31-4/1	11pm - 7am	Rani Franovich
Fri	1-Apr	7am - 3pm	Jeff Temple
Fri	1-Apr	3pm-11pm	Janelle Jesse
Fri-Sat	4/1-4/2	11pm-7am	Rani Franovich

LT Coordinator			
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JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Fri-Sat	3/25-3/26	11pm-7am	Milt Murray/Janelle Jessie
Sat	26-Mar	7am - 3pm	Nathan Sanfilippo
Sat	26-Mar	3pm-11pm	Rani Franovich
Sat-Sun	3/26-3/27	11pm - 7am	Milt Murray
Sun	27-Mar	7am - 3pm	Nathan Sanfilippo
Sun	27-Mar	3pm-11pm	Rani Franovich
Sun-Mon	3/27-3/28	11pm - 7am	Milt Murray/Janelle Jessie
Mon	28-Mar	7am - 3pm	Nathan Sanfilippo
Mon	28-Mar	3pm-11pm	Rani Franovich
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	Nathan Sanfilippo
Tue	29-Mar	3pm-11pm	Rani Franovich
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	Nathan Sanfilippo
Wed	30-Mar	3pm-11pm	Jeff Temple
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	Milt Murray
Thur	31-Mar	3pm-11pm	Jeff Temple
Thur-Fri	3/31-4/1	11pm - 7am	Rani Franovich
Fri	1-Apr	7am - 3pm	Jeff Temple
Fri	1-Apr	3pm-11pm	Janelle Jessie
Fri-Sat	4/1-4/2	11pm-7am	Rani Franovich
LT State Liaison			
Fri-Sat	3/25-3/26	9pm-7am	Ryan/Turtill (ON CALL ONLY)
Sat	26-Mar	7am-2pm	Ryan/Turtill (ON CALL ONLY)
Sat	26-Mar	2pm-9pm	Ryan/Turtill (ON CALL ONLY)
Sat-Sun	3/27-3/27	9pm-7am	
Sun	27-Mar	7am-2pm	
Sun	27-Mar	2pm-9pm	
Sun-Mon	3/27-3/28	9pm-7am	
Mon	28-Mar	7am-2pm	
Mon	28-Mar	2pm-9pm	
Mon-Tue	3/28-3/29	9pm-7am	
Tue	29-Mar	7am-2pm	
Tue	29-Mar	2pm-9pm	
Tue-Wed	3/29-3/30	9pm-7am	
Wed	30-Mar	7am-2pm	
Wed	30-Mar	2pm-9pm	
Wed-Thur	3/30-3/31	9pm-7am	
Thur	31-Mar	7am-2pm	
Thur	31-Mar	2pm-9pm	
Thur-Fri	3/31-4/1	9pm-7am	
Fri	1-Apr	7am-2pm	
Fri	1-Apr	2pm-9pm	
Fri-Sat	4/1-4/2	9pm-7am	
LT Federal Liason (2)			

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	Jerry Hale
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	

LT Congressional Liason (2)

Sat	26-Mar	7am - 3pm	Steve Bloom/Lance English
Sat	26-Mar	3pm-11pm	Janice/Jenny Tobin
Sun	3/26-3/27	11pm - 7am	Elizabeth Smirolido/
Sun	27-Mar	7am - 3pm	Jill/karen
Mon	27-Mar	3pm-11pm	Nancy/Jenny
Mon	3/27-3/28	11pm - 7am	Steve Baker/Brian
Tue	28-Mar	7am - 3pm	Jill/karen
Tue	28-Mar	3pm-11pm	Nancy
Wed	3/28-3/29	11pm - 7am	Steve Baker/Brian
Wed	29-Mar	7am - 3pm	Jill/karen
Thur	29-Mar	3pm-11pm	Nancy
Thur	3/29-3/30	11pm - 7am	Steve Baker/Brian
Fri	30-Mar	7am - 3pm	Eric/Lauren
Fri	30-Mar	3pm-11pm	Danielle/Mugeh
	3/30-3/31	11pm - 7am	Jen Schwartzman/Charlotte Abrams
	31-Mar	7am - 3pm	Danielle/Lauren
	31-Mar	3pm-11pm	Eric/Mugeh
	3/31-4/1	11pm - 7am	Jen Schwartzman/Charlotte Abrams

LT International Liason (2)

Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	

Protective Measures Team

PMTR Director			
Fri-Sat	3/25-3/26	11pm-7am	Randy Sullivan
Sat	26-Mar	7am - 3pm	Terry Reis
Sat	26-Mar	3pm-11pm	Cindy Jones
Sat-Sun	3/26-3/27	11pm - 7am	Randy Sullivan
Sun	27-Mar	7am - 3pm	Don Cool
Sun	27-Mar	3pm-11pm	V. Holahan
Sun-Mon	3/27-3/28	11pm - 7am	John Tappert
Mon	28-Mar	7am - 3pm	Don Cool
Mon	28-Mar	3pm-11pm	V. Holahan
Mon-Tue	3/28-3/29	11pm - 7am	John Tappert
Tue	29-Mar	7am - 3pm	Terry Reis
Tue	29-Mar	3pm-11pm	V. Holahan
Tue-Wed	3/29-3/30	11pm - 7am	Patricia Milligan
Wed	30-Mar	7am - 3pm	Terry Reis
Wed	30-Mar	3pm-11pm	V. Holahan
Wed-Thur	3/30-3/31	11pm - 7am	Patricia Milligan
Thur	31-Mar	7am - 3pm	Randy Sullivan
Thur	31-Mar	3pm-11pm	Terry Reis
Thur-Fri	3/31-4/1	11pm - 7am	Christiana Lui
Fri	1-Apr	7am - 3pm	Randy Sullivan
Fri	1-Apr	3pm-11pm	Don Cool
Fri-Sat	4/1-4/2	11pm-7am	Christiana Lui

PMTR Coordinator			
Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
PMTR Prot Actions Asst Dir			
Fri-Sat	3/25-3/26	11pm-7am	Greg Casto
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	Greg Casto
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	Greg Casto
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	Greg Casto
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	Greg Casto
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	Greg Casto
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
PMTR RAAD			
Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
PMTR Dose Assessment (RASCAL)			
Fri-Sat	3/25-3/26	11pm-7am	John Parillo
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
PMTR GIS Analyst			
Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
PMTR Meteorologist			
Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
Reactor Safety Team			
RST Director			
Fri-Sat	3/25-3/26	11pm-7am	Brian Holian
Sat	26-Mar	7am - 3pm	Pat Hiland
Sat	26-Mar	3pm-11pm	Bill Ruland
Sat-Sun	3/26-3/27	11pm - 7am	Mike Case
Sun	27-Mar	7am - 3pm	Pat Hiland
Sun	27-Mar	3pm-11pm	Fred Brown
Sun-Mon	3/27-3/28	11pm - 7am	Mike Case

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Mon	28-Mar	7am - 3pm	Pat Hiland
Mon	28-Mar	3pm-11pm	Fred Brown
Mon-Tue	3/28-3/29	11pm - 7am	Mike Case
Tue	29-Mar	7am - 3pm	Jennifer Uhle
Tue	29-Mar	3pm-11pm	Fred Brown
Tue-Wed	3/29-3/30	11pm - 7am	Mike Case
Wed	30-Mar	7am - 3pm	Jennifer Uhle
Wed	30-Mar	3pm-11pm	Fred Brown
Wed-Thur	3/30-3/31	11pm - 7am	Dave Skeen
Thur	31-Mar	7am - 3pm	Jennifer Uhle
Thur	31-Mar	3pm-11pm	Bill Ruland
Thur-Fri	3/31-4/1	11pm - 7am	Dave Skeen
Fri	1-Apr	7am - 3pm	Jennifer Uhle
Fri	1-Apr	3pm-11pm	Bill Ruland
Fri-Sat	4/1-4/2	11pm-7am	Dave Skeen
RST Coordinator			
Fri-Sat	3/25-3/26	11pm-7am	Frank Collins
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
Severe Accident/PRA			
Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
BWR Expertise			
Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
RST Comm/ERDS Operator			
Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 26-April 1

Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	
RST Support (Seismology Q&A)			
Fri-Sat	3/25-3/26	11pm-7am	
Sat	26-Mar	7am - 3pm	
Sat	26-Mar	3pm-11pm	
Sat-Sun	3/26-3/27	11pm - 7am	
Sun	27-Mar	7am - 3pm	
Sun	27-Mar	3pm-11pm	
Sun-Mon	3/27-3/28	11pm - 7am	
Mon	28-Mar	7am - 3pm	
Mon	28-Mar	3pm-11pm	
Mon-Tue	3/28-3/29	11pm - 7am	
Tue	29-Mar	7am - 3pm	
Tue	29-Mar	3pm-11pm	
Tue-Wed	3/29-3/30	11pm - 7am	
Wed	30-Mar	7am - 3pm	
Wed	30-Mar	3pm-11pm	
Wed-Thur	3/30-3/31	11pm - 7am	
Thur	31-Mar	7am - 3pm	
Thur	31-Mar	3pm-11pm	
Thur-Fri	3/31-4/1	11pm - 7am	
Fri	1-Apr	7am - 3pm	
Fri	1-Apr	3pm-11pm	
Fri-Sat	4/1-4/2	11pm-7am	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

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

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Fri-Sat	3/18-3/19	11pm-7am	Scott Moore
Sat	19-Mar	7am - 3pm	Larry Camper
Sat	19-Mar	3pm-11pm	P. Holahan
Sat-Sun	3/19-3/20	11pm - 7am	K. McConnell
Sun	20-Mar	7am - 3pm	Vonna Ordaz
Sun	20-Mar	3pm-11pm	Larry Camper
Sun-Mon	3/20-3/21	11pm - 7am	Rob Lewis
Mon	21-Mar	7am - 3pm	Charlie Miller
Mon	21-Mar	3pm-11pm	Larry Camper
Mon-Tues	3/21-3/22	11pm - 7am	Rob Lewis
Tues	22-Mar	7am - 3pm	Charlie Miller
Tues	22-Mar	3pm-11pm	P. Holahan
Tues-Wed	3/22-3/23	11pm - 7am	C. Carpenter
Wed	23-Mar	7am - 3pm	Charlie Miller
Wed	23-Mar	3pm-11pm	P. Holahan
Wed-Thur	3/23-3/24	11pm - 7am	C. Carpenter
Thur	24-Mar	7am - 3pm	Charlie Miller
Thur	24-Mar	3pm-11pm	Larry Camper
Thur-Fri	3/24-3/25	11pm - 7am	C. Carpenter
Fri	25-Mar	7am - 3pm	Charlie Miller
Fri	25-Mar	3pm-11pm	P. Holahan
Fri-Sat	3/25-3/26	11pm-7am	C. Carpenter

Executive Briefing Team

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

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Sat-Sun	3/19-3/20	11pm - 7am	Jim Anderson
Sun	20-Mar	7am - 3pm	Yen Chen
Sun	20-Mar	3pm-11pm	Caroline Nguyen
Sun-Mon	3/20-3/21	11pm - 7am	Jim Anderson
Mon	21-Mar	7am - 3pm	Yen Chen
Mon	21-Mar	3pm-11pm	Sara Mroz
Mon-Tues	3/21-3/22	11pm - 7am	Jim Anderson
Tues	22-Mar	7am - 3pm	Yen Chen
Tues	22-Mar	3pm-11pm	Sara Mroz
Tues-Wed	3/22-3/23	11pm - 7am	Jim Anderson
Wed	23-Mar	7am - 3pm	Yen Chen
Wed	23-Mar	3pm-11pm	Sara Mroz
Wed-Thur	3/23-3/24	11pm - 7am	Jim Anderson
Thur	24-Mar	7am - 3pm	Yen Chen
Thur	24-Mar	3pm-11pm	Sara Mroz
Thur-Fri	3/24-3/25	11pm - 7am	Jim Anderson
Fri	25-Mar	7am - 3pm	Yen Chen
Fri	25-Mar	3pm-11pm	Sara Mroz
Fri-Sat	3/25-3/26	11pm-7am	Jim Anderson

Executive Support Team

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

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

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

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

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

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

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

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Wed-Thur	3/23-3/24	11pm - 7am	Milt Murray
Thur	24-Mar	7am - 3pm	Rani Franovich
Thur	24-Mar	3pm-11pm	Jeff Temple
Thur-Fri	3/24-3/25	11pm - 7am	Milt Murray
Fri	25-Mar	7am - 3pm	Janelle Jessie
Fri	25-Mar	3pm-11pm	Rani Franovich
Fri-Sat	3/25-3/26	11pm-7am	Milt Murray
LT State Liaison			
Thur-Fri	3/17-3/18	9pm-7am	Ryan/Turtill (ON CALL ONLY)
Fri	18-Mar	7am-2pm	Lukes/Flannery
Fri	18-Mar	2pm-9pm	Turtill/Maupin
Fri-Sat	3/18-3/19	9pm-7am	Ryan/Turtill (ON CALL ONLY)
Sat	19-Mar	7am-2pm	Ryan/Turtill (ON CALL ONLY)
Sat	19-Mar	2pm-9pm	Ryan/Turtill (ON CALL ONLY)
Sat-Sun	3/19-3/20	9pm-7am	Ryan/Turtill (ON CALL ONLY)
Sun	20-Mar	7am-2pm	Ryan/Turtill (ON CALL ONLY)
Sun	20-Mar	2pm-9pm	Ryan/Turtill (ON CALL ONLY)
Sun-Mon	3/20-3/21	9pm-7am	Ryan/Turtill (ON CALL ONLY)
Mon	21-Mar	7am-2pm	Flannery (Riveria-On Call)
Mon	21-Mar	2pm-9pm	Easson (Turtill-On Call)
Mon-Tue	3/21-3/22	9pm-7am	Ryan/Turtill
Tue	22-Mar	7am-2pm	Flannery (Riveria-On Call)
Tue	22-Mar	2pm-9pm	Easson (Turtill-On Call)
Tue-Wed	3/22-3/23	9pm-7am	Ryan/Turtill
Wed	23-Mar	7am-2pm	Maupin (Lukes-On Call)
Wed	23-Mar	2pm-9pm	Rivera (Easson-On Call)
Wed-Thur	3/23-3/24	9pm-7am	Ryan/Turtill
Thur	24-Mar	7am-2pm	Lukes (Flannery-On Call)
Thur	24-Mar	2pm-9pm	Maupin (Riveria-On Call)
Thur-Fri	3/24-3/25	9pm-7am	Ryan/Turtill
Fri	25-Mar	7am-2pm	Ryan (Maupin-On Call)
Fri	25-Mar	2pm-9pm	Turtill (Riveria-On Call)
Fri-Sat	3/25-3/26	9pm-7am	Ryan/Turtill (ON CALL ONLY)
LT Federal Liaison (2)			
Fri-Sat	3/18-3/19	11pm-7am	Scott Sloan
Sat	19-Mar	7am - 3pm	Russ Chazell
Sat	19-Mar	3pm-11pm	Jeff Lynch
Sat-Sun	3/19-3/20	11pm - 7am	Scott Sloan
Sun	20-Mar	7am - 3pm	Ned Wright
Sun	20-Mar	3pm-11pm	Jerry Hale
Sun-Mon	3/20-3/21	11pm - 7am	Lisa Wright
Mon	21-Mar	7am - 3pm	Beth Reed/Ted Smith
Mon	21-Mar	3pm-11pm	Ned Wright
Mon-Tues	3/21-3/22	11pm - 7am	Lisa Wright
Tues	22-Mar	7am - 3pm	Beth Reed/Ted Smith
Tues	22-Mar	3pm-11pm	Ned Wright
Tues-Wed	3/22-3/23	11pm - 7am	Lisa Wright
Wed	23-Mar	7am - 3pm	Jerry Hale/
Wed	23-Mar	3pm-11pm	Ted Smith
Wed-Thur	3/23-3/24	11pm - 7am	Lisa Wright

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Thur	24-Mar	7am - 3pm	/Ted Smith
Thur	24-Mar	3pm-11pm	Jerry Hale
Thur-Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	/Ted Smith
Fri	25-Mar	3pm-11pm	Jerry Hale
Fri-Sat	3/25-3/26	11pm-7am	
LT Congressional Liason (2)			
Sat	19-Mar	7am - 2pm	Spiros Droggitis
	19-Mar	2pm-9pm	Tim Riley
Sun	20-Mar	7am - 2pm	Rebecca Schmidt
	20-Mar	2pm-9pm	Reanne Shane
Mon	21-Mar	7am - 2pm	Spiros Droggitis
	21-Mar	2pm-9pm	Tim Riley
Tues	22-Mar	7am - 2pm	Tim Riley
	22-Mar	2pm-9pm	Spiros Droggitis
Wed	23-Mar	7am - 2pm	Gene Dacus
	23-Mar	2pm-9pm	Raeann Shane
Thur	24-Mar	7am - 2pm	Spiros Droggitis
	24-Mar	2pm-9pm	Raeann Shane
Fri	25-Mar	7am - 2pm	Gene Dacus
	25-Mar	2pm-9pm	Amy Powell
LT International Liason (2)			
Fri-Sat	3/18-3/19	11pm-7am	Elizabeth Smiroldo/Danielle Emche
Sat	19-Mar	7am - 3pm	Lance English/Steve Bloom
Sat	19-Mar	3pm-11pm	Jenny Tobin/Jill Shephard
Sat-Sun	3/19-3/20	11pm - 7am	Elizabeth Smiroldo/Danielle Emche
Sun	20-Mar	7am - 3pm	Karen/Steve Baker
Sun	20-Mar	3pm-11pm	Eric Stahl/Nancy
Sun-Mon	3/20-3/21	11pm - 7am	Elizabeth Smiroldo/Jenny Tobin
Mon	21-Mar	7am - 3pm	Jen Schwartzman/Charlotte Abrams/Nancy (12-3
Mon	21-Mar	3pm-11pm	Danielle Emche/Lauren Mayros
Mon-Tues	3/21-3/22	11pm - 7am	Eric Stahl/Mugeh
Tues	22-Mar	7am - 3pm	Jen Schwartzman/Charlotte Abrams/Nancy (12-3
Tues	22-Mar	3pm-11pm	Danielle Emche/Lauren Mayros
Tues-Wed	3/22-3/23	11pm - 7am	Eric Stahl/Mugeh
Wed	23-Mar	7am - 3pm	Jen Schwartzman/Charlotte Abrams/Nancy (12-3
Wed	23-Mar	3pm-11pm	Danielle Emche/Lauren Mayros
Wed-Thur	3/23-3/24	11pm - 7am	Eric Stahl/Mugeh
Thur	24-Mar	7am - 3pm	Steve Bloom/Lance English
Thur	24-Mar	3pm-11pm	Janice/Jenny Tobin
Thur-Fri	3/24-3/25	11pm - 7am	Andrea/Elizabeth Smiroldo
Fri	25-Mar	7am - 3pm	Steve Bloom/Lance English
Fri	25-Mar	3pm-11pm	Janice/Jenny Tobin
Fri-Sat	3/25-3/26	11pm-7am	Andrea/Elizabeth Smiroldo
Protective Measures Team			
PMTR Director			
Fri-Sat	3/18-3/19	11pm-7am	Kathy Gibson
Sat	19-Mar	7am - 3pm	John Lubinski

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Sat	19-Mar	3pm-11pm	Don Cool
Sat-Sun	3/19-3/20	11pm - 7am	Kathy Gibson
Sun	20-Mar	7am - 3pm	John Lubinski
Sun	20-Mar	3pm-11pm	Don Cool
Sun-Mon	3/20-3/21	11pm - 7am	Kathy Gibson
Mon	21-Mar	7am - 3pm	John Lubinski
Mon	21-Mar	3pm-11pm	Don Cool
Mon-Tues	3/21-3/22	11pm - 7am	John Tappert
Tues	22-Mar	7am - 3pm	John Lubinski
Tues	22-Mar	3pm-11pm	Don Cool
Tues-Wed	3/22-3/23	11pm - 7am	John Tappert
Wed	23-Mar	7am - 3pm	Terry Reis
Wed	23-Mar	3pm-11pm	Cindy Jones
Wed-Thur	3/23-3/24	11pm - 7am	Randy Sullivan
Thur	24-Mar	7am - 3pm	Terry Reis
Thur	24-Mar	5pm-11pm	Cindy Jones
Thur-Fri	3/24-3/25	11pm - 7am	Randy Sullivan
Fri	25-Mar	7am - 3pm	Terry Reis
Fri	25-Mar	5pm-11pm	Cindy Jones
Fri-Sat	3/25-3/26	11pm-7am	Randy Sullivan
PMTR Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Mike Norris
Sat	19-Mar	7am - 3pm	Duane Hardesty
Sat	19-Mar	3pm-11pm	Jay Patel
Sat-Sun	3/19-3/20	11pm - 7am	Lou Brandon
Sun	20-Mar	7am - 3pm	Nima Ashkeboussi
Sun	20-Mar	3pm-11pm	Jay Patel
Sun-Mon	3/20-3/21	11pm - 7am	Lou Brandon
Mon	21-Mar	7am - 3pm	Prosanta Chowdhury (8 am)
Mon	21-Mar	3pm-11pm	Jay Patel
Mon-Tues	3/21-3/22	11pm - 7am	Lou Brandon
Tues	22-Mar	7am - 3pm	Prosanta Chowdhury (8 am)
Tues	22-Mar	3pm-11pm	Nima Ashkeboussi
Tues-Wed	3/22-3/23	11pm - 7am	Mike Norris
Wed	23-Mar	7am - 3pm	John Wray (volunteer from OE)
Wed	23-Mar	3pm-11pm	Nima Ashkeboussi
Wed-Thur	3/23-3/24	11pm - 7am	Mike Norris
Thur	24-Mar	7am - 3pm	John Wray (volunteer from OE)
Thur	24-Mar	3pm-11pm	Nima Ashkeboussi
Thur-Fri	3/24-3/25	11pm - 7am	Mike Norris
Fri	25-Mar	7am - 3pm	Duane Hardesty
Fri	25-Mar	3pm-11pm	Jay Patel
Fri-Sat	3/25-3/26	11pm-7am	
PMTR Prot Actions Asst Dir			
Fri-Sat	3/18-3/19	11pm-7am	Greg Casto
Sat	19-Mar	7am - 3pm	Kathryn Brock
Sat	19-Mar	3pm-11pm	Kevin Williams
Sat-Sun	3/19-3/20	11pm - 7am	Greg Casto
Sun	20-Mar	7am - 3pm	Kathryn Brock
Sun	20-Mar	3pm-11pm	Tim Harris

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Sun-Mon	3/20-3/21	11pm - 7am	Greg Casto (Jessica Kratchman - to shadow)
Mon	21-Mar	7am - 3pm	Kathryn Brock
Mon	21-Mar	3pm-11pm	
Mon-Tues	3/21-3/22	11pm - 7am	Jessica Kratchman
Tues	22-Mar	7am - 3pm	Kathryn Brock
Tues	22-Mar	3pm-11pm	Tim Harris
Tues-Wed	3/22-3/23	11pm - 7am	Jessica Kratchman
Wed	23-Mar	7am - 3pm	Sandra Wastler
Wed	23-Mar	3pm-11pm	
Wed-Thur	3/23-3/24	11pm - 7am	Jessica Kratchman
Thur	24-Mar	7am - 3pm	Sandra Wastler
Thur	24-Mar	3pm-11pm	
Thur-Fri	3/24-3/25	11pm - 7am	Jessica Kratchman
Fri	25-Mar	7am - 3pm	Kathryn Brock
Fri	25-Mar	3pm-11pm	
Fri-Sat	3/25-3/26	11pm-7am	Greg Casto
PMTR RAAD			
Fri-Sat	3/18-3/19	11pm-7am	Randy Sullivan
Sat	19-Mar	7am - 3pm	Bruce Watson
Sat	19-Mar	3pm-11pm	Michelle Hart
Sat-Sun	3/19-3/20	11pm - 7am	Patricia Milligan
Sun	20-Mar	7am - 3pm	Eric Schrader
Sun	20-Mar	3pm-11pm	Steve LaVie
Sun-Mon	3/20-3/21	11pm - 7am	Randy Sullivan
Mon	21-Mar	7am - 3pm	Bruce Watson
Mon	21-Mar	3pm-11pm	Michelle Hart/Steve Lavie
Mon-Tues	3/21-3/22	11pm - 7am	Boby Abu-Eid
Tues	22-Mar	7am - 3pm	Bruce Watson
Tues	22-Mar	3pm-11pm	Steve LaVie
Tues-Wed	3/22-3/23	11pm - 7am	Boby Abu-Eid
Wed	23-Mar	7am - 3pm	Bruce Watson
Wed	23-Mar	3pm-11pm	Michelle Hart/Steve Lavie
Wed-Thur	3/23-3/24	11pm - 7am	Patricia Milligan
Thur	24-Mar	7am - 3pm	Bruce Watson
Thur	24-Mar	3pm-11pm	Steve LaVie
Thur-Fri	3/24-3/25	11pm - 7am	Cynthia Barr
Fri	25-Mar	7am - 3pm	Randy Sullivan
Fri	25-Mar	3pm-11pm	Michelle Hart/Steve Lavie
Fri-Sat	3/25-3/26	11pm-7am	Cynthia Barr
PMTR Dose Assessment (RASCAL)			
Fri-Sat	3/18-3/19	11pm-7am	Duane Schmidt/Tony Huffert
Sat	19-Mar	7am - 3pm	Casper Sun
Sat	19-Mar	3pm-11pm	Margaret Cervera
Sat-Sun	3/19-3/20	11pm - 7am	Kimberly Gambone/John Parillo
Sun	20-Mar	7am - 3pm	Casper Sun
Sun	20-Mar	3pm-11pm	Margaret Cervera
Sun-Mon	3/20-3/21	11pm - 7am	Kimberly Gambone/John Parillo
Mon	21-Mar	7am - 3pm	Eric Schrader/Rich Clement
Mon	21-Mar	3pm-11pm	Margaret Cervera/Tony Huffert
Mon-Tues	3/21-3/22	11pm - 7am	John Parillo

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Tues	22-Mar	7am - 3pm	Eric Schrader/Rich Clement
Tues	22-Mar	3pm-11pm	Gary Purdy/Casper Sun
Tues-Wed	3/22-3/23	11pm - 7am	Margaret Cervera/Tony Huffert
Wed	23-Mar	7am - 3pm	Eric Schrader/Rich Clement
Wed	23-Mar	3pm-11pm	Kimberly Gambone/Casper Sun
Wed-Thur	3/23-3/24	11pm - 7am	Tony Huffert/John Parillo
Thur	24-Mar	7am - 3pm	Eric Schrader/Rich Clement
Thur	24-Mar	3pm-11pm	Kimberly Gambone/Casper Sun
Thur-Fri	3/24-3/25	11pm - 7am	Tony Huffert/John Parillo
Fri	25-Mar	7am - 3pm	Eric Schrader/Rich Clement
Fri	25-Mar	3pm-11pm	Gary Purdy/Casper Sun
Fri-Sat	3/25-3/26	11pm-7am	John Parillo
PMTR GIS Analyst			
Fri-Sat	3/18-3/19	11pm-7am	Stephanie Devlin
Sat	19-Mar	7am - 3pm	Nebiyu Tirah
Sat	19-Mar	3pm-11pm	Yong Li
Sat-Sun	3/19-3/20	11pm - 7am	Alice Stieve
Sun	20-Mar	7am - 3pm	Phil Brandt
Sun	20-Mar	3pm-11pm	Ken See
Sun-Mon	3/20-3/21	11pm - 7am	Alice Stieve
Mon	21-Mar	7am - 3pm	Nebiyu Tirah
Mon	21-Mar	3pm-11pm	Stephanie Devlin
Mon-Tues	3/21-3/22	11pm - 7am	Alice Stieve
Tues	22-Mar	7am - 3pm	Yong Li
Tues	22-Mar	3pm-11pm	Stephanie Devlin
Tues-Wed	3/22-3/23	11pm - 7am	Alice Stieve
Wed	23-Mar	7am - 3pm	Allen Gross
Wed	23-Mar	3pm-11pm	Stephanie Devlin
Wed-Thur	3/23-3/24	11pm - 7am	
Thur	24-Mar	7am - 3pm	Yong Li
Thur	24-Mar	3pm-11pm	Stephanie Devlin
Thur-Fri	3/24-3/25	11pm - 7am	Dogan Seber
Fri	25-Mar	7am - 3pm	Hosang Ahn
Fri	25-Mar	3pm-11pm	Stephanie Devlin
Fri-Sat	3/25-3/26	11pm-7am	Phil Brandt
PMTR Meteorologist			
Fri-Sat	18-Mar	3pm-11pm	Mike Mazaika
Sat	3/18-3/19	11pm-7am	Dave Brown
Sat	19-Mar	7am - 3pm	Kevin Quinlan
Sat-Sun	19-Mar	3pm-11pm	Mike Mazaika
Sun	3/19-3/20	11pm - 7am	David Brown
Sun	20-Mar	7am - 3pm	Kevin Quinlan
Sun-Mon	20-Mar	3pm-11pm	Mike Mazaika
Mon	3/20-3/21	11pm - 7am	David Brown
Mon	21-Mar	7am - 3pm	Mike Mazaika
Mon-Tues	21-Mar	3pm-11pm	
Tues	3/21-3/22	11pm - 7am	
Tues	22-Mar	7am - 3pm	
Tues-Wed	22-Mar	3pm-11pm	
Wed	3/22-3/23	11pm - 7am	

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Wed	23-Mar	7am - 3pm	
Wed-Thur	23-Mar	3pm-11pm	
Thur	3/23-3/24	11pm - 7am	
Thur	24-Mar	7am - 3pm	
Thur-Fri	24-Mar	3pm-11pm	
Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	
Fri-Sat	25-Mar	3pm-11pm	
	3/25-3/26	11pm-7am	

Reactor Safety Team

RST Director			
Fri-Sat	3/18-3/19	11pm-7am	Jennifer Uhle
Sat	19-Mar	7am - 3pm	Laura Dudes
Sat	19-Mar	3pm-11pm	Dave Skeen
Sat-Sun	3/19-3/20	11pm - 7am	Jennifer Uhle
Sun	20-Mar	7am - 3pm	Laura Dudes
Sun	20-Mar	3pm-11pm	Dave Skeen
Sun-Mon	3/20-3/21	11pm - 7am	Jennifer Uhle
Mon	21-Mar	7am - 3pm	Fred Brown
Mon	21-Mar	3pm-11pm	Dave Skeen
Mon-Tues	3/21-3/22	11pm - 7am	Jennifer Uhle
Tues	22-Mar	7am - 3pm	Fred Brown
Tues	22-Mar	3pm-11pm	Dave Skeen
Tues-Wed	3/22-3/23	11pm - 7am	Brian Holian
Wed	23-Mar	7am - 3pm	Fred Brown
Wed	23-Mar	3pm-11pm	Bill Ruland
Wed-Thur	3/23-3/24	11pm - 7am	Brian Holian
Thur	24-Mar	7am - 3pm	Fred Brown
Thur	24-Mar	3pm-11pm	Bill Ruland
Thur-Fri	3/24-3/25	11pm - 7am	Brian Holian
Fri	25-Mar	7am - 3pm	Pat Hiland
Fri	25-Mar	3pm-11pm	Bill Ruland
Fri-Sat	3/25-3/26	11pm-7am	Brian Holian
Sat	26-Mar	0700 -1500	Pat Hiland
Sat	26-Mar	1500 - 2300	Bill Ruland
Sat	3/26-27/2011	2300 - 0700	Mike Case

RST Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Rollie Berry
Sat	19-Mar	7am - 3pm	Scott Sloan
Sat	19-Mar	3pm-11pm	Oleg Bukharin
Sat-Sun	3/19-3/20	11pm - 7am	Frank Collins
Sun	20-Mar	7am - 3pm	Peter Alter
Sun	20-Mar	3pm-11pm	Eric Thomas
Sun-Mon	3/20-3/21	11pm - 7am	Mike Morlang
Mon	21-Mar	7am - 3pm	Peter Alter
Mon	21-Mar	3pm-11pm	Greg Schoenebeck
Mon-Tues	3/21-3/22	11pm - 7am	Frank Collins

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Tues	22-Mar	7am - 3pm	Rick Hasselberg
Tues	22-Mar	3pm-11pm	Mike Morlang
Tues-Wed	3/22-3/23	11pm - 7am	Oleg Bukharin
Wed	23-Mar	7am - 3pm	Eric Thomas*
Wed	23-Mar	3pm-11pm	Greg Schoenebeck
Wed-Thur	3/23-3/24	11pm - 7am	Frank Collins
Thur	24-Mar	7am - 3pm	Rick Hasselberg
Thur	24-Mar	3pm-11pm	Brett Rini
Thur-Fri	3/24-3/25	11pm - 7am	Tom Boyce (RES)
Fri	25-Mar	7am - 3pm	Eric Thomas*
Fri	25-Mar	3pm-11pm	Brett Rini
Fri-Sat	3/25-3/26	11pm-7am	Frank Collins
Severe Accident/PRA			
Fri-Sat	3/18-3/19	11pm - 7am	Don Marksberry
Sat	19-Mar	7am - 3pm	Len Ward
Sat	19-Mar	3pm-11pm	Ed Fuller
Sat-Sun	3/19-3/20	11pm - 7am	Mike Salay
Sun	20-Mar	7am - 3pm	John Lane
Sun	20-Mar	3pm-11pm	Jim Gilmer
Sun-Mon	3/20-3/21	11pm - 7am	Don Dube
Mon	21-Mar	7am - 3pm	Jeff Circle
Mon	21-Mar	3pm-11pm	Hossein Esmaili
Mon-Tues	3/21-3/22	11pm - 7am	Jim Gilmer
Tues	22-Mar	7am - 3pm	Ed Fuller
Tues	22-Mar	3pm-11pm	Len Ward
Tues-Wed	3/22-3/23	11pm - 7am	
Wed	23-Mar	7am - 3pm	Jeff Circle
Wed	23-Mar	3pm-11pm	Jerry Dozier
Wed-Thur	3/23-3/24	11pm - 7am	Mike Salay
Thur	24-Mar	7am - 3pm	Jeff Circle
Thur	24-Mar	3pm-11pm	Steve Laur
Thur-Fri	3/24-3/25	11pm - 7am	
Fri	25-Mar	7am - 3pm	Jerry Dozier ?
Fri	25-Mar	3pm-11pm	Steve Laur
Fri-Sat	3/25-3/26	11pm-7am	
BWR Expertise			
Fri-Sat	3/18-3/19	11pm-7am	Mike Brown
Sat	19-Mar	7am - 3pm	Peter Alter
Sat	19-Mar	3pm-11pm	Chuck Norton
Sat-Sun	3/19-3/20	11pm - 7am	John Kauffman
Sun	20-Mar	7am - 3pm	Larry Vick
Sun	20-Mar	3pm-11pm	Chuck Norton
Sun-Mon	3/20-3/21	11pm - 7am	Mike Brown
Mon	21-Mar	7am - 3pm	Gerry Gulla (OE volunteer)
Mon	21-Mar	3pm-11pm	Chuck Norton
Mon-Tues	3/21-3/22	11pm - 7am	Mike Brown
Tues	22-Mar	7am - 3pm	Tom Boyce (RES)
Tues	22-Mar	3pm-11pm	Chuck Norton
Tues-Wed	3/22-3/23	11pm - 7am	Mike Brown
Wed	23-Mar	7am - 3pm	Larry Vick

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Wed	23-Mar	3pm-11pm	Chuck Norton
Wed-Thur	3/23-3/24	11pm - 7am	Eva Brown
Thur	24-Mar	7am - 3pm	
Thur	24-Mar	3pm-11pm	Chuck Norton
Thur-Fri	3/24-3/25	11pm - 7am	Eva Brown
Fri	25-Mar	7am - 3pm	
Fri	25-Mar	3pm-11pm	
Fri-Sat	3/25-3/26	11pm-7am	Eva Brown
RST Comm/ERDS Operator			
Fri-Sat	3/18-3/19	11pm-7am	Andy Kugler
Sat	19-Mar	7am - 3pm	Joseph Williams
Sat	19-Mar	3pm-11pm	John Thorp
Sat-Sun	3/19-3/20	11pm - 7am	Ujagav Bhachu
Sun	20-Mar	7am - 3pm	Denise McGovern
Sun	20-Mar	3pm-11pm	Donna Williams
Sun-Mon	3/20-3/21	11pm - 7am	Ujagav Bhachu
Mon	21-Mar	7am - 3pm	Joseph Williams
Mon	21-Mar	3pm-11pm	
Mon-Tues	3/21-3/22	11pm - 7am	Bill Rogganbrodt
Tues	22-Mar	7am - 3pm	Steve Bloom
Tues	22-Mar	3pm-11pm	Jim Isom
Tues-Wed	3/22-3/23	11pm - 7am	Bill Rogganbrodt
Wed	23-Mar	7am - 3pm	Joseph Williams
Wed	23-Mar	3pm-11pm	Ken Hart
Wed-Thur	3/23-3/24	11pm - 7am	Bill Rogganbrodt
Thur	24-Mar	7am - 3pm	John Thorp
Thur	24-Mar	3pm-11pm	Ken Hart
Thur-Fri	3/24-3/25	11pm - 7am	Bill Rogganbrodt
Fri	25-Mar	7am - 3pm	Donna Williams
Fri	25-Mar	3pm-11pm	Jim Isom
Fri-Sat	3/25-3/26	11pm-7am	Bill Rogganbrodt
RST Support (Seismology Q&A)			
Fri-Sat	3/18-3/19	11pm-7am	Off (On Call)
Sat	19-Mar	7am - 3pm	Off (On Call)
Sat	19-Mar	3pm-11pm	Off (On Call)
Sat-Sun	3/19-3/20	11pm - 7am	Off (On Call)
Sun	20-Mar	7am - 3pm	Off (On Call)
Sun	20-Mar	3pm-11pm	Off (On Call)
Sun-Mon	3/20-3/21	11pm - 7am	Off (On Call)
Mon	21-Mar	7am - 3pm	Off (On Call)
Mon	21-Mar	3pm-11pm	Off (On Call)
Mon-Tues	3/21-3/22	11pm - 7am	Off (On Call)
Tues	22-Mar	7am - 3pm	Off (On Call)
Tues	22-Mar	3pm-11pm	Off (On Call)
Tues-Wed	3/22-3/23	11pm - 7am	Off (On Call)
Wed	23-Mar	7am - 3pm	Off (On Call)
Wed	23-Mar	3pm-11pm	Off (On Call)
Wed-Thur	3/23-3/24	11pm - 7am	Off (On Call)
Thur	24-Mar	7am - 3pm	Off (On Call)
Thur	24-Mar	3pm-11pm	Off (On Call)

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Thur-Fri	3/24-3/25	11pm - 7am	Off (On Call)
Fri	25-Mar	7am - 3pm	off (On Call)
Fri	25-Mar	3pm-11pm	Off (On Call)
Fri-Sat	3/25-3/26	11pm-7am	Off (On Call)

Release

From: Carpenter, Gene
To: Holian, Brian
Cc: Galloway, Melanie; Hiser, Allen; Case, Michael; Richards, Stuart; Gavrilas, Mirela
Subject: FW: PLIM/PLEX Conference - Further to our conversation...
Date: Wednesday, March 23, 2011 9:13:35 AM
Attachments: PLIM- PLEX DRAFT AGENDA- 8TH MARCH.doc

Brian,

We have both been invited to be speakers at this conference in September (Charlotte, NC) – may I tell Ms Altun that the NRC will have representatives speaking?

Gene

From: Mahide Altun [mailto:MahideAltun@arena-international.com]
Sent: Wednesday, March 16, 2011 11:05
To: Carpenter, Gene
Subject: FW: PLIM/PLEX Conference - Further to our conversation...

Dear Mr. Carpenter,

I hope this email finds you well.

I just wanted to get in touch briefly as I have not received a response regarding giving a keynote presentation at our upcoming PLIM/PLEX conference. As mentioned on the phone, I am very keen to have you and Mr. Holian to provide USNRC perspectives on license renewals and aging management and would be grateful if you could let me know if this could be of interest.

Please feel free to contact if you have any questions or need any assistance.

I look forward to hearing from you and hopefully welcoming you at our upcoming conference.

Best regards

Mahide

From: Mahide Altun
Sent: 09 March 2011 19:50
To: 'Gene.Carpenter@nrc.gov'
Subject: PLIM/PLEX Conference - Further to our conversation...

Dear Gene,

Thank you very much for your time on the phone; it was nice speaking with you.

As mentioned, I am the programme manager for the 20th Annual PLIM/PLEX conference which will take place in Charlotte, North Carolina on the 29th and 30th September 2011 and would like to invite you to give a keynote presentation at the conference.

Attached is a draft programme that I have put together after some research with the industry and you can either choose a topic from this agenda or suggest your own topic which I will be more than happy to include. Also, as briefly mentioned, I have forwarded an invitation to Mr. Holian as well and would be

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delighted to welcome you both in Charlotte. The link will take you to our programme of last year:

<http://www.arena-international.com/plimplexUS/Program.html>

We expect the event to be even bigger than last year, it would be fantastic to have you involved in this and I am sure you would bring some unique experience and insight to the event.

Please note that I would need your response by 14th March 2011. At this stage all I would need from you is to know if you agree in principal to participate in the conference and which talk title you would like to present on. We can discuss the details of the session and I will confirm the time scales for presentation submission at a later date.

I look forward to hearing from you and hopefully welcoming you at the conference.

Kind Regards

Mahide

Mahide Altun

Conference Producer

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E: mahidealtun@arena-international.com

W: www.arena-international.com

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**PLIM/PLEX US 2011
29TH AND 30TH SEPTEMBER 2011
CHARLOTTE/NORTH CAROLINA**

**COMPARING AND CONTRASTING DIFFERENT APPROACHES TO ACHIEVE
OPTIMAL RESULTS**

Keynote Presentation: Evaluating plant life management and license extension in the context of US and comparing with other systems to identify the most successful practice

- Outlining the activities undertaking to effectively manage aging Nuclear Power Plants (NPPs) to ensure safe and profitable operations
- Mapping out the current aging assessment issues and the industry activities to minimize the impact on operations
- Gaining a summary of major components replacement and maintenance experience in the US
- Ensuring that aging is managed through prevention, mitigation, condition monitoring and performance monitoring to optimize the license renewal process for your plants
- Exploring further needs and challenges for PLIM/PLEX to achieve long term operations by effective material, component and human resources management

Utility perspective on going beyond 60 through effective planning, monitoring and aging management for extended life of up to 80 years

Long term Operations (LTO) and extending the life of your plant or fleet up to 80 years is the major objective of many utilities. There are many activities in research and technology being conducted to achieve this objective. This keynote presentation by a utility that is planning to achieve LTO will discuss the regulatory landscape and address the major issues and hurdles which will need to be tackled including:

- Achieving societal acceptance for older nuclear plants by outlining that it will be a significant part of green power generation
- Modernizing systems to enable long term operations for this specific plant
- Safely maximizing the use of existing assets by effective diagnosis, monitoring and modifications
- Mapping out and overcoming the major technical issues related to LTO by revealing how this utility is organizing and undertaking R&D
- Revisiting the economic and financial landscape for 2 extensions of licenses and how cost and benefits are addressed

European Keynote Presentation: Contracting the system for plant life extension and aging management in Europe to maximize lifetime and efficiency of your components

- Examining the latest technological developments applied in modification for long term operations in Europe
- Contrasting the requirements and standards for security to benchmark and evaluate results of different approaches
- Outlining the latest research and development in the pipeline for reactor vessel replacements and other major material aging issues
- A thorough comparison of regulatory framework to understand which leads to the most efficient results
- Revealing the future of plant life extension by assessing the feasibility studies in the region of going beyond 60

THE MAJOR ECONOMIC ASPECTS TO MAXIMISE TECHNOLOGY METHODS AND OPTIMIZE THE PERFORMANCE

Mapping out the role of economics in plant life management and extensions to set a successful business case

- Ensuring adequate economic planning by assessing the cost and benefits for nuclear power plants
- Revealing the very best actions that you can take to ensure your operations and activities are economically viable
- Capitalizing on opportunities that will assist in reducing operation and maintenance costs through online monitoring and other proactive measures
- Assessing the environmental aspects which have an indirect impact on economics including radwaste and spent fuel storage

Power Upgrades: improving the capacity of your current plant/fleet to obtain new life from aging assets to increase profitability

- Reviewing and understanding your plant's conditions through the analysis of condition reports to plan effectively
- Identifying the critical components and areas which will impact aging management cycles by closely communicating and interacting with other departments
- Achieving the crucial balance of increased profitability through power upgrades and safe operations through effective lifecycle management
- Estimating how life extension program will need to be modified to accommodate the power upgrade and its impact on components and structures

LICENSING PROCESS

Gaining a thorough update on the license renewal process in the US with the latest news on most recent applications and the outcomes (NRC specific)

- Uncovering the USNRC license renewal process by assessing all the technical and administrative requirements that needs to be fulfilled for effective applications
- Examining the major issues identified and faced during license renewal process to ensure that the same mistakes are avoided for future applications
- Gall report – gaining a detailed update on the generic guidance documents
- Uncovering the role of DOE on research in the field and how this impacts the process
- Analyzing the common issues at the application and review stages and the critical steps you can take to ensure your application is correct first time

License renewal case study: Outlining the full process for acceptance and progression of a license renewal application by mapping out the issues and hurdles and how they were overcome

- This session will provide you with a unique practical case study where an application for life extension has been renewed. The speaker from a major utility will cover the administrative process, technical challenges, the aging management program's role and the end results with a fact and figure supported paper.

Implementations and commitments process: Entering the Period of Extended Operation (PEO) by successful implementation of aging management programs and proactive inspections

- Understanding the regulatory framework for Period of Extended Operations and commitments to ensure 100% preparedness for inspections
- Ensuring successful incorporation of 10 CFR 54 and achieving full compliance for a successful implementation process
- Undertaking proactive aging management inspections as the owner or operator to identify the issues before they occur
- Monitoring and storing the data for maintenance and modifications to be able to present as and when requested
- Identifying and implementing all the necessary actions including corrective actions programs and training to achieve a successful PEO

Regional Roundtables (or Panel discussion)

Although regulations are set by the head office of NRC, many inspections are undertaken by regional representatives. This session will be your unique platform to ask your most pressing questions to the regional representative to uncover the best inspections and implementation measures.

Representatives will include:

- NRC region 1
- NRC region 2

- NRC region 3

You will uncover:

- The differences of approaches for each region
- What each representative would like to see ready at each stage of inspection or review
- What is required for data storage and information that needs to be provided as evidence for maintenance and modification

LIFECYCLE MANAGEMENT

Planning ahead: Understanding the fundamentals of life cycle management to incorporate to your plant and facilitate aging management and license renewal process in the future by:

- defining the engineering, operation and maintenance actions that you need to undertake to control aging degradation of the systems and components of your power plants to optimize life of SSCs for longer operation
- discovering the very best business discipline to implement physical inspections and assessment of performance and reliability for optimal asset management
- mapping out the technical and business risks and the control measures which you need in place to prevent and mitigate the effects of risks i.e. probabilistic safety analysis
- Maintaining the optimal level of efficiency by putting in place the most effective strategies and methods to capture corporate knowledge to avoid loss of information at any stage
- Minimizing dependency on human and individual memory and enhancing the robustness of your power plant against personnel change

REPAIRS, REPLACEMENTS AND MODIFICATIONS FOR DIFFERENT EQUIPMENT, COMPONENTS, SYSTEMS AND STRUCTURES

Equipment obsolescence: Mapping out the challenges which can prevent a successful obsolescence programs and addressing them at industry level

- Avoiding lengthy delays and halts by ensuring the supply of replacements in the market
- Analyzing your plant operation life time to predict correctly the parts and specific equipment that you may need
- Assessing the reliability of plant for future without major investment needs by assessing if it will continue to perform without to your expectations

Instrumentation and Control (I&C) modernization, developments, hurdles and best practice

- Achieving cost-effective modernization and effectively managing the obsolescence of your I&C systems
- Uncovering the regulatory issues and equipment qualification for I&C
- Identifying the major cost-effective maintenance and modification techniques
- Overcoming the cyber security issues related to wireless I&C to ensure security of data and information obtained and stored
- Mapping out the significance of I&C and monitoring systems and data storage to detect high cost asset and component failures before they occur

Buried pipes: Assessing the major issues forced by degradation of buried pipes by outlining the activities to date to overcome failures

- Assessing the integrity of buried pipes of NPPs to understand their impact on overall life extensions
- Demonstrating industry cases of effective dealings with buried pipe issues to integrate them into your future programs
- Mitigating the risks by putting together the very best cost and benefit analysis for buried pipe activities
- Avoiding leakage issues due to cracks to ensure societal acceptance and local support from your region
- Undertaking successful proactive inspections periodically and applying effective diagnosis techniques

Medium Voltage Cable Issues: Focusing on the major challenges in relation to lifecycle management of cables and shedding light on research and activity to date which will assist in extending the life and reduce pitfalls

- Identifying the failure modes which could be anticipated and defining actions that could be taken to reduce the impact
- Uncovering the impact of heat and water on cabling and how this could be mitigated
- Overcoming inaccessibility of cables to undertake effective inspections
- Mapping out case studies where cables have been in contact with water and how they were overcome
- Discovering sophisticated assessment methods and techniques available and used at this specific plant
- Understanding condition assessment and rejuvenation techniques
- Finding the most beneficial solution – replacement or repair?

MAJOR CONCERNS CAUSED BY AGING

Safety...Safety...Safety...

- Obtaining a detailed account on safety issues related to long term operation of beyond 40 years and 60 years

- Discovering the impact of service wear and corrosion in the context of plant safety to mitigate the reduction of performance
- Exploring aging related safety pitfalls by assessing the affects of aging on specific areas and component failures
- Identifying the methods to determine safety significant components and systems susceptible to aging degradation
- Establishing a coherent safety policy to achieve an acceptable level of safety
- Developing clear and concise guidelines and measures
- Revealing how to demonstrate your commitment and compliance to regulatory bodies and uncovering the key guidelines on how to modernize to enhance plant safety

Corrosion, Radiation and Fatigue (2 sessions)

Corrosion:

An expert researcher from each field will be invited to outline the industry activities in each of these fields for specific systems, structures and components by:

- Defining stress relates corrosion and the main areas that it occurs in NPPs
- Uncovering the damage mechanisms for different systems, structures and components to mitigate the impact
- Mapping out the current R&D studies in the field and ongoing utility programs which are achieving or have achieved best operational practice for maximum lifetime
- Understanding the fundamentals of effective inspections and assessments to determine the very best mitigation and repair techniques

Radiation:

- Outlining radiation damage which could be caused under extended reactor operations and the limitations this entails
- Identifying the major factors which cause reduction in radiation shifting capability including thermal effect or chemical erosion
- Uncovering the very latest and most effective monitoring and mitigation strategies including post-irradiation annealing

From: Rini, Brett
To: Case, Michael; Richards, Stuart; Coe, Doug; Coyne, Kevin; Scott, Michael; Gibson, Kathy; Elkins, Scott
Cc: Sheron, Brian; Uhle, Jennifer; Valentin, Andrea; Grancovitz, Teresa; Rivera-Lugo, Richard; Armstrong, Kenneth; Ibarra, Jose; Hudson, Daniel; RidsResPmdaMail Resource
Subject: QUERY: Funding Needs for Japan Follow-up
Date: Monday, March 21, 2011 4:43:47 PM
Attachments: Japan Lessons Learned.docx
Importance: High

Division Directors,

We have received a quick turnaround OEDO request to estimate resources (\$ and FTE) required for a near term effort and longer term review related to the recent events in Japan. Brian brainstormed a list of possible research areas that I've listed below, and I will reach out to our customer offices to find out in what areas they anticipate asking us for help. Please review the list below, think about what areas of research you anticipate for your division, and estimate how much effort these projects will require.

- Spent fuel analyses – SFPs vs ISFSIs?
- Severe accident analyses
- Exceeding seismic design basis
- Response to aftershocks following a design or beyond-design basis earthquake
- Tsunami/storm surge impacts
- Protection from hurricane winds, tornadoes, etc.

Please send me your inputs by noon tomorrow, and I will review the list with Brian before responding to OEDO. We weren't given much time to reply, so a rough estimate is all that's required at this time. I appreciate your help during this time of significant competing priorities.

Thanks,

Brett

From: Kasputys, Clare
Sent: Monday, March 21, 2011 4:18 PM
To: RidsNroOd Resource; RidsNrrOd Resource; RidsNsirOd Resource; RidsResOd Resource; RidsFsmeOd Resource; RidsNmssOd Resource; RidsOgcMailCenter Resource; RidsCsoMailCenter Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; RidsOipMailCenter Resource
Cc: RidsNrrPmda Resource; RidsNroPmda Resource; RidsNsirPmda Resource; RidsResPmdaMail Resource; RidsFsmePbpaFmb Resource; RidsNmssTa Resource; Golder, Jennifer; Smolik, George; Muessle, Mary; Andersen, James; Jacobs-Baynard, Elizabeth; Allwein, Russell; Peterson, Gordon; Peterson, Gordon; Virgilio, Martin; Virgilio, Martin; Weber, Michael; Weber, Michael; Ash, Darren; Ash, Darren
Subject: Funding Needs for Japan Follow-up - Resent to provide Attachment

Resent to provide the Attachment

All,

The Chairman has requested for the NRC to conduct a Near-term (90 day effort) and a longer-term review (as discussed by Bill B at the Commission meeting today) of regulatory issues affecting U.S. operating reactors based on the events in Japan. The

7/97

Chairman is interested in seeking supplemental funding to support our efforts for the above effort, in addition to NRC's costs associated with emergency response and technical experts sent to Japan. OCFO is preparing cost data associated with emergency response and technical support to Japan.

On Friday, the OCFO requested some initial estimates to support the reviews (see attached). At this time, we are requesting the offices to review these initial estimates and include some information concerning the work that is envisioned to support these reviews. Listed below are some initial thoughts about the scope of the near-term and long-term reviews. Also, consider what on-going efforts related to the development of our regulatory program could benefit with supplemental funding. For example, it was mentioned in the Commission meeting that NRC is currently working on GSI-199. Should funding be accelerated for this effort and others of this nature.

Near Term Review (90 day effort):

- Evaluate currently available technical and operational information from the Japan event to identify near-term (or immediate) operational or regulatory issues affecting U.S. operating reactors of all designs in areas such as protection against earthquakes, tsunamis, flooding, hurricanes, station blackout and a degraded ability to restore power; severe accident mitigation and emergency preparedness
- Develop recommendations for generic communications, orders, changes to inspection procedures and licensing review guidance, etc.
- Possibly prepare a 30 day quick look report

Longer-Term Review (Following obtaining sufficient technical information from the Japan event)

- Evaluate all technical and policy issues related to the event to identify additional research, generic issues, changes to the reactor oversight process, rulemakings and adjustments to the regulatory framework that should be conducted by the NRC.
- Evaluate interagency issues such as emergency preparedness.
- Applicability of the lessons learned to non-operating reactor and non-reactor facilities.

It is recognized that the full scope of the reviews has yet to be determined or the size of the group that will be conducting the analysis. Therefore, we are looking only for rough cost estimates. You are requested to send the level of funding (dollars and FTE) that is anticipated that could be obligated in FY 2011 for both the near-term and long-term efforts. We are asking the business line leads to coordinate with supporting offices and submit a response by business line and by office. Please send your responses to me and Liz Jacobs-Baynard and copy Jennifer Golder and George Smolik, OCFO NLT than Noon on Tuesday.

If you have any questions, please let me know.

Thank you for your support.

Japan Lessons Learned

Near term and Long Term Reviews

FY 11 Supplemental Request (Assumes costs will be

Costs per Office to support near and long term reviews

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

Hogan, Rosemary

From: Pires, Jose
Sent: Monday, March 21, 2011 9:29 AM
To: Hogan, Rosemary
Subject: FW: IN Issued on Friday - Japanese Event

FYI (an information notice to all operators of nuclear power plants).

From: Tegeler, Bret
Sent: Monday, March 21, 2011 9:06 AM
To: Ali, Syed; Pires, Jose
Subject: FW: IN Issued on Friday - Japanese Event

You may be aware already, but I wanted to send the link to you FYI.
Bret

From: Jenkins, Ronaldo
Sent: Monday, March 21, 2011 8:58 AM
To: NRO_DE Distribution
Subject: FW: IN Issued on Friday - Japanese Event

FYI

From: Mathew, Roy
Sent: Monday, March 21, 2011 8:44 AM
To: Matharu, Gurcharan; Miller, Kenn; McConnell, Matthew; Goel, Vijay; Hiland, Patrick; Basturescu, Sergiu; Som, Swagata; Foli, Adakou
Cc: Koshy, Thomas; Jenkins, Ronaldo
Subject: IN Issued on Friday - Japanese Event

<http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/2011/ML110760432.pdf>

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

March 18, 2011

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

ADDRESSEES

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

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

PURPOSE

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

DESCRIPTION OF CIRCUMSTANCES

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

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

ML110760432

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

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

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

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

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

BACKGROUND

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

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

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

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

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

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

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

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

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

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

DISCUSSION

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

1. verification of the capability to mitigate conditions that result from severe adverse events, including the loss of significant operational and safety systems due to natural events, fires, aircraft impact and explosions
2. verification of the capability to mitigate a total loss of electric power to a nuclear power plant
3. verification of the capability to mitigate flooding and the impact of floods on systems inside and outside the plant

4. identification of the potential for loss of equipment functions during seismic events appropriate for the site and the development of mitigating strategies to address potential vulnerabilities

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

PAPERWORK REDUCTION ACT STATEMENT

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

Public Protection Notification

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

CONTACTS

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

/RA by MShuaibi/

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

/RA/

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

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

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

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ADAMS Accession Number: ML110760432 * by e-mail

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

OFFICIAL RECORD COPY

Lee, Richard

From: Santiago, Patricia
Sent: Monday, March 21, 2011 4:50 PM
To: Wagner, Katie
Cc: Lee, Richard; Schaperow, Jason
Subject: RE: Requests
Attachments: image001.gif

I believe the 3:17 request is separate.

There is other info that NR requested that is on hold that isn't clear to me but Jason should advise on what to add to this to show it is on hold.

thanks

From: Wagner, Katie
Sent: Monday, March 21, 2011 4:14 PM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: RE: Requests

Pat,

If I'm understanding this correctly, the 2 listed action items in the 3:17pm email are **in addition** to this entry:

22	3/20/2011	J. Uhle (RST Director) at Ops Center for Naval Reactors ! NEW	Jennifer.Uhle@nrc.gov	Jason Schaperow x7452 Charlie Tinkler x7496	SPB	The following was requested by Naval Reactors: 1) a written position from the NRC by morning whether we believe fuel debris is likely to eat through the concrete floor of the spent fuel pool and fall into the next lower floor of the reactor building 2) our MELCOR spent fuel pool input deck for Fukushima Daiichi Unit 4 and our results of calculations with this model 3) the reports we produced over the last several years on analysis of severe spent fuel pool accidents.	The following was requested: 1) a written position from the NRC by morning whether we believe fuel debris is likely to eat through the concrete floor of the spent fuel pool and fall into the next lower floor of the reactor building 2) our MELCOR spent fuel pool input deck for Fukushima Daiichi Unit 4 and our results of calculations with this model 3) the reports we produced over the last several years on analysis of severe spent fuel pool accidents.	Pending
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I just want to make sure I've got everything straight here . . .

Thanks,
Katie

From: Santiago, Patricia
Sent: Monday, March 21, 2011 4:07 PM
To: Wagner, Katie

7/99

Cc: Lee, Richard; Gibson, Kathy; Elkins, Scott

Subject: RE: Requests

Katie...add this for Jason/Charlie SPB/DSA.
thanks

From: Tinkler, Charles

Sent: Monday, March 21, 2011 3:17 PM

To: Santiago, Patricia; Chang, Richard; Wagner, Katie

Cc: Schaperow, Jason

Subject: Requests

Right now we have 2 actions we are following up

1. Clarification and assessment of potential radiological release source terms for Fukushima Units 3&4 spent fuel pools, earlier estimates were made based on earlier Peach Bottom analyses and followup is needed to address Fukushima and complete dryout and concrete attack, clarification sought by the PMT
2. We have received additional requests from Naval Reactors. These are being put on hold. Discussed with Brian Sheron

Charles Tinkler

Charles.Tinkler@nrc.gov

Hogan, Rosemary

From: Kammerer, Annie
Sent: Monday, March 21, 2011 5:22 PM
To: Richards, Stuart
Cc: Hogan, Rosemary
Subject: RE: sharepoint site where latest and greatest seismic Q&As can be found moving forward

Thanks. It seems that people find this quite useful, so I consider it a succes...

From: Richards, Stuart
Sent: Monday, March 21, 2011 5:19 PM
To: Kammerer, Annie
Cc: Hogan, Rosemary
Subject: RE: sharepoint site where latest and greatest seismic Q&As can be found moving forward

Annie

Great Job!

Thanks
Stu

From: Kammerer, Annie
Sent: Wednesday, March 16, 2011 5:29 PM
To: RES Distribution
Subject: sharepoint site where latest and greatest seismic Q&As can be found moving forward

Please see the file that contains the latest document at...

<http://portal.nrc.gov/edo/nrr/NRR%20TA/FAQ%20Related%20to%20Events%20Occuring%20in%20Japan/Forms/AllItems.aspx>

We will be updating this daily or almost daily in the foreseeable future. So please go to this site if you'd like to see the latest.

The site gives RES the credit since we're the lead and started it; but there is a big team supporting this that includes staff from RES, NRO, NRR and the regions.

Annie

7/100

From: Rini, Brett
To: Case, Michael; Richards, Stuart; Coe, Doug; Coyne, Kevin; Scott, Michael; Gibson, Kathy; Elkins, Scott
Cc: Sheron, Brian; Uhle, Jennifer; Valentin, Andrea; Grancovitz, Teresa; Rivera-Lugo, Richard; Armstrong, Kenneth; Ibarra, Jose; Hudson, Daniel; RidsResPmdaMail Resource
Subject: QUERY: Funding Needs for Japan Follow-up
Date: Monday, March 21, 2011 4:43:47 PM
Attachments: Japan Lessons Learned.docx
Importance: High

Division Directors,

We have received a quick turnaround OEDO request to estimate resources (\$ and FTE) required for a near term effort and longer term review related to the recent events in Japan. Brian brainstormed a list of possible research areas that I've listed below, and I will reach out to our customer offices to find out in what areas they anticipate asking us for help. Please review the list below, think about what areas of research you anticipate for your division, and estimate how much effort these projects will require.

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- Severe accident analyses
- Exceeding seismic design basis
- Response to aftershocks following a design or beyond-design basis earthquake
- Tsunami/storm surge impacts
- Protection from hurricane winds, tornadoes, etc.

Please send me your inputs by noon tomorrow, and I will review the list with Brian before responding to OEDO. We weren't given much time to reply, so a rough estimate is all that's required at this time. I appreciate your help during this time of significant competing priorities.

Thanks,

Brett

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Subject: Funding Needs for Japan Follow-up - Resent to provide Attachment

Resent to provide the Attachment

All,

The Chairman has requested for the NRC to conduct a Near-term (90 day effort) and a longer-term review (as discussed by Bill B at the Commission meeting today) of regulatory issues affecting U.S. operating reactors based on the events in Japan. The

T/101

Chairman is interested in seeking supplemental funding to support our efforts for the above effort, in addition to NRC's costs associated with emergency response and technical experts sent to Japan. OCFO is preparing cost data associated with emergency response and technical support to Japan.

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- Evaluate all technical and policy issues related to the event to identify additional research, generic issues, changes to the reactor oversight process, rulemakings and adjustments to the regulatory framework that should be conducted by the NRC.
- Evaluate interagency issues such as emergency preparedness.
- Applicability of the lessons learned to non-operating reactor and non-reactor facilities.

It is recognized that the full scope of the reviews has yet to be determined or the size of the group that will be conducting the analysis. Therefore, we are looking only for rough cost estimates. You are requested to send the level of funding (dollars and FTE) that is anticipated that could be obligated in FY 2011 for both the near-term and long-term efforts. We are asking the business line leads to coordinate with supporting offices and submit a response by business line and by office. Please send your responses to me and Liz Jacobs-Baynard and copy Jennifer Golder and George Smolik, OCFO NLT than Noon on Tuesday.

If you have any questions, please let me know.

Thank you for your support.

Japan Lessons Learned

Near term and Long Term Reviews

FY 11 Supplemental Request (Assumes costs will be

Costs per Office to support near and long term reviews

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

From: Sheron, Brian
To: Rini, Brett; Case, Michael; Coe, Doug; Correia, Richard; Gibson, Kathy; Lui, Christiana; Richards, Stuart; Sangimino, Donna-Marie; Scott, Michael; Uhle, Jennifer; Valentin, Andrea
Subject: FW: Funding Needs for Japan Follow-up - Resent to provide Attachment
Date: Monday, March 21, 2011 6:39:02 PM
Importance: High

See below. They called it off.

From: Flory, Shirley On Behalf Of RidsResOd Resource
Sent: Monday, March 21, 2011 6:20 PM
To: Sheron, Brian; Uhle, Jennifer; RidsResPmdaMail Resource
Subject: FW: Funding Needs for Japan Follow-up - Resent to provide Attachment
Importance: High

From: Jacobs-Baynard, Elizabeth
Sent: Monday, March 21, 2011 5:44 PM
To: Kasputys, Clare; RidsNroOd Resource; RidsNrrOd Resource; RidsNsirOd Resource; RidsResOd Resource; RidsFsmeOd Resource; RidsNmssOd Resource; RidsOgcMailCenter Resource; RidsCsoMailCenter Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; RidsOipMailCenter Resource
Cc: RidsNrrPmda Resource; RidsNroPmda Resource; RidsNsirPmda Resource; RidsResPmdaMail Resource; RidsFsmePbpaFmb Resource; RidsNmssTa Resource; Golder, Jennifer; Smolik, George; Muessle, Mary; Andersen, James; Allwein, Russell; Peterson, Gordon; Peterson, Gordon; Virgilio, Martin; Virgilio, Martin; Weber, Michael; Weber, Michael; Ash, Darren; Ash, Darren; Jacobs-Baynard, Elizabeth
Subject: RE: Funding Needs for Japan Follow-up - Resent to provide Attachment
Importance: High

Recalling e-mail. At this time, there is no need for offices to respond to the requested e-mail. OCFO has come up with rough estimates of the associated costs for near-term and long term tasks. Please be informed that there may be additional assistance requested from offices at a later date. Thanks for your support and cooperation.

Liz

From: Kasputys, Clare
Sent: Monday, March 21, 2011 4:18 PM
To: RidsNroOd Resource; RidsNrrOd Resource; RidsNsirOd Resource; RidsResOd Resource; RidsFsmeOd Resource; RidsNmssOd Resource; RidsOgcMailCenter Resource; RidsCsoMailCenter Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; RidsOipMailCenter Resource
Cc: RidsNrrPmda Resource; RidsNroPmda Resource; RidsNsirPmda Resource; RidsResPmdaMail Resource; RidsFsmePbpaFmb Resource; RidsNmssTa Resource; Golder, Jennifer; Smolik, George; Muessle, Mary; Andersen, James; Jacobs-Baynard, Elizabeth; Allwein, Russell; Peterson, Gordon; Peterson, Gordon; Virgilio, Martin; Virgilio, Martin; Weber, Michael; Weber, Michael; Ash, Darren; Ash, Darren
Subject: Funding Needs for Japan Follow-up - Resent to provide Attachment

Resent to provide the Attachment

All,

7/102

The Chairman has requested for the NRC to conduct a Near-term (90 day effort) and a longer-term review (as discussed by Bill B at the Commission meeting today) of regulatory issues affecting U.S. operating reactors based on the events in Japan. The Chairman is interested in seeking supplemental funding to support our efforts for the above effort, in addition to NRC's costs associated with emergency response and technical experts sent to Japan. OCFO is preparing cost data associated with emergency response and technical support to Japan.

On Friday, the OCFO requested some initial estimates to support the reviews (see attached). At this time, we are requesting the offices to review these initial estimates and include some information concerning the work that is envisioned to support these reviews. Listed below are some initial thoughts about the scope of the near-term and long-term reviews. Also, consider what on-going efforts related to the development of our regulatory program could benefit with supplemental funding. For example, it was mentioned in the Commission meeting that NRC is currently working on GSI-199. Should funding be accelerated for this effort and others of this nature.

Near Term Review (90 day effort):

- Evaluate currently available technical and operational information from the Japan event to identify near-term (or immediate) operational or regulatory issues affecting U.S. operating reactors of all designs in areas such as protection against earthquakes, tsunamis, flooding, hurricanes, station blackout and a degraded ability to restore power; severe accident mitigation and emergency preparedness
- Develop recommendations for generic communications, orders, changes to inspection procedures and licensing review guidance, etc.
- Possibly prepare a 30 day quick look report

Longer-Term Review (Following obtaining sufficient technical information from the Japan event)

- Evaluate all technical and policy issues related to the event to identify additional research, generic issues, changes to the reactor oversight process, rulemakings and adjustments to the regulatory framework that should be conducted by the NRC.
- Evaluate interagency issues such as emergency preparedness.
- Applicability of the lessons learned to non-operating reactor and non-reactor facilities.

It is recognized that the full scope of the reviews has yet to be determined or the size of the group that will be conducting the analysis. Therefore, we are looking only for rough cost estimates. You are requested to send the level of funding (dollars and FTE) that is anticipated that could be obligated in FY 2011 for both the near-term and long-term efforts. We are asking the business line leads to coordinate with supporting offices and submit a response by business line and by office. Please send your responses to me and Liz Jacobs-Baynard and copy Jennifer Golder and George Smolik, OCFO NLT than Noon on Tuesday.

If you have any questions, please let me know.

Thank you for your support.

From: Ali, Syed
To: Case, Michael
Subject: FW: Group update: Liaison Japan
Date: Monday, March 21, 2011 8:03:11 AM

From: Nguyen, Caroline
Sent: Sunday, March 20, 2011 7:02 PM
To: Ashman, Douglas
Cc: Account Management; Kim, Jay; Mein, David; Shilling, James; Scott, Michael; Blamey, Alan; Giessner, John; Taylor, Robert; Jackson, Todd; Miller, Marie; Ali, Syed; Sheikh, Abdul; Way, Ralph; Ramsey, Jack
Subject: RE: Group update: Liaison Japan

Thank you!!

From: Ashman, Douglas
Sent: Sunday, March 20, 2011 6:25 PM
To: Nguyen, Caroline
Cc: Account Management; Kim, Jay; Mein, David; Shilling, James; Scott, Michael; Blamey, Alan; Giessner, John; Taylor, Robert; Jackson, Todd; Miller, Marie; Ali, Syed; Sheikh, Abdul; Way, Ralph; Ramsey, Jack
Subject: Group update: Liaison Japan

Account Management has processed the below request

Re: Group Liaison Japan

Following users were Added to group:

MLS3, Michael Scott;
ALB3, Alan Blamey;
JBG, John Giessner;
RXT2, Robert Taylor;
TJJ, Todd Jackson;
MTM1, Marie Miller;
SAA3, Syed Ali;
AXS9, Abdul Sheikh;
RXW5, Ralph Way;
JER2, Jack Ramsey

DHD, Dan Dorman is already a member of the group

Following user(s) was Removed from group:

none

If you have any questions please reply to this email.

Thank you.

NRC Network Operations Center
Account Management
(301) 415-8150 office
TWFN_5E37 Location

T/103

Account.Management@nrc.gov

Douglas Ashman
Network Operations Center
301-415-8150

Scott, Michael

From: LIA01 Hoc [LIA01.Hoc@nrc.gov]
Sent: Monday, March 21, 2011 7:03 PM
To: RMTPACTSU_ELNRC; LIA02 Hoc; LIA03 Hoc
Subject: Instructions for NRC Deployees

From Phone call with Chuck Casto in Japan:

NRC staff deploying to Japan should report to their hotel, get rest, report to the US Embassy in the AM

Ned Wright
NRC Federal Liaison

T/104

Lee, Richard

From: Santiago, Patricia
Sent: Monday, March 21, 2011 6:29 PM
To: Bowlin, Elizabeth; Chang, Richard; Lee, Richard
Subject: FW: PM for Japan Event contract

Once Richard Lee confirms that he has discussed this new assignment with Katie, I would ask that you both talk with Katie and Eddie to determine the fastest and best vehicle to separate Japan support from the SOARCA contract. I did leave a message for Eddie to note we were looking at 500K to get going.

Thanks again for your help on all this!

From: Lee, Richard
Sent: Monday, March 21, 2011 4:56 PM
To: Santiago, Patricia
Subject: RE: PM for Japan Event contract

Yes, No problem.

From: Santiago, Patricia
Sent: Monday, March 21, 2011 4:52 PM
To: Lee, Richard
Subject: PM for Japan Event contract
Importance: High

Katie was suggested as the proposed PM for the SNL Contract on the event response support needs.

Is that ok with you?

Thanks,

Pat

Patricia A. Santiago
Chief, Special Projects Branch
Division of Systems Analysis
Office of Nuclear Regulatory Research
Phone- 301-251-7982
Fax- 301-251-7426
Patricia.Santiago@nrc.gov

Lee, Richard

From: wagner, Katie
Sent: Monday, March 21, 2011 4:53 PM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: RE: Requests
Attachments: image001.gif

Pat – Thanks for the heads up about Mike being out. I'll update the reports tomorrow a.m. and re-distribute. – Thanks, Katie

From: Santiago, Patricia
Sent: Monday, March 21, 2011 4:51 PM
To: Wagner, Katie
Cc: Lee, Richard
Subject: RE: Requests

Ok
They are separate...FYI Mike Scott will be gone for about 2 weeks and reports should go to Scott Elkins who is acting deputy.
thanks

From: Wagner, Katie
Sent: Monday, March 21, 2011 4:47 PM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: FW: Requests

Pat,

I have printed off today's EOB reports for Kathy and Mike and did not add the two items below because I was not sure if those were already encapsulated in item #22 on the Sharepoint. If those two are separate items, I will add them first thing tomorrow morning and put updated reports on Kathy and Mike's chairs.

Thanks,
Katie

From: Wagner, Katie
Sent: Monday, March 21, 2011 4:14 PM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: RE: Requests

Pat,

If I'm understanding this correctly, the 2 listed action items in the 3:17pm email are **in addition to** this entry:

22	3/20/2011	J. Uhle (RST Director) at Ops Center for Naval Reactors <small>NEW</small>	Jennifer.Uhle@nrc.gov	Jason Schaperow x7452 Charlie Tinkler x7496	SPB	The following was requested by Naval Reactors: 1) a written position from the NRC by morning whether we believe fuel debris is likely to eat through the concrete	The following was requested: 1) a written position from the NRC by morning whether we believe fuel debris is likely to eat through the concrete floor of the spent fuel	Pending
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floor of the spent fuel pool and fall into the next lower floor of the reactor building
2) our MELCOR spent fuel pool input deck for Fukushima Daiichi Unit 4 and our results of calculations with this model
3) the reports we produced over the last several years on analysis of severe spent fuel pool accidents.

pool and fall into the next lower floor of the reactor building
2) our MELCOR spent fuel pool input deck for Fukushima Daiichi Unit 4 and our results of calculations with this model
3) the reports we produced over the last several years on analysis of severe spent fuel pool accidents.

I just want to make sure I've got everything straight here . . .

Thanks,
Katie

From: Santiago, Patricia
Sent: Monday, March 21, 2011 4:07 PM
To: Wagner, Katie
Cc: Lee, Richard; Gibson, Kathy; Elkins, Scott
Subject: RE: Requests

Katie...add this for Jason/Charlie SPB/DSA.
thanks

From: Tinkler, Charles
Sent: Monday, March 21, 2011 3:17 PM
To: Santiago, Patricia; Chang, Richard; Wagner, Katie
Cc: Schaperow, Jason
Subject: Requests

Right now we have 2 actions we are following up

1. Clarification and assessment of potential radiological release source terms for Fukushima Units 3&4 spent fuel pools, earlier estimates were made based on earlier Peach Bottom analyses and followup is needed to address Fukushima and complete dryout and concrete attack, clarification sought by the PMT
2. We have received additional requests from Naval Reactors. These are being put on hold. Discussed with Brian Sheron

Charles Tinkler
Charles.Tinkler@nrc.gov

Scott, Michael

From: Scott, Michael
Sent: Monday, March 21, 2011 8:11 PM
To: Coffin, Stephanie
Cc: Elkins, Scott; Gibson, Kathy
Subject: RE: fyi - CNWRA meeting background

Hi Stephanie.

FYI – I am flying to Japan tomorrow for nominal two weeks. Scott Elkins will be acting DDD.

Mike

From: Coffin, Stephanie
Sent: Monday, March 21, 2011 5:44 PM
To: Gibson, Kathy; Scott, Michael; Zaki, Tarek
Subject: fyi - CNWRA meeting background

I am well aware of Brian's feelings in this regard.

I didn't want you to be surprised about the meeting taking place.

Your choice as to level of support.

Attached email is the background information.

Steph

Stephanie Coffin, Deputy Director
NRO/ARP
301.415.6877
stephanie.coffin@nrc.gov

Scott, Michael

From: Scott, Michael
Sent: Monday, March 21, 2011 9:07 PM
To: 'ergo@go2cindy.com'
Subject: RE: Ergonomic Assessment scheduling

I am going to Japan and will get back to you after I return. Thanks.

From: ergo@go2cindy.com [mailto:ergo@go2cindy.com]
Sent: Friday, March 18, 2011 8:03 PM
To: Scott, Michael
Subject: RE: Ergonomic Assessment scheduling

The next available day is Thursday March 31 at 10:30 or 11:00.

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

Subject: RE: Ergonomic Assessment scheduling
From: "Scott, Michael" <Michael.Scott@nrc.gov>;
Date: Thu, March 17, 2011 4:55 pm
To: "ergo@go2cindy.com" <ergo@go2cindy.com>

I have a conflict. Can you please propose an alternative time or times?

Thanks.

From: ergo@go2cindy.com [mailto:ergo@go2cindy.com]
Sent: Thursday, March 17, 2011 4:30 PM
To: Scott, Michael
Subject: Ergonomic Assessment scheduling

Recently we received your name from the NRC Office of Human Resources to provide an ergonomic assessment of your workstation. A consultant will next be available on Tuesday March 29, 2011 as requested.

We have the following time slot available for scheduling. Please indicate if you are able to be assessed.

Thank you.

TUESDAY MARCH 29th: 10:30 am

The assessment appointment takes approximately 45 minutes.

We will e-mail you back to confirm your request.

Kind Regards,

*Cindy Crary,
Consulting Ergonomic Assessment Specialist for NRC
301-417-2077*

From: [Robert Benincasa](#)
To: [Janbergs, Holly](#)
Subject: RE: Event Notification Reports Archives
Date: Monday, March 21, 2011 11:35:47 AM

Thanks!

Robert Benincasa
Producer, Computer-Assisted Reporting
NPR News
202-513-2218
rbenincasa@npr.org

From: Janbergs, Holly [<mailto:Holly.Janbergs@nrc.gov>]
Sent: Friday, March 18, 2011 4:50 PM
To: Robert Benincasa
Subject: RE: Event Notification Reports Archives

Mr. Benincasa,

One of our specialists was very kind and extracted the entirety of the archives from 2001 for you. You can find that information attached in a zip file.

Thank you,
Bethany

From: Robert Benincasa [<mailto:RBenincasa@npr.org>]
Sent: Thursday, March 17, 2011 3:51 PM
To: Janbergs, Holly
Subject: RE: Event Notification Reports Archives

Sure, but what happens to the files you create each month? Are they not kept on a server or a hard drive somewhere? Are they deleted?

From: Janbergs, Holly [<mailto:Holly.Janbergs@nrc.gov>]
Sent: Thursday, March 17, 2011 3:50 PM
To: Robert Benincasa
Subject: RE: Event Notification Reports Archives

Mr. Benincasa,

We do not currently have that information in the format you are looking for. If you would like machine-readable data, it would have to be created. For that, you would have to submit a FOIA request.

Thank you,
Bethany

T/109

From: Robert Benincasa [mailto:RBenincasa@npr.org]
Sent: Thursday, March 17, 2011 3:38 PM
To: Janbergs, Holly
Subject: RE: Event Notification Reports Archives

Yes, I've seen this. What I'm wondering is if past months are available in the delimited text format (i.e. machine-readable data) that the current month is posted in.
thanks

From: Janbergs, Holly [mailto:Holly.Janbergs@nrc.gov]
Sent: Thursday, March 17, 2011 3:36 PM
To: Robert Benincasa
Subject: Event Notification Reports Archives

Mr. Benincasa,

The Event Notification Reports archives can be found here:
<http://www.nrc.gov/reading-rm/doc-collections/event-status/event/>

Please let me know if you have any further questions.

Thank you,
Bethany

Beth Janbergs
Public Affairs Assistant
301-415-8211

Hogan, Rosemary

From: Dion, Jeanne
Sent: Monday, March 21, 2011 8:47 AM
To: RES Distribution
Subject: Staff Slides for March 21 Meeting Rev 1.pptx
Attachments: Staff Slides for March 21 Meeting Rev 1.pptx

Attached are slides for this morning's Commission meeting. There will be hard copies available in the Church St. conference rooms where the meeting will be VTC'd.

Jeanne Dion
Technical Assistant (Acting)
U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
jeanne.dion@nrc.gov
301-251-7482

T/110



Briefing on NRC Response to Recent Nuclear Events in Japan

Bill Borchardt
Executive Director for Operations
March 21, 2011

Agenda

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

Event Overview

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

Immediate NRC Response

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

Continuing NRC Response

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

Health Effects of Radiation

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

Domestic Reactor Safety

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

NRC Activities – Near Term

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

NRC Activities – Longer Term

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

Conclusion

Nelson, Robert

From: Nelson, Robert, *MR*
Sent: Monday, March 21, 2011 8:15 AM
To: Nguyen, Quynh
Cc: Meighan, Sean
Subject: Action: Web Site Updates
Attachments: 11-053.pdf

See attached. Add the Seismic Qs & As to the NRR web site. Also add the other link for publicly available info.

NELSON

Tracking:

T/111

Valentine, Nicholee

From: Bowman, Eric
Sent: Monday, March 21, 2011 1:39 PM
To: Boska, John
Cc: Salgado, Nancy
Subject: RE: NY Delegation Visit

John,

Coincidentally I will be there to address the GL, so I can speak to the B.5.b specifics.

Thanks!

Eric

From: Boska, John
Sent: Monday, March 21, 2011 1:36 PM
To: Bowman, Eric
Cc: Salgado, Nancy
Subject: FW: NY Delegation Visit

Eric, I am putting together the complete package of slides for the meeting tomorrow. Jack Grobe asked that someone be there who can speak to B.5.b specifics at Indian Point (e.g., "they have pumps in the warehouse that can ..."). Can you do this? If not, who do you recommend?

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

From: Nguyen, Quynh
Sent: Monday, March 21, 2011 1:31 PM
To: Boska, John
Subject: FW: NY Delegation Visit

Here are the RES guys (see below).

From: McGinty, Tim
Sent: Monday, March 21, 2011 12:39 PM
To: Bowman, Eric; Alexion, Thomas
Cc: Rosenberg, Stacey; Blount, Tom; Quay, Theodore; Nguyen, Quynh
Subject: FW: NY Delegation Visit

Eric/Tom – just an FYI based on earlier email that Eric Bowman is the current GL contact.

Eric – you have a lot of irons in the fire. If this is problematic in terms of supporting, please let us know. However, I think that your B.5.b background may also ultimately be valued at this meeting as well. Tim

From: Coe, Doug
Sent: Monday, March 21, 2011 12:23 PM
To: Nguyen, Quynh; Case, Michael
Cc: Grobe, Jack; Skeen, David; Manoly, Kamal; Stutzke, Martin; Wilson, George; Khanna, Meena; Hiland, Patrick;

From: Stahl, Eric
To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis
Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Mamish, Nader; Dembek, Stephen
Subject: RE: OIP Ops Center Coverage: March 21-April 15
Date: Monday, March 21, 2011 10:39:00 PM
Attachments: March 21 - April 15 - International Liaison Schedule.doc

Is everyone having fun yet?

Please find a slightly revised copy of the OIP Ops Center coverage sheet through April 15. This document should include all changes made through Monday (that I was notified about). If you have any other changes, please let me know. If you have already told me you cannot work a shift, it is highlighted in yellow. If you would like to volunteer for one of the yellow shifts, please let me know. In addition, if you cannot work a shift that you have been designated to cover and have been unable to find a replacement yet, please let me know and I will update the sheet and try to find volunteers. Lastly, if you see any inaccuracies, please let me know.

As a reminder, please respond only to me and not the whole email distribution.

Thanks,
Eric

From: Stahl, Eric
Sent: Thursday, March 17, 2011 11:44 AM
To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian
Cc: Doane, Margaret; Young, Francis; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Jones, Andrea; Mamish, Nader; Dembek, Stephen
Subject: OIP Ops Center Coverage: March 21-April 15

Team OIP –

First of all, thank you for providing input on such short notice concerning OIP's coverage of the international liaison desks in the Ops Center. Attached you will find the coverage sheet from March 21 through April 15. Most of you will work for three days on, followed by six days off. The reason for this is that management believed it was important to maintain staff consistency in the Ops Center, while not overburdening specific people.

Please read the following information carefully:

- I did my best to incorporate when you all preferred to work. Since most people preferred 7am-3pm, this did not always work.
- I did my best to incorporate feedback concerning you leave, CWS and travel into the document, this did not always work.
- If you are scheduled to work a shift that you cannot work (whether because you have

7/11/13

leave, have other obligations, are on CWS, etc.), it is your responsibility to find a replacement. I will maintain the master copy, so if there is a change, please email it to me. I will plan on sending out updates to the sheet as necessary every few days.

- In addition to the people who have already been working in the Ops Center or will start shifts there soon, feel free to reach out to Gerri, Wilkins, Andrea, Kirk and Brooke when they return to the office. We have 20+ people in the office who are available and eager to help, so it should not be too difficult to find a replacement when needed.
- At this point, we are under the assumption that we will need two people manning the international liaison desk through April 15. If this changes, we will let you know.

Once again, please look at the coverage spreadsheet closely. Your name may only appear a few times or it may appear 10+ times. In some cases you may have been substituted for people who are away on travel in what may appear to be random fashion. It is your responsibility to show up during your designated shift or to find a replacement for it. If you have any questions or concerns, please reply directly to me only.

Please note: coverage through this Sunday (March 20) has already been finalized. The document with this information is also attached.

Once again, thank you all for your contributions. Everyone understands this has been an overwhelming and challenging time for OIP, but I think everyone's eagerness to help and flexibility have been clearly demonstrated.

Lee, Richard

From: Sheron, Brian
Sent: Tuesday, March 22, 2011 9:27 PM
To: Gibson, Kathy; Lee, Richard
Cc: Wagner, Katie
Subject: RE: Conference call

Richard, thanks.

From: Gibson, Kathy
Sent: Tuesday, March 22, 2011 9:12 PM
To: Lee, Richard
Cc: Wagner, Katie; Sheron, Brian
Subject: Re: Conference call

Thanks Richard!

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

From: Lee, Richard
To: Gibson, Kathy
Cc: Wagner, Katie
Sent: Tue Mar 22 20:32:59 2011
Subject: RE: Conference call

Kathy:

I will participate in the call tomorrow. No problem.

Richard

From: Gibson, Kathy
Sent: Tuesday, March 22, 2011 7:15 PM
To: Lee, Richard
Cc: Wagner, Katie
Subject: FW: Conference call

Can you do this? If not, let me know right away so we can identify another appropriate participant.

[cid:image001.jpg@01CBE8C5.76307680]

From: Sheron, Brian
Sent: Tuesday, March 22, 2011 6:20 PM
To: Gibson, Kathy
Subject: Conference call

Recall last week Richard Lee and I went down to a meeting at DOE with secretary Chu. He was pulling together a brain trust from academia and the national labs to "think outside the box" about ways to help the Japanese cope with the Fukushima disaster.

After the meeting, they agreed to get back together via conference calls.

I missed the call yesterday because I was briefing hill staffers at the time of the call.

I participated in the one today. It was scheduled for an hour, but took 1.5 hours. The Secretary of Energy was on the call initially, although I did not hear him participate in the conversations, so he might have slipped out the back door.

The gist of these conversations is this brain trust pontificating about how to measure water level in the SFP, how to get fresh water into the reactor, etc.

Interesting as it is, I think I have more important things to focus on right now. Is it possible for Richard to participate in these calls for me? He attended the meeting, so he know who the people are that are on the phone.

The next conference call is at 12:30 pm tomorrow. The call-in number is 202-586-2535.

Let me know if Richard can participate in the call. Thanks.

Lee, Richard

From: Zigh, Ghani
Sent: Tuesday, March 22, 2011 9:37 AM
To: Santiago, Patricia; Navarro, Carlos
Cc: Lee, Richard; Wagner, Katie; Gibson, Kathy; Elkins, Scott
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Scott passed by my office and talked to me.
He said that he is going to talk to Brian and see if he wants those numbers in the report taken out.
If he does, then we will take out those numbers on the hard copy and hand it Brian.

From: Santiago, Patricia
Sent: Tuesday, March 22, 2011 9:04 AM
To: Zigh, Ghani; Navarro, Carlos
Cc: Lee, Richard; Wagner, Katie; Gibson, Kathy; Elkins, Scott
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Once the redaction is done, can you provide it to Brian with copy to all.

Can you let Scott know when this will be done so he can let Brian know what to say to NEI.

Thanks Ghani and Carlos!

From: Zigh, Ghani
Sent: Tuesday, March 22, 2011 8:43 AM
To: Santiago, Patricia; Gibson, Kathy; Elkins, Scott
Cc: Navarro, Carlos; Lee, Richard
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

The document has information that need to be taken out.
That is how we agreed with the OECD partners for the PWR Zirc fire project.
These information include the power used to get zirc fire and the location of the zirc fire for both parts of the experiment.

From: Santiago, Patricia
Sent: Tuesday, March 22, 2011 8:39 AM
To: Gibson, Kathy; Elkins, Scott
Cc: Zigh, Ghani; Navarro, Carlos; Lee, Richard
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Thanks

Via this email can I ask ---

Richard Lee – I will ask you to find out from OGC if we can release OUO to NEI unless you already know.

Carlos/Ghani – let me know what you determine on release (Carlos an agreement?)
thanks

From: Gibson, Kathy
Sent: Tuesday, March 22, 2011 8:37 AM
To: Santiago, Patricia; Elkins, Scott

Cc: Zigh, Ghani; Navarro, Carlos; Lee, Richard

Subject: Re: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Check with Richard. He has lead for document requests and has been in contact with OGC on this topic.

From: Santiago, Patricia

To: Elkins, Scott; Gibson, Kathy

Cc: Zigh, Ghani; Navarro, Carlos

Sent: Tue Mar 22 08:31:47 2011

Subject: FW: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

FYI I believe this is what Brian wants for NEI. It is OUO. I talked to Carlos and he was going to follow with Ghani. Carlos believes we have some agreement or will check to see if we can release OUO to NEI.
thanks

From: Santiago, Patricia

Sent: Friday, March 18, 2011 6:36 PM

To: Tadesse, Rebecca

Cc: Bubar, Patrice; Sheron, Brian; Rini, Brett; Uhle, Jennifer; Gibson, Kathy; Scott, Michael; Bowman, Gregory; Zigh, Ghani; Navarro, Carlos

Subject: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Rebecca,

I believe the attached report is what you are requesting ---- Final BWR Sandia Fuel Project (SFP) Sandia Report.

We also have a time lapse video (OUO as well) that we can make a copy and provide Monday.

If you have additional questions, Ghani Zigh is the best person to assist.

Thanks

Pat

Lee, Richard

From: Zigh, Ghani
Sent: Tuesday, March 22, 2011 8:48 AM
To: Santiago, Patricia; Navarro, Carlos
Cc: Elkins, Scott; Gibson, Kathy; Lee, Richard
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

I think we can shared it after we take the numbers I talked about in my past e-mail.

From: Santiago, Patricia
Sent: Tuesday, March 22, 2011 8:45 AM
To: Navarro, Carlos; Zigh, Ghani
Cc: Elkins, Scott; Gibson, Kathy; Lee, Richard
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

OK

Ghani....is this our official function and do we release? My vote if Brian asks then it relates to an official government function and need to know that NEI Is attempting to aid Japan?

How far do we track this or do we let Brian determine that from the requestor?

Thanks Richard

From: Lee, Richard
Sent: Tuesday, March 22, 2011 8:43 AM
To: Gibson, Kathy; Santiago, Patricia; Elkins, Scott
Cc: Zigh, Ghani; Navarro, Carlos
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Spoke to Carlos and to Scott Elkins. The guidance from OGC/OIS is as follows with respect to OUO

NRC official make the determination, (1) needs to know, (2) need to carry out our official function. If the answers to both is YES, then NRC can release the OUO document..

Richard

From: Gibson, Kathy
Sent: Tuesday, March 22, 2011 8:37 AM
To: Santiago, Patricia; Elkins, Scott
Cc: Zigh, Ghani; Navarro, Carlos; Lee, Richard
Subject: Re: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Check with Richard. He has lead for document requests and has been in contact with OGC on this topic.

From: Santiago, Patricia
To: Elkins, Scott; Gibson, Kathy
Cc: Zigh, Ghani; Navarro, Carlos

Sent: Tue Mar 22 08:31:47 2011

Subject: FW: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

FYI I believe this is what Brian wants for NEI. It is OUO. I talked to Carlos and he was going to follow with Ghani. Carlos believes we have some agreement or will check to see if we can release OUO to NEI.
thanks

From: Santiago, Patricia

Sent: Friday, March 18, 2011 6:36 PM

To: Tadesse, Rebecca

Cc: Bubar, Patrice; Sheron, Brian; Rini, Brett; Uhle, Jennifer; Gibson, Kathy; Scott, Michael; Bowman, Gregory; Zigh, Ghani; Navarro, Carlos

Subject: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Rebecca,

I believe the attached report is what you are requesting ---- Final BWR Sandia Fuel Project (SFP) Sandia Report.

We also have a time lapse video (OUO as well) that we can make a copy and provide Monday.

If you have additional questions, Ghani Zigh is the best person to assist.

Thanks

Pat

Lee, Richard

From: Gauntt, Randall O [rogaunt@sandia.gov]
Sent: Tuesday, March 22, 2011 8:41 AM
To: Lee, Richard; McClellan, Yvonne
Subject: Re: SAND Reports and Letter Reports

I believe I have all of them on my laptop.
Randy

From: Lee, Richard [mailto:Richard.Lee@nrc.gov]
Sent: Tuesday, March 22, 2011 06:38 AM
To: McClellan, Yvonne
Cc: Gauntt, Randall O
Subject: RE: SAND Reports and Letter Reports

Thanks, Yvonne:
Ghani came in. And, I am sure he has all the reports. Finding them on ADAMS is another thing.

Richard

From: McClellan, Yvonne [mailto:ymcclel@sandia.gov]
Sent: Tuesday, March 22, 2011 8:36 AM
To: Lee, Richard
Cc: Gauntt, Randall O
Subject: RE: SAND Reports and Letter Reports
Importance: High

Richard,
I have attached the list of the titles of reports that Randy requested I send to you.

Ymac

From: McClellan, Yvonne
Sent: Tuesday, March 22, 2011 6:26 AM
To: 'richard.lee@nrc.gov'
Cc: Gauntt, Randall O
Subject: FW: BWR 7r fire SAND report

I cannot send this file through email because it is too large and it is OUO.
I will send the file through the RMFT system as an entrusted email. You will receive an email directing you on how to retrieve the file.

Let me know if you have any questions or issues in retrieving this file.

Regards,
Yvonne

From: McClellan, Yvonne
Sent: Tuesday, March 22, 2011 6:22 AM
To: 'Lee, Richard'

Cc: Gauntt, Randall O

Subject: RE: BWR Zr. fire SAND report

I have attached a file on the BWR Spent Fuel Pool Accident for your review.

YMac

Lee, Richard

From: Zigh, Ghani
Sent: Tuesday, March 22, 2011 8:43 AM
To: Santiago, Patricia; Gibson, Kathy; Elkins, Scott
Cc: Navarro, Carlos; Lee, Richard
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

The document has information that need to be taken out.
That is how we agreed with the OECD partners for the PWR Zirc fire project.
These information include the power used to get zirc fire and the location of the zirc fire for both parts of the experiment.

From: Santiago, Patricia
Sent: Tuesday, March 22, 2011 8:39 AM
To: Gibson, Kathy; Elkins, Scott
Cc: Zigh, Ghani; Navarro, Carlos; Lee, Richard
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Thanks

Via this email can I ask ---

Richard Lee – I will ask you to find out from OGC if we can release OUO to NEI unless you already know.

Carlos/Ghani – let me know what you determine on release (Carlos an agreement?)
thanks

From: Gibson, Kathy
Sent: Tuesday, March 22, 2011 8:37 AM
To: Santiago, Patricia; Elkins, Scott
Cc: Zigh, Ghani; Navarro, Carlos; Lee, Richard
Subject: Re: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Check with Richard. He has lead for document requests and has been in contact with OGC on this topic.

From: Santiago, Patricia
To: Elkins, Scott; Gibson, Kathy
Cc: Zigh, Ghani; Navarro, Carlos
Sent: Tue Mar 22 08:31:47 2011
Subject: FW: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

FYI I believe this is what Brian wants for NEI. It is OUO. I talked to Carlos and he was going to follow with Ghani. Carlos believes we have some agreement or will check to see if we can release OUO to NEI.
thanks

From: Santiago, Patricia
Sent: Friday, March 18, 2011 6:36 PM
To: Tadesse, Rebecca
Cc: Bubar, Patrice; Sheron, Brian; Rini, Brett; Uhle, Jennifer; Gibson, Kathy; Scott, Michael; Bowman, Gregory; Zigh, Ghani; Navarro, Carlos
Subject: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Rebecca,

I believe the attached report is what you are requesting ---- Final BWR Sandia Fuel Project (SFP) Sandia Report.

We also have a time lapse video (OUO as well) that we can make a copy and provide Monday.

If you have additional questions, Ghani Zigh is the best person to assist.

Thanks

Pat

Lee, Richard

From: Gauntt, Randall O [rogaunt@sandia.gov]
Sent: Tuesday, March 22, 2011 8:28 AM
To: McClellan, Yvonne; Lee, Richard
Subject: Re: BWR Zr. fire SAND report

Can you provide a list of all Yvonne? The same list we sent GE.

From: McClellan, Yvonne
Sent: Tuesday, March 22, 2011 06:25 AM
To: 'richard.lee@nrc.gov' <richard.lee@nrc.gov>
Cc: Gauntt, Randall O
Subject: FW: BWR Zr. fire SAND report

I cannot send this file through email because it is too large and it is OUO.
I will send the file through the RMFT system as an entrusted email. You will receive an email directing you on how to retrieve the file.

Let me know if you have any questions or issues in retrieving this file.

Regards,
Yvonne

From: McClellan, Yvonne
Sent: Tuesday, March 22, 2011 6:22 AM
To: 'Lee, Richard'
Cc: Gauntt, Randall O
Subject: RE: BWR Zr. fire SAND report

I have attached a file on the BWR Spent Fuel Pool Accident for your review.

YMac

Lee, Richard

From: McClellan, Yvonne [ymcclel@sandia.gov]
Sent: Tuesday, March 22, 2011 8:12 AM
To: Gauntt, Randall O; Lee, Richard
Subject: RE: BWR Zr. fire SAND report

If you could provide the title, I will send you a pdf of the file.
Ymac

From: Gauntt, Randall O
Sent: Tuesday, March 22, 2011 6:11 AM
To: 'Richard.Lee@nrc.gov'; McClellan, Yvonne
Subject: Re: BWR Zr. fire SAND report

We made a lot of reports. If you have a title, Yvonne can send them.

From: Lee, Richard [<mailto:Richard.Lee@nrc.gov>]
Sent: Tuesday, March 22, 2011 06:07 AM
To: Gauntt, Randall O
Subject: BWR Zr. fire SAND report

Randy:

Do you happen to have a pdf file on this? If you do, please e-mail me a copy.

Thx, Richard

T/120

Lee, Richard

From: Gauntt, Randall O [rogaunt@sandia.gov]
Sent: Tuesday, March 22, 2011 8:56 PM
To: Lee, Richard
Subject: Re: RE:

Thanks Richard.

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

From: Lee, Richard [mailto:Richard.Lee@nrc.gov]
Sent: Tuesday, March 22, 2011 06:40 PM
To: Pickering, Susan Y; Gauntt, Randall O; Humphries, Larry Laron
Cc: Orrell, Stanley A; Tinkler, Charles <Charles.Tinkler@nrc.gov>
Subject: RE: RE:

We do not need to have different labs running MELCOR and coming up with different answers. I do not know who asking ORNL to perform Fukushima Unit 4 spent fuel pool accident progression. Hence, please do not send MELCOR deck to ORNL.

From: Pickering, Susan Y [sypicke@sandia.gov]
Sent: Tuesday, March 22, 2011 8:11 PM
To: Gauntt, Randall O; Humphries, Larry Laron
Cc: Orrell, Stanley A; Tinkler, Charles; Lee, Richard
Subject: RE:

Without NRC approval, we can't share OUO information. We can't share proprietary information either w/o going thru the proper channels, e.g., NRC and GE. Rather than send them the tools, can we run the calcs for them and give them results? Overall, it would probably take less time.

From: Gauntt, Randall O
Sent: Tuesday, March 22, 2011 5:42 PM
To: Humphries, Larry Laron
Cc: Pickering, Susan Y; Orrell, Stanley A; charles.tinkler@nrc.gov; richard.lee@nrc.gov
Subject: RE:

Short answer is - we are not likely to hand over models to ORNL. Between you and me, a large reason is that they will try to run the models and either a) have a lot of instructional and explanatory questions requiring our nursing, b) have no end of questions on the code predictions and why, or c) generate public issues potentially in contrast with our ongoing work requiring our energy to explain the differences. All dilute our limited resources to respond to an unacceptable level.

This is the reality - in addition to the fact that we don't want our work over the past 10 years to be credited to ORNL.

You could convey to Juan that Sandia maintains tight configuration control over the decks and cannot disperse decks without NRC direction and participation. Proliferation of decks, even within our own ranks, has to be managed. Plus, all of the pragmatic reasons cited above. None of this would seem reasonable to ORNL, and I don't know how to respond aside from ignoring the requests mainly due to distraction.

Randy

From: Humphries, Larry Laron

Sent: Tuesday, March 22, 2011 3:52 PM

To: Gauntt, Randall O

Subject: FW:

Perhaps you can help Juan or if you like, refer him to Wagner.

-Larry

From: Carbajo, Juan J. [<mailto:carbajojj@ornl.gov>]

Sent: Saturday, March 19, 2011 12:22 PM

To: Humphries, Larry Laron

Subject:

Hi Larry,

It has been some time since we communicated, after my trip to SNL last January.

I was waiting for the advice of Randy Cole on modeling the split of blowdown stream into water and steam.

I am contacting you this time to ask you for a different favor.

We know here at ORNL that SNL has been involved in MELCOR calculations for the Fukushima reactor, in particular for the spent fuel pool of Unit 4.

I am sure you know all of this work.

We are here also doing some work for the Japanese reactors.

Will it be possible to get the actual dimensions of the pool of that reactor? And the fuel heat load?

Do you have a MELCOR model of the spent fuel in the pool?

Thanks and best regards.

Juan J. Carbajo

Oak Ridge National Laboratory

carbajojj@ornl.gov

(865)-574-5856

Lee, Richard

From: Schaperow, Jason
Sent: Tuesday, March 22, 2011 8:22 AM
To: Lee, Richard
Subject: FW: Requests

FYI.

From: Tinkler, Charles
Sent: Monday, March 21, 2011 3:17 PM
To: Santiago, Patricia; Chang, Richard; Wagner, Katie
Cc: Schaperow, Jason
Subject: Requests

Right now we have 2 actions we are following up

1. Clarification and assessment of potential radiological release source terms for Fukushima Units 3&4 spent fuel pools, earlier estimates were made based on earlier Peach Bottom analyses and followup is needed to address Fukushima and complete dryout and concrete attack, clarification sought by the PMT
2. We have received additional requests from Naval Reactors. These are being put on hold. Discussed with Brian Sheron

Charles Tinkler
Charles.Tinkler@nrc.gov

Lee, Richard

From: Wagner, Katie
Sent: Tuesday, March 22, 2011 7:47 AM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: RE: Requests
Attachments: image001.gif

Pat,

The items below are now on the sharepoint: <http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>

I entered both items as "Pending", though the note about the second item being put on hold was entered in the "Scope" section.

I will print out fresh reports soon and distribute them.

Thanks,
Katie

From: Santiago, Patricia
Sent: Monday, March 21, 2011 4:51 PM
To: Wagner, Katie
Cc: Lee, Richard
Subject: RE: Requests

Ok
They are separate...FYI Mike Scott will be gone for about 2 weeks and reports should go to Scott Elkins who is acting deputy.
thanks

From: Wagner, Katie
Sent: Monday, March 21, 2011 4:47 PM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: FW: Requests

Pat,

I have printed off today's EOB reports for Kathy and Mike and did not add the two items below because I was not sure if those were already encapsulated in item #22 on the Sharepoint. If those two are separate items, I will add them first thing tomorrow morning and put updated reports on Kathy and Mike's chairs.

Thanks,
Katie

From: Wagner, Katie
Sent: Monday, March 21, 2011 4:14 PM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: RE: Requests

Pat,

If I'm understanding this correctly, the 2 listed action items in the 3:17pm email are **in addition to** this entry:

22	3/20/2011	J. Uhle (RST Director) at Ops Center for Naval Reactors ! NEW	Jennifer.Uhle@nrc.gov	Jason Schaperow x7452 Charlie Tinkler x7496	SPB	The following was requested by Naval Reactors: 1) a written position from the NRC by morning whether we believe fuel debris is likely to eat through the concrete floor of the spent fuel pool and fall into the next lower floor of the reactor building 2) our MELCOR spent fuel pool input deck for Fukushima Daiichi Unit 4 and our results of calculations with this model 3) the reports we produced over the last several years on analysis of severe spent fuel pool accidents.	The following was requested: 1) a written position from the NRC by morning whether we believe fuel debris is likely to eat through the concrete floor of the spent fuel pool and fall into the next lower floor of the reactor building 2) our MELCOR spent fuel pool input deck for Fukushima Daiichi Unit 4 and our results of calculations with this model 3) the reports we produced over the last several years on analysis of severe spent fuel pool accidents.	Pending
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I just want to make sure I've got everything straight here . . .

Thanks,
Katie

From: Santiago, Patricia
Sent: Monday, March 21, 2011 4:07 PM
To: Wagner, Katie
Cc: Lee, Richard; Gibson, Kathy; Elkins, Scott
Subject: RE: Requests

Katie...add this for Jason/Charlie SPB/DSA.
thanks

From: Tinkler, Charles
Sent: Monday, March 21, 2011 3:17 PM
To: Santiago, Patricia; Chang, Richard; Wagner, Katie
Cc: Schaperow, Jason
Subject: Requests

Right now we have 2 actions we are following up

1. Clarification and assessment of potential radiological release source terms for Fukushima Units 3&4 spent fuel pools, earlier estimates were made based on earlier Peach Bottom analyses and followup is needed to address Fukushima and complete dryout and concrete attack, clarification sought by the PMT
2. We have received additional requests from Naval Reactors. These are being put on hold. Discussed with Brian Sheron

Charles Tinkler
Charles.Tinkler@nrc.gov

From: Coe, Doug
To: Beasley, Benjamin
Cc: Coyne, Kevin; Stutzke, Martin; Case, Michael; Richards, Stuart
Subject: FW: Funding Needs for Japan Follow-up - Resent to provide Attachment (Important Update)
Date: Tuesday, March 22, 2011 7:01:42 AM
Importance: High

Ben – the question below (see first email) about the possibility of accelerating GI-199 review will come up again. In part NRR will need to answer for the generic communication process, but we will also need to think about how our part might be accelerated, possibly using contractors to assist. The critical path as I understand it, is developing a method to evaluate SMA plants without a SPRA.

From: RidsResPmdaMail Resource
Sent: Tuesday, March 22, 2011 6:46 AM
To: Case, Michael; Richards, Stuart; Coe, Doug; Coyne, Kevin; Scott, Michael; Gibson, Kathy; Elkins, Scott
Cc: Rini, Brett; Hudson, Daniel; Armstrong, Kenneth; Rivera-Lugo, Richard; Ibarra, Jose; Sheron, Brian; Uhle, Jennifer; Valentin, Andrea; Grancorvitz, Teresa
Subject: FW: Funding Needs for Japan Follow-up - Resent to provide Attachment (Important Update)
Importance: High

Good Morning!

Please review the message below. (No action required at this time)

Thanks

Kevin

One Team/One Goal

Kevin D. Johnson
Research Information Specialist
Office of Nuclear Regulatory Research
RES/PMDA/HCCB
Email: Kevin.Johnson@nrc.gov
O6AO6a
Office: 301-251-7665

From: Jacobs-Baynard, Elizabeth
Sent: Monday, March 21, 2011 5:44 PM
To: Kasputys, Clare; RidsNroOd Resource; RidsNrrOd Resource; RidsNsirOd Resource; RidsResOd Resource; RidsFsmeOd Resource; RidsNmssOd Resource; RidsOgcMailCenter Resource; RidsCsoMailCenter Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; RidsOipMailCenter Resource
Cc: RidsNrrPmda Resource; RidsNroPmda Resource; RidsNsirPmda Resource; RidsResPmdaMail Resource; RidsFsmePbpaFmb Resource; RidsNmssTa Resource; Golder, Jennifer; Smolik, George; Muessle, Mary; Andersen, James; Allwein, Russell; Peterson, Gordon; Peterson, Gordon; Virgilio, Martin; Virgilio, Martin; Weber, Michael; Weber, Michael; Ash, Darren; Ash, Darren; Jacobs-Baynard, Elizabeth
Subject: RE: Funding Needs for Japan Follow-up - Resent to provide Attachment

T/124

Importance: High

Recalling e-mail. At this time, there is no need for offices to respond to the requested e-mail. OCFO has come up with rough estimates of the associated costs for near-term and long term tasks. Please be informed that there may be additional assistance requested from offices at a later date. Thanks for your support and cooperation.

Liz

From: Kasputys, Clare
Sent: Monday, March 21, 2011 4:18 PM
To: RidsNroOd Resource; RidsNrrOd Resource; RidsNsirOd Resource; RidsResOd Resource; RidsFsmeOd Resource; RidsNmssOd Resource; RidsOgcMailCenter Resource; RidsCsoMailCenter Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; RidsOipMailCenter Resource
Cc: RidsNrrPmda Resource; RidsNroPmda Resource; RidsNsirPmda Resource; RidsResPmdaMail Resource; RidsFsmePbpaFmb Resource; RidsNmssTa Resource; Golder, Jennifer; Smolik, George; Muessle, Mary; Andersen, James; Jacobs-Baynard, Elizabeth; Allwein, Russell; Peterson, Gordon; Peterson, Gordon; Virgilio, Martin; Virgilio, Martin; Weber, Michael; Weber, Michael; Ash, Darren; Ash, Darren
Subject: Funding Needs for Japan Follow-up - Resent to provide Attachment

Resent to provide the Attachment

All,

The Chairman has requested for the NRC to conduct a Near-term (90 day effort) and a longer-term review (as discussed by Bill B at the Commission meeting today) of regulatory issues affecting U.S. operating reactors based on the events in Japan. The Chairman is interested in seeking supplemental funding to support our efforts for the above effort, in addition to NRC's costs associated with emergency response and technical experts sent to Japan. OCFO is preparing cost data associated with emergency response and technical support to Japan.

On Friday, the OCFO requested some initial estimates to support the reviews (see attached). At this time, we are requesting the offices to review these initial estimates and include some information concerning the work that is envisioned to support these reviews. Listed below are some initial thoughts about the scope of the near-term and long-term reviews. Also, consider what on-going efforts related to the development of our regulatory program could benefit with supplemental funding. For example, it was mentioned in the Commission meeting that NRC is currently working on GSI-199. Should funding be accelerated for this effort and others of this nature.

Near Term Review (90 day effort):

- Evaluate currently available technical and operational information from the Japan event to identify near-term (or immediate) operational or regulatory issues affecting U.S. operating reactors of all designs in areas such as protection against earthquakes, tsunami, flooding, hurricanes, station blackout and a degraded ability to restore power; severe accident mitigation and emergency preparedness
- Develop recommendations for generic communications, orders, changes to inspection procedures and licensing review guidance, etc.
- Possibly prepare a 30 day quick look report

Longer-Term Review (Following obtaining sufficient technical information from the Japan event)

- Evaluate all technical and policy issues related to the event to identify additional research, generic issues, changes to the reactor oversight process, rulemakings and adjustments to the regulatory framework that should be conducted by the NRC.
- Evaluate interagency issues such as emergency preparedness.
- Applicability of the lessons learned to non-operating reactor and non-reactor facilities.

It is recognized that the full scope of the reviews has yet to be determined or the size of the group that will be conducting the analysis. Therefore, we are looking only for rough cost estimates. You are requested to send the level of funding (dollars and FTE) that is anticipated that could be obligated in FY 2011 for both the near-term and long-term efforts. We are asking the business line leads to coordinate with supporting offices and submit a response by business line and by office. Please send your responses to me and Liz Jacobs-Baynard and copy Jennifer Golder and George Smolik, OCFO NLT than Noon on Tuesday.

If you have any questions, please let me know.

Thank you for your support.

From: [Sheron, Brian](#)
To: [Case, Michael](#); [Richards, Stuart](#)
Subject: FW: Earthquake info
Date: Monday, March 21, 2011 9:13:12 PM

See below. Please make sure Annie responds to Becky first thing tomorrow morning. Thanks.

From: Schmidt, Rebecca
Sent: Monday, March 21, 2011 9:09 PM
To: Kammerer, Annie; Sheron, Brian
Cc: Powell, Amy
Subject: Fw: Earthquake info

So this what I sent and Sen Boxer's staff came back with three questions. First, they asked if all others plants fall in the low category. (I assume so but I thought I would check). Second, what is the definition of seismicity? Third, what are the definitions of high, moderate and low? Are there some scientific parameters? The Senator is touring Diablo Canyon tomorrow so I need an answer tomorrow morning.

From: Schmidt, Rebecca
To: Dedrick, Kathy (EPW) <Kathy_Dedrick@epw.senate.gov>; Bettina_poirier@epw.senate.gov
<Bettina_poirier@epw.senate.gov>
Cc: Powell, Amy; Batkin, Joshua
Sent: Mon Mar 21 17:43:07 2011
Subject: Earthquake info

Press info – I talked to our Director of Public Affairs and will follow up with a call to you.

Earthquake info –

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 are appropriate for their locations. In addition, the NRC has specified a minimum ground motion level to which nuclear plants must be designed. The designation of type of zone is open to interpretation but a conservative interpretation – meaning a larger zone—would include the following preliminary estimates:

High Seismicity—Diablo Canyon, SONGS

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

I do not have a definition of High or Moderate but I wanted to get this to you now

T/125

From: Flory, Shirley
To: Rini, Brett; Ibarra, Jose; Rivera-Lugo, Richard; Armstrong, Kenneth; Case, Michael; Coe, Doug; Coyne, Kevin; Gibson, Kathy; Richards, Stuart; Sangimino, Donna-Marie; Scott, Michael; Sheron, Brian; Uhle, Jennifer; Valentin, Andrea
Subject: FW: EDO Alignment/Pre-briefs for Commission Meetings
Date: Tuesday, March 22, 2011 2:14:56 PM
Attachments: EDO Alignment, Prebriefs for CM Meetings.doc

NOTE MEETINGS RE JAPANESE EVENTS – THANKS -SHIRLEY

From: Taylor, Renee
Sent: Tuesday, March 22, 2011 2:09 PM
To: Andersen, James; Ash, Darren; Blount, Tom; Boger, Bruce; Borchardt, Bill; Bowman, Adriane; Boyce, Thomas (OIS); Boyd, Lena; Buckley, Patricia; Cannady, Ashley; Carpenter, Cynthia; Casby, Marcia; Casto, Chuck; Ciani, Sandra; Cohen, Miriam; Collins, Elmo; Collins, Jay; Cooper, LaToya; Corley, Cherrie; Damiano, Debra; Dapas, Marc; Dean, Bill; Dubose, Sheila; EDO_ETAs; Evans, Michele; Flory, Shirley; Garland, Stephanie; Givvines, Mary; Greene, LaTosha; Grobe, Jack; Haney, Catherine; Hasan, Nasreen; Higginbotham, Tina; Holahan, Gary; Howard, Patrick; Johnson, Michael; Kelley, Corenthis; Landau, Mindy; Lee, Pamela; Leeds, Eric; Lockhart, Denise; Lubinski, John; Mamish, Nader; Matakas, Gina; Mayberry, Theresa; McClain, Nicole; McCrary, Cheryl; McCree, Victor; McGinty, Tim; Miles, Patricia; Miller, Charles; Mitchell, Matthew; Muessle, Mary; ODaniell, Cynthia; Owen, Lucy; Pederson, Cynthia; Penny, Melissa; Plisco, Loren; Quesenberry, Jeannette; Riddick, Nicole; Ronewicz, Lynn; Ross, Brenda; Salus, Amy; Satorius, Mark; Scarbrough, Thomas; Schaeffer, James; Schumann, Stacy; Schwarz, Sherry; Sheron, Brian; Sprogeris, Patricia; Tannenbaum, Anita; Taylor, Renee; Terry, Leslie; Thomas, Loretta; Tomczak, Tammy; Uhle, Jennifer; Veltri, Debra; Virgilio, Martin; Walker, Dwight; Weber, Michael; Wiggins, Jim; Williams, Barbara; Zimmerman, Roy
Subject: EDO Alignment/Pre-briefs for Commission Meetings

An updated EDO Alignment/Pre-brief listing is attached. Please ensure that your calendar reflects the changes as needed.

Thank you,
Renee

7/126

EDO ALIGNMENT/PRE-BRIEFS FOR COMMISSION MEETINGS

Updated: 03/22/11

03/24/11 (POSTPONED – New Date TBD)

(9:00 – 12:30)

Part 50.46a Rulemaking Risk-Informed ECCS Rule

EDO Alignment: 01/31/11 @ 4:00 pm

EDO Pre-brief: 03/14/11 @ 4:00 pm

03/29/11

(9:00 – 12:00)

Small Modular Reactors

EDO Alignment: 01/27/11 @ 1:30 pm

EDO Pre-brief: 03/17/11 @ 3:00 pm

03/31/11 (Closed)

(2:30 – 3:30)

Discussion of Management Issues

EDO Alignment: CANCELLED NOT NEEDED - 02/01/11 @ 3:00 pm

EDO Pre-brief: CANCELLED NOT NEEDED - 03/21/11 @ 3:00 pm

04/14/11

(TBD)

Japanese Earthquake Status – Focus on Health Effects of Radiation

EDO Alignment: 03/28/11 @ 3:00 pm (Joint meeting with 4/28 CM Alignment)

EDO Pre-brief: 04/06/11 @ 4:00 pm

04/19/11

(9:00 – 12:00)

Part 37 Rulemaking – Physical Protection & Byproduct Material

EDO Alignment: 02/10/11 @ 1:00 pm

EDO Pre-brief: 03/31/11 @ 10:00 am

04/28/11

(TBD)

Japanese Earthquake Status – Focus on Station Black-Out

EDO Alignment: 03/28/11 @ 3:00 pm (Joint meeting with 4/14 CM Alignment)

EDO Pre-brief: 04/14/11 @ 10:00 am

04/28/11 (POSTPONED – New Date TBD)

(9:00 – 12:15)

ITAAC Related Activities

EDO Alignment: CANCELLED - 02/28/11 @ 3:30 pm

EDO Pre-brief: CANCELLED - 04/18/11 @ 4:00 pm

05/03/11

(TBD)

Near Term Tasking – 30 Day Quick Look

EDO Alignment: 04/07/11 @ 4:00 pm

(Tentative – Joint meeting with 6/16 CM Alignment)

EDO Pre-brief: 04/18/11 @ 4:00 pm

05/12/11 (Rescheduled from 06/02/11)

(9:00 – 12:00)

Final EP Rule

EDO Alignment: 04/07/11 @ 1:00 pm (Rescheduled from 04/06/11)

EDO Pre-brief: 05/02/11 @ 3:00 pm (Rescheduled from 05/17/11)

05/12/11 (POSTPONED – New Date TBD)

(9:00 – 12:00)

Cumulative Effects of Reactor Regulation

EDO Alignment: CANCELLED - 03/22/11 @ 9:00 am

EDO Pre-brief: CANCELLED - 05/02/11 @ 3:00 pm

05/27/11

(9:00 – 12:00)

Briefing on Results of AARM

EDO Alignment: CANCELLED NOT NEEDED - 03/28/11 @ 3:00 pm

EDO Pre-brief: 05/12/11 @ 3:00 pm

06/02/11 (Rescheduled from 05/03/11)

(9:30 – 10:30)

Human Capital and EEO

EDO Alignment: 03/17/11 @ 1:00 pm

EDO Pre-brief: 05/04/11 @ 4:00 pm (Rescheduled from 04/26/11)

06/06/11

(9:00 – 12:00)

Potential Meeting w/ACRS

EDO Alignment: 03/29/11 @ 4:00 pm

EDO Pre-brief: 05/19/11 @ 3:00 pm

06/16/11

(TBD)

Near Term Tasking – 60 Day Quick Look

EDO Alignment: 04/07/11 @ 4:00 pm

(Tentative – Joint meeting with 5/3 CM Alignment)

EDO Pre-brief: 06/02/11 @ 4:00 pm

(POSTPONED – Date TBD) 06/16/11

(9:00 – 12:00)

International Activities or Potential Meeting w/ACRS

EDO Alignment: CANCELLED - 04/26/11 @ 1:00 pm

EDO Pre-brief: CANCELLED - 06/06/11 @ 3:00 pm

NOTE: Please be aware that this list is organized by the Commission meeting date. EDO Alignment meetings are generally scheduled approximately 60 days prior to the Commission meeting. EDO Pre-briefs are scheduled approximately 2 weeks prior to the Commission meeting. All meetings are scheduled based on the availability of the EDO/DEDOs calendars. All meetings are held in conference room O-17B4.

From: Sheron, Brian
To: Case, Michael; Coe, Doug; Correia, Richard; Gibson, Kathy; Lui, Christiana; Richards, Stuart; Sangimino, Donna-Marie; Scott, Michael; Uhle, Jennifer; Valentin, Andrea
Subject: FW: EDO Alignment/Pre-briefs for Commission Meetings
Date: Tuesday, March 22, 2011 2:26:04 PM
Attachments: EDO Alignment. Prebriefs for CM Meetings.doc

From: Taylor, Renee
Sent: Tuesday, March 22, 2011 2:09 PM
To: Andersen, James; Ash, Darren; Blount, Tom; Boger, Bruce; Borchardt, Bill; Bowman, Adriane; Boyce, Thomas (OIS); Boyd, Lena; Buckley, Patricia; Cannady, Ashley; Carpenter, Cynthia; Casby, Marcia; Casto, Chuck; Cianci, Sandra; Cohen, Miriam; Collins, Elmo; Collins, Jay; Cooper, LaToya; Corley, Cherrie; Damiano, Debra; Dapas, Marc; Dean, Bill; Dubose, Sheila; EDO ETAs; Evans, Michele; Flory, Shirley; Garland, Stephanie; Givvines, Mary; Greene, LaTosha; Grobe, Jack; Haney, Catherine; Hasan, Nasreen; Higginbotham, Tina; Holahan, Gary; Howard, Patrick; Johnson, Michael; Kelley, Corenthis; Landau, Mindy; Lee, Pamela; Leeds, Eric; Lockhart, Denise; Lubinski, John; Mamish, Nader; Matakas, Gina; Mayberry, Theresa; McClain, Nicole; McCrary, Cheryl; McCree, Victor; McGinty, Tim; Miles, Patricia; Miller, Charles; Mitchell, Matthew; Muessle, Mary; ODaniell, Cynthia; Owen, Lucy; Pederson, Cynthia; Penny, Melissa; Plisco, Loren; Quesenberry, Jeannette; Riddick, Nicole; Ronewicz, Lynn; Ross, Brenda; Salus, Amy; Satorius, Mark; Scarbrough, Thomas; Schaeffer, James; Schumann, Stacy; Schwarz, Sherry; Sheron, Brian; Sprogeris, Patricia; Tannenbaum, Anita; Taylor, Renee; Terry, Leslie; Thomas, Loretta; Tomczak, Tammy; Uhle, Jennifer; Veltri, Debra; Virgilio, Martin; Walker, Dwight; Weber, Michael; Wiggins, Jim; Williams, Barbara; Zimmerman, Roy
Subject: EDO Alignment/Pre-briefs for Commission Meetings

An updated EDO Alignment/Pre-brief listing is attached. Please ensure that your calendar reflects the changes as needed.

Thank you,
Renee

T/127

EDO ALIGNMENT/PRE-BRIEFS FOR COMMISSION MEETINGS

Updated: 03/22/11

03/24/11 (POSTPONED – New Date TBD)

(9:00 – 12:30)

Part 50.46a Rulemaking Risk-Informed ECCS Rule

EDO Alignment: 01/31/11 @ 4:00 pm

EDO Pre-brief: 03/14/11 @ 4:00 pm

03/29/11

(9:00 – 12:00)

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(2:30 – 3:30)

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EDO Pre-brief: CANCELLED NOT NEEDED - 03/21/11 @ 3:00 pm

04/14/11

(TBD)

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EDO Pre-brief: 04/06/11 @ 4:00 pm

04/19/11

(9:00 – 12:00)

Part 37 Rulemaking – Physical Protection & Byproduct Material

EDO Alignment: 02/10/11 @ 1:00 pm

EDO Pre-brief: 03/31/11 @ 10:00 am

04/28/11

(TBD)

Japanese Earthquake Status – Focus on Station Black-Out

EDO Alignment: 03/28/11 @ 3:00 pm (Joint meeting with 4/14 CM Alignment)
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04/28/11 (POSTPONED – New Date TBD)

(9:00 – 12:15)

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EDO Alignment: CANCELLED - 02/28/11 @ 3:30 pm
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05/03/11

(TBD)

Near Term Tasking – 30 Day Quick Look

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(Tentative – Joint meeting with 6/16 CM Alignment)
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05/12/11 (Rescheduled from 06/02/11)

(9:00 – 12:00)

Final EP Rule

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EDO Pre-brief: 05/02/11 @ 3:00 pm (Rescheduled from 05/17/11)

05/12/11 (POSTPONED – New Date TBD)

(9:00 – 12:00)

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05/27/11

(9:00 – 12:00)

Briefing on Results of AARM

EDO Alignment: CANCELLED NOT NEEDED - 03/28/11 @ 3:00 pm
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Human Capital and EEO

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06/06/11

(9:00 – 12:00)

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06/16/11

(TBD)

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(Tentative – Joint meeting with 5/3 CM Alignment)

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(POSTPONED – Date TBD) 06/16/11

(9:00 – 12:00)

International Activities or Potential Meeting w/ACRS

EDO Alignment: CANCELLED - 04/26/11 @ 1:00 pm

EDO Pre-brief: CANCELLED - 06/06/11 @ 3:00 pm

NOTE: Please be aware that this list is organized by the Commission meeting date. EDO Alignment meetings are generally scheduled approximately 60 days prior to the Commission meeting. EDO Pre-briefs are scheduled approximately 2 weeks prior to the Commission meeting. All meetings are scheduled based on the availability of the EDO/DEDOs calendars. All meetings are held in conference room O-17B4.

From: Pires, Jose
To: Case, Michael; Richards, Stuart
Subject: FW: Earthquake info - From Sen Boxer
Date: Tuesday, March 22, 2011 8:07:54 AM

Annie has done this already.

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

From: Kammerer, Annie
Sent: Tuesday, March 22, 2011 8:06 AM
To: Pires, Jose
Subject: RE: Earthquake info - From Sen Boxer

Already done. Thanks,

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

From: Pires, Jose
Sent: Tuesday, March 22, 2011 8:05 AM
To: Kammerer, Annie
Subject: FW: Earthquake info - From Sen Boxer
Importance: High

Annie,

Please see the request for information from the office of congressional affairs and Brian Sheron. Three questions (dealing with low, moderate and high seismicity):

- First, they asked if all others plants fall in the low category
- Second, what is the definition of seismicity?
- Third, what are the definitions of high, moderate and low?

I will call you as well.

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

From: Case, Michael
Sent: Tuesday, March 22, 2011 6:29 AM
To: Pires, Jose
Cc: Richards, Stuart
Subject: FW: Earthquake info

Hi Jose. Could you follow up with Annie in the morning? Thanks.

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

From: Sheron, Brian
Sent: Monday, March 21, 2011 9:12 PM
To: Case, Michael; Richards, Stuart
Subject: FW: Earthquake info

See below. Please make sure Annie responds to Becky first thing tomorrow morning. Thanks.

From: Schmidt, Rebecca
Sent: Monday, March 21, 2011 9:09 PM
To: Kammerer, Annie; Sheron, Brian
Cc: Powell, Amy
Subject: Fw: Earthquake info

So this what I sent and Sen Boxer's staff came back with three questions. First, they asked if all others plants fall in the low category. (I assume so but I thought I would check). Second, what is the definition of seismicity? Third, what are the definitions of high, moderate and low? Are there some scientific parameters? The Senator is touring Diablo Canyon tomorrow so I need an answer tomorrow morning.

7/128

From: Schmidt, Rebecca
To: Dedrick, Kathy (EPW) <Kathy_Dedrick@epw.senate.gov>; Bettina_poirier@epw.senate.gov
<Bettina_poirier@epw.senate.gov>
Cc: Powell, Amy; Batkin, Joshua
Sent: Mon Mar 21 17:43:07 2011
Subject: Earthquake info

Press info – I talked to our Director of Public Affairs and will follow up with a call to you.

Earthquake info –

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 are appropriate for their locations. In addition, the NRC has specified a minimum ground motion level to which nuclear plants must be designed. The designation of type of zone is open to interpretation but a conservative interpretation – meaning a larger zone—would include the following preliminary estimates:

High Seismicity—Diablo Canyon, SONGS

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

I do not have a definition of High or Moderate but I wanted to get this to you now

From: [Kammerer, Annie](#)
To: [Case, Michael](#); [Richards, Stuart](#)
Cc: [Rini, Brett](#)
Subject: FW: ACTION: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Date: Tuesday, March 22, 2011 8:55:58 PM
Attachments: [gbj11-0002.srm.docx](#)
Importance: High

Ummmm. Not sure why I got this except that Brett doesn't realize I'm just a low level government functionary.

I don't see a problem, except that the agency is challenged human resource wise at the moment in the sense that the supporting technical staff can't do this and do our regular jobs too. Deadlines are going to have to slip, particularly for NRO staff. Another problem is that it is going to take a while to get the input to really understand what happened. It took me nearly 3 years to get full set of KKNPP data! Maybe this will be different because it went wrong instead of going right. A 90 day time frame is good for the first part, but I don't think we'll have much data in 90 days.

This actually gives me a chance to ask a question. I'm getting a lot of ideas, issues, etc. sent to me simply because people don't know where else to send them. Should I file them all and provide to the panel once it get's going? That's all I can see to do at the moment. For example, some are comments on spent fuel pools and the fact that the pools are rated, but not all the systems that feed them water are. I got a similar thing today from a plant where a Cat 1 piece of equipment relies on a piece that is not Cat 1. She wrote that we assure that the equipment survives, but we don't assure that the "functionality" of important equipment survives.

Cheers,
Annie

From: Rini, Brett
Sent: Tuesday, March 22, 2011 3:47 PM
To: Rivera-Lugo, Richard; Ibarra, Jose; Armstrong, Kenneth; Kammerer, Annie
Subject: FW: ACTION: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Importance: High

I know everyone's busy, so these ASAP requests are rather annoying.

Can you print out the attached SRM that I sent out and run it past your management for any showstoppers?

Thanks,

Brett

From: Rini, Brett
Sent: Tuesday, March 22, 2011 3:27 PM
To: Case, Michael; Richards, Stuart; Gibson, Kathy; Elkins, Scott; Coe, Doug; Coyne, Kevin
Cc: Rivera-Lugo, Richard; Armstrong, Kenneth; Ibarra, Jose; Ramirez, Annie; Sheron, Brian; Uhle, Jennifer
Subject: ACTION: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)

7/129

Importance: High

Division Directors,

Please see the attached SRM regarding follow-up actions from the events in Japan. As indicated below, "as provided in the Internal Commission Procedures, the staff is "...afforded an opportunity to review the SRM to ensure that the Commission decision is clear and understandable and that resource, schedular, and legal constraints are properly considered."

Please send me any major problems that you see with the attached by COB today.

Thank you in advance for addressing this (additional) short turnaround request.

Brett

From: Sheron, Brian
Sent: Tuesday, March 22, 2011 2:04 PM
To: Rini, Brett
Subject: FW: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Importance: High

Brett, please have division review and let me know if any major problems or show-stoppers.

From: RidsEdoDraftSrmVote Resource
Sent: Tuesday, March 22, 2011 1:58 PM
To: Ash, Darren; Borchardt, Bill; Boyd, Lena; Buckley, Patricia; Clarke, Deanna; Cohen, Miriam; EDO_Staff_Assistants; Flory, Shirley; Fry, Jeannie; Garland, Stephanie; Johnson, Michael; Mamish, Nader; Matakas, Gina; Miles, Patricia; Miller, Charles; Owen, Lucy; Riddick, Nicole; RidsAdmMailCenter Resource; RidsCsoMailCenter Resource; RidsFsmeOd Resource; RidsHrMailCenter Resource; RidsNmssOd Resource; RidsNroMailCenter Resource; RidsNrrOd Resource; RidsNsirMailCenter Resource; RidsOeMailCenter Resource; RidsOiMailCenter Resource; RidsOIS Resource; RidsResOd Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; RidsSbcrMailCenter Resource; Thomas, Loretta; Virgilio, Martin; Walker, Dwight; Weber, Michael
Subject: FW: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Importance: High

From: Wright, Darlene
Sent: Tuesday, March 22, 2011 1:19 PM
To: Baggett, Steven; Bates, Andrew; Batkin, Joshua; Baval, Rochelle; Blake, Kathleen; Bozin, Sunny; Bradford, Anna; Bubar, Patrice; Bupp, Margaret; Burns, Stephen; Chairman Temp; Clark, Lisa; Coggins, Angela; Cordes, John; Crawford, Carrie; Davis, Roger; Fopma, Melody; Franovich, Mike; Gibbs, Catina; Hackett, Edwin; Hart, Ken; Harves, Carolyn; Henderson, Karen; Herr, Linda; Hipschman, Thomas; Hudson, Sharon; Joosten, Sandy; KLS Temp; Kock, Andrea; Laufer, Richard; Lepre, Janet; Loyd, Susan; Mamish, Nader; Marshall, Michael; Monninger, John; Moore, Scott; Orders, William; Pace, Patti; Poole, Brooke; Reddick, Darani; RidsEdoDraftSrmVote Resource; Rothschild, Trip; Savoy, Carmel; Sharkey, Jeffrey; Shea, Pamela; Snodderly, Michael; Sosa, Belkys; Speiser, Herald; Svinicki, Kristine; Temp, GEA; Temp, WCO; Temp, WDM; Thoma, John; Vietti-Cook, Annette; Warren, Roberta; Zorn, Jason; Tadesse, Rebecca; Joosten, Sandy; Castleman, Patrick; Montes, David; Dhir, Neha; Adler, James; Jimenez, Patricia; Muessle, Mary; Nieh, Ho; Ostendorff, William; Warnick, Greg; Apostolakis, George; Pearson, Laura; Lui, Christiana; Lisann, Elizabeth
Cc: Lewis, Antoinette
Subject: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)

Importance: High

The attached file contains a draft SRM which is being circulated for Commission review. Your response is requested as soon as practical today. As provided in the Internal Commission Procedures, the staff is "...afforded an opportunity to review the SRM to ensure that the Commission decision is clear and understandable and that resource, scheduler, and legal constraints are properly considered." Please provide any responses to Ken Hart (KRH), Richard Laufer (R JL), Rochelle Bovol (RCB5), and Pam Shea (PWS).

From: Richards, Stuart
To: Rini, Brett
Cc: Case, Michael; Rivera-Lugo, Richard
Subject: RE: ACTION: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Date: Tuesday, March 22, 2011 4:07:14 PM

Brett

Under the Longer Term Review, there is a bullet that states:

"The task force should provide a report with recommendations, as appropriate, to the Commission within six months from the start of the evaluation for Commission policy direction."

It would help to clarify if the six months mentioned above begins with the start of the short term review (meaning a due date of about six months from now), or whether it begins with the completion of the short term review (meaning a due date of about nine months from now).

Additionally, Commissioner Apostolakis inserted a requirement that the longer term review report go to the ACRS prior to the Commission. It's not clear that the SRM accounts for the time this step removes from the staff to complete the report. Depending on the level of ACRS review and comment, plus staff presentations to the ACRS, plus revising the report to address ACRS issues, this could take 1 – 3 months. Assuming that the longer term review commences upon completion of the short term review, the staff should have six months to prepare their report before submittal to the ACRS. The schedule to provide the report to the Commission should reflect this.

Stu

From: Rini, Brett
Sent: Tuesday, March 22, 2011 3:27 PM
To: Case, Michael; Richards, Stuart; Gibson, Kathy; Elkins, Scott; Coe, Doug; Coyne, Kevin
Cc: Rivera-Lugo, Richard; Armstrong, Kenneth; Ibarra, Jose; Ramirez, Annie; Sheron, Brian; Uhle, Jennifer
Subject: ACTION: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Importance: High

Division Directors,

Please see the attached SRM regarding follow-up actions from the events in Japan. As indicated below, "as provided in the Internal Commission Procedures, the staff is "...afforded an opportunity to review the SRM to ensure that the Commission decision is clear and understandable and that resource, schedular, and legal constraints are properly considered."

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Thank you in advance for addressing this (additional) short turnaround request.

Brett

7/130

From: Sheron, Brian
Sent: Tuesday, March 22, 2011 2:04 PM
To: Rini, Brett
Subject: FW: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Importance: High

Brett, please have division review and let me know if any major problems or show-stoppers.

From: RidsEdoDraftSrmVote Resource
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Importance: High

From: Wright, Darlene
Sent: Tuesday, March 22, 2011 1:19 PM
To: Baggett, Steven; Bates, Andrew; Batkin, Joshua; Baval, Rochelle; Blake, Kathleen; Bozin, Sunny; Bradford, Anna; Bubar, Patrice; Bupp, Margaret; Burns, Stephen; Chairman Temp; Clark, Lisa; Coggins, Angela; Cordes, John; Crawford, Carrie; Davis, Roger; Fopma, Melody; Franovich, Mike; Gibbs, Catina; Hackett, Edwin; Hart, Ken; Harves, Carolyn; Henderson, Karen; Herr, Linda; Hipschman, Thomas; Hudson, Sharon; Joosten, Sandy; KLS Temp; Kock, Andrea; Laufer, Richard; Lepre, Janet; Loyd, Susan; Mamish, Nader; Marshall, Michael; Monninger, John; Moore, Scott; Orders, William; Pace, Patti; Poole, Brooke; Reddick, Darani; RidsEdoDraftSrmVote Resource; Rothschild, Trip; Savoy, Carmel; Sharkey, Jeffry; Shea, Pamela; Snodderly, Michael; Sosa, Belkys; Speiser, Herald; Svinicki, Kristine; Temp, GEA; Temp, WCO; Temp, WDM; Thoma, John; Vietti-Cook, Annette; Warren, Roberta; Zorn, Jason; Tadesse, Rebecca; Joosten, Sandy; Castleman, Patrick; Montes, David; Dhir, Neha; Adler, James; Jimenez, Patricia; Muessle, Mary; Nieh, Ho; Ostendorff, William; Warnick, Greg; Apostolakis, George; Pearson, Laura; Lui, Christiana; Lisann, Elizabeth
Cc: Lewis, Antoinette
Subject: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Importance: High

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From: Gray, Kathy
To: Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza; Gray, Kathy
Subject: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Date: Tuesday, March 22, 2011 12:04:27 PM
Importance: High

Please confirm that you are available to provide coverage in the Ops Center, as the RST Director, as follows:

Reactor Safety Team (RST) Director Schedule

March 26 – April 2, 2011

Shift	3/26 (Sat)	3/27 (Sun)	3/28 (Mon)	3/29 (Tues)	3/30 (Wed)	3/31 (Thur)	4/1 (Fri)	4/2 (Sat)
7am– 3pm	Pat Hiland	Pat Hiland	Pat Hiland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Brian Holian
3pm– 11pm	Bill Ruland	Fred Brown	Fred Brown	Fred Brown	Fred Brown	Bill Ruland	Bill Ruland	Bill Ruland
11pm– 7am	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen	Dave Skeen	Dave Skeen	Dave Skeen

Thanks very much.

Kathy A. Gray
Information Management Asst.
Operating Experience Branch, DIRS/NRR
Rm. O-7F04, Phone: 301-415-1166
Kathy.Gray@nrc.gov

T/131

From: Gray, Kathy
To: Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael; Holian, Brian; Dudes, Laura
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza; Gray, Kathy
Subject: ACTION: Confirmation requested for RST Director Schedule - 4/3-10/2011
Date: Tuesday, March 22, 2011 2:40:23 PM
Importance: High

Please confirm that you are available to provide coverage in the Ops Center, as the RST Director, as follows:

Reactor Safety Team (RST) Director Schedule

April 3 – April 10, 2011

Shift	4/3 (Sun)	4/4 (Mon)	4/5 (Tues)	4/6 (Wed)	4/7 (Thur)	4/8 (Fri)	4/9 (Sat)	4/10 (Sun)
7am– 3pm	Brian Holian	Brian Holian	Brian Holian	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen
3pm– 11pm	Bill Ruland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Pat Hiland	Pat Hiland	Pat Hiland
11pm– 7am	Laura Dudes	Laura Dudes	Laura Dudes	Laura Dudes	Fred Brown	Fred Brown	Fred Brown	Fred Brown

Thanks very much.

Kathy A. Gray

Information Management Asst.

Operating Experience Branch, DIRS/NRR

Rm. O-7F04, Phone: 301-415-1166

Kathy.Gray@nrc.gov

T/132

From: RidsResPmdaMail Resource
To: Case, Michael; Richards, Stuart; Coe, Doug; Coyne, Kevin; Scott, Michael; Gibson, Kathy; Elkins, Scott
Cc: Rini, Brett; Hudson, Daniel; Armstrong, Kenneth; Rivera-Lugo, Richard; Ibarra, Jose; Sheron, Brian; Uhle, Jennifer; Valentin, Andrea; Grancovitz, Teresa
Subject: FW: Funding Needs for Japan Follow-up - Resent to provide Attachment (Important Update)
Date: Tuesday, March 22, 2011 6:45:41 AM
Importance: High

Good Morning!

Please review the message below. (No action required at this time)

Thanks

Kevin

One Team/One Goal

Kevin D. Johnson
Research Information Specialist
Office of Nuclear Regulatory Research
RES/PMDA/HCCB
Email: Kevin.Johnson@nrc.gov
O6A06a
Office: 301-251-7665

From: Jacobs-Baynard, Elizabeth
Sent: Monday, March 21, 2011 5:44 PM
To: Kasputys, Clare; RidsNroOd Resource; RidsNrrOd Resource; RidsNsirOd Resource; RidsResOd Resource; RidsFsmeOd Resource; RidsNmssOd Resource; RidsOgcMailCenter Resource; RidsCsoMailCenter Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; RidsOipMailCenter Resource
Cc: RidsNrrPmda Resource; RidsNroPmda Resource; RidsNsirPmda Resource; RidsResPmdaMail Resource; RidsFsmePbpaFmb Resource; RidsNmssTa Resource; Golder, Jennifer; Smolik, George; Muessle, Mary; Andersen, James; Allwein, Russell; Peterson, Gordon; Peterson, Gordon; Virgilio, Martin; Virgilio, Martin; Weber, Michael; Weber, Michael; Ash, Darren; Ash, Darren; Jacobs-Baynard, Elizabeth
Subject: RE: Funding Needs for Japan Follow-up - Resent to provide Attachment
Importance: High

Recalling e-mail. At this time, there is no need for offices to respond to the requested e-mail. OCFO has come up with rough estimates of the associated costs for near-term and long term tasks. Please be informed that there may be additional assistance requested from offices at a later date. Thanks for your support and cooperation.

Liz

From: Kasputys, Clare
Sent: Monday, March 21, 2011 4:18 PM
To: RidsNroOd Resource; RidsNrrOd Resource; RidsNsirOd Resource; RidsResOd Resource; RidsFsmeOd Resource; RidsNmssOd Resource; RidsOgcMailCenter Resource; RidsCsoMailCenter Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; RidsOipMailCenter Resource

T/133

Cc: RidsNrrPmda Resource; RidsNroPmda Resource; RidsNsirPmda Resource; RidsResPmdaMail Resource; RidsFsmePbpaFmb Resource; RidsNmssTa Resource; Golder, Jennifer; Smolik, George; Muesle, Mary; Andersen, James; Jacobs-Baynard, Elizabeth; Allwein, Russell; Peterson, Gordon; Peterson, Gordon; Virgilio, Martin; Virgilio, Martin; Weber, Michael; Weber, Michael; Ash, Darren; Ash, Darren

Subject: Funding Needs for Japan Follow-up - Resent to provide Attachment

Resent to provide the Attachment

All,

The Chairman has requested for the NRC to conduct a Near-term (90 day effort) and a longer-term review (as discussed by Bill B at the Commission meeting today) of regulatory issues affecting U.S. operating reactors based on the events in Japan. The Chairman is interested in seeking supplemental funding to support our efforts for the above effort, in addition to NRC's costs associated with emergency response and technical experts sent to Japan. OCFO is preparing cost data associated with emergency response and technical support to Japan.

On Friday, the OCFO requested some initial estimates to support the reviews (see attached). At this time, we are requesting the offices to review these initial estimates and include some information concerning the work that is envisioned to support these reviews. Listed below are some initial thoughts about the scope of the near-term and long-term reviews. Also, consider what on-going efforts related to the development of our regulatory program could benefit with supplemental funding. For example, it was mentioned in the Commission meeting that NRC is currently working on GSI-199. Should funding be accelerated for this effort and others of this nature.

Near Term Review (90 day effort):

- Evaluate currently available technical and operational information from the Japan event to identify near-term (or immediate) operational or regulatory issues affecting U.S. operating reactors of all designs in areas such as protection against earthquakes, tsunamis, flooding, hurricanes, station blackout and a degraded ability to restore power; severe accident mitigation and emergency preparedness
- Develop recommendations for generic communications, orders, changes to inspection procedures and licensing review guidance, etc.
- Possibly prepare a 30 day quick look report

Longer-Term Review (Following obtaining sufficient technical information from the Japan event)

- Evaluate all technical and policy issues related to the event to identify additional research, generic issues, changes to the reactor oversight process, rulemakings and adjustments to the regulatory framework that should be conducted by the NRC.
- Evaluate interagency issues such as emergency preparedness.
- Applicability of the lessons learned to non-operating reactor and non-reactor facilities.

It is recognized that the full scope of the reviews has yet to be determined or the size of the group that will be conducting the analysis. Therefore, we are looking only for rough cost estimates. You are requested to send the level of funding (dollars and FTE)

that is anticipated that could be obligated in FY 2011 for both the near-term and long-term efforts. We are asking the business line leads to coordinate with supporting offices and submit a response by business line and by office. Please send your responses to me and Liz Jacobs-Baynard and copy Jennifer Golder and George Smolik, OCFO NLT than Noon on Tuesday.

If you have any questions, please let me know.

Thank you for your support.

From: Coe, Doug
To: Rini, Brett
Cc: Rivera-Lugo, Richard; Armstrong, Kenneth; Ibarra, Jose; Ramirez, Annie; Sheron, Brian; Uhle, Jennifer; Case, Michael; Richards, Stuart; Gibson, Kathy; Elkins, Scott; Coyne, Kevin
Subject: RE: ACTION: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Date: Tuesday, March 22, 2011 4:10:56 PM

Brett – DRA provides the following comments:

The first bullet makes the scope of the near term review ambiguous. Are the items in the list following “such as” intended to be non-inclusive and if so what is the intended scope?

The 6 month SECY suspense date does not appear to allow for the long-term effort to commence at the end of the near-term effort (as provided in the draft SRM) and still allow for an adequate ACRS review prior to finalization.

From: Rini, Brett
Sent: Tuesday, March 22, 2011 3:27 PM
To: Case, Michael; Richards, Stuart; Gibson, Kathy; Elkins, Scott; Coe, Doug; Coyne, Kevin
Cc: Rivera-Lugo, Richard; Armstrong, Kenneth; Ibarra, Jose; Ramirez, Annie; Sheron, Brian; Uhle, Jennifer
Subject: ACTION: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Importance: High

Division Directors,

Please see the attached SRM regarding follow-up actions from the events in Japan. As indicated below, “as provided in the Internal Commission Procedures, the staff is “...afforded an opportunity to review the SRM to ensure that the Commission decision is clear and understandable and that resource, schedular, and legal constraints are properly considered.”

Please send me any major problems that you see with the attached by COB today.

Thank you in advance for addressing this (additional) short turnaround request.

Brett

From: Sheron, Brian
Sent: Tuesday, March 22, 2011 2:04 PM
To: Rini, Brett
Subject: FW: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)
Importance: High

Brett, please have division review and let me know if any major problems or show-stoppers.

From: RidsEdoDraftSrmVote Resource
Sent: Tuesday, March 22, 2011 1:58 PM
To: Ash, Darren; Borchardt, Bill; Boyd, Lena; Buckley, Patricia; Clarke, Deanna; Cohen, Miriam;

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EDO_Staff_Assistants; Flory, Shirley; Fry, Jeannie; Garland, Stephanie; Johnson, Michael; Mamish, Nader; Matakas, Gina; Miles, Patricia; Miller, Charles; Owen, Lucy; Riddick, Nicole; RidsAdmMailCenter Resource; RidsCsoMailCenter Resource; RidsFsmeOd Resource; RidsHrMailCenter Resource; RidsNmssOd Resource; RidsNroMailCenter Resource; RidsNrrOd Resource; RidsNsirMailCenter Resource; RidsOeMailCenter Resource; RidsOiMailCenter Resource; RidsOIS Resource; RidsResOd Resource; RidsRgn1MailCenter Resource; RidsRgn2MailCenter Resource; RidsRgn3MailCenter Resource; RidsRgn4MailCenter Resource; RidsSbcrMailCenter Resource; Thomas, Loretta; Virgilio, Martin; Walker, Dwight; Weber, Michael

Subject: FW: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)

Importance: High

From: Wright, Darlene

Sent: Tuesday, March 22, 2011 1:19 PM

To: Baggett, Steven; Bates, Andrew; Batkin, Joshua; Baval, Rochelle; Blake, Kathleen; Bozin, Sunny; Bradford, Anna; Bubar, Patrice; Bupp, Margaret; Burns, Stephen; Chairman Temp; Clark, Lisa; Coggins, Angela; Cordes, John; Crawford, Carrie; Davis, Roger; Fopma, Melody; Franovich, Mike; Gibbs, Catina; Hackett, Edwin; Hart, Ken; Harves, Carolyn; Henderson, Karen; Herr, Linda; Hipschman, Thomas; Hudson, Sharon; Joosten, Sandy; KLS Temp; Kock, Andrea; Laufer, Richard; Lepre, Janet; Loyd, Susan; Mamish, Nader; Marshall, Michael; Monninger, John; Moore, Scott; Orders, William; Pace, Patti; Poole, Brooke; Reddick, Darani; RidsEdoDraftSrmVote Resource; Rothschild, Trip; Savoy, Carmel; Sharkey, Jeffry; Shea, Pamela; Snodderly, Michael; Sosa, Belkys; Speiser, Herald; Svinicki, Kristine; Temp, GEA; Temp, WCO; Temp, WDM; Thoma, John; Vietti-Cook, Annette; Warren, Roberta; Zorn, Jason; Tadesse, Rebecca; Joosten, Sandy; Castleman, Patrick; Montes, David; Dhir, Neha; Adler, James; Jimenez, Patricia; Muessle, Mary; Nieh, Ho; Ostendorff, William; Warnick, Greg; Apostolakis, George; Pearson, Laura; Lui, Christiana; Lisann, Elizabeth

Cc: Lewis, Antoinette

Subject: DRAFT SRM - COMGBJ-11-0002 (NRC Actions Following the Events in Japan)

Importance: High

The attached file contains a draft SRM which is being circulated for Commission review. Your response is requested as soon as practical today. As provided in the Internal Commission Procedures, the staff is "...afforded an opportunity to review the SRM to ensure that the Commission decision is clear and understandable and that resource, schedular, and legal constraints are properly considered." Please provide any responses to Ken Hart (KRH), Richard Laufer (RJL), Rochelle Baval (RCB5), and Pam Shea (PWS).

From: Williams, Shawn
To: Williams, Shawn; Abu-Eid, Bobby; Astwood, Heather; Brach, Bill; Camper, Larry; Case, Michael; Cook, John; Cool, Donald; Diec, David; Holahan, Vincent; Lewis, Robert; Quinones, Lauren; Rini, Brett; Sampson, Michele; Schwartzman, Jennifer; Virgilio, Martin; Weaver, Doug; Rosales-Cooper, Cindy
Subject: RE: An early version of the 29th CSS Agenda.... and my proposed Green Ticket
Date: Tuesday, March 22, 2011 4:09:58 PM
Attachments: RE Good news from the AdSec Meeting and 29th CSS Agenda Item on Safety Guides (a means to meet a requirement vs. aspirational goalscontinuous improvement).msg

Sorry everyone, I attached the wrong e-mail regarding Agenda Item 5.5, Safety Guides. The correct e-mail is attached now.

From: Williams, Shawn
Sent: Tuesday, March 22, 2011 3:55 PM
To: Abu-Eid, Bobby; Astwood, Heather; Brach, Bill; Camper, Larry; Case, Michael; Cook, John; Cool, Donald; Diec, David; Holahan, Vincent; Lewis, Robert; Quinones, Lauren; Rini, Brett; Sampson, Michele; Schwartzman, Jennifer; Virgilio, Martin; Weaver, Doug; Williams, Shawn; Rosales-Cooper, Cindy
Cc: Andersen, James
Subject: An early version of the 29th CSS Agenda.... and my proposed Green Ticket

All,

I received an early version of the 29th CSS Agenda. As you can read in the second e-mail, a new agenda item will be added dedicated to the events in Japan and the implications for the safety standards.

In an effort to give you as much time as possible to prepare the requested documents, I created a **draft** Green Ticket (attached) that will be revised and issued after I get the official provisional 29th CSS Agenda. Some of the CSS documents (including the BSS) are already available and thus you can get an early start on some of the requested items.

<http://www-ns.iaea.org/committees/csscomments/default.asp>

- We are requested to provide two papers:

Agenda Item 6.1, "Topical discussion on the Use of Safety Standards." This is a broad topic that covers how each MS utilizes Safety Standards in their domestic program. I propose for this CSS, we focus this paper on the information in the U.S. IRRS Report, Section 2.2, "Harmonization of U.S. Regulations to International Standards." If you agree, I'll volunteer to write this paper.

Agenda Item 6.2, "Regulatory Issues in the Member States – National events and current regulatory issues ." I propose we only include one item titled, "NRC's Short and Long Term Actions in Response to the Japanese Nuclear Crisis." I am thinking that we could simply provide the information from COMGBJ-11-0002: NRC Actions Following the Events in Japan. If you agree, I could write this paper as well.

- Note the agenda item 5.5 on the Nature of Safety Guides. I am proposing, after nearly 2 + years of trying to revise the nature of Safety Guides, we finally acquiesce to keep the current definition. See attached e-mail that includes Bill Brach's and my reasoning.

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Comments are welcome on the Green Ticket.

Shawn Williams

Executive Technical Assistant

Office of the Executive Director for Operations

301-415-1009

Attachment RE Good news from the AdSec Meeting and 29th C_2.msg (2560 Bytes) cannot be converted to PDF format.

From: Bacuta, George C Jr MVN
To: Case, Michael; Rosenberg, Stacey
Cc: Imboden, Andy; Attard, Anthony; Mendiola, Anthony
Subject: RE: Atlantic Ocean Tsunamis
Date: Tuesday, March 22, 2011 12:52:48 PM

Mike: Amazing horizontal and vertical motions (GPS recorded) of the Japan EQ.

This 30 second interval GPS record for the whole of Japan is quite astonishing:

<http://www.youtube.com/v/1QCcVqZgNKw>

amazing!

Professor Neil Chapman

Principal

MCM McCombie Chapman McKinley Consulting

Postfach, 5405 Baden/Dättwil, Switzerland

www.mcm-international.ch

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

From: Bacuta, George C Jr MVN
Sent: Tuesday, March 22, 2011 11:06 AM
To: 'Case, Michael'; Rosenberg, Stacey
Cc: Imboden, Andy; Attard, Anthony; Mendiola, Anthony
Subject: RE: Atlantic Ocean Tsunamis

Hi Mike: Thanks for the NRC's info on tsunamis in the Atlantic and Caribbean ponds. Glad to see NRC's robust tsunami analyses with Woods Hole and NOAA (Seattle) involved.

The recent (2010) Haiti fault as well the 1918 Puerto Rico event interest me most as proximally they are at a striking distance for Turkey Point and St. Lucie in Florida (though magnitudes are more likely not comparable to western Pacific).

I went to Cornell for Grad School in the 80's, and I have been tutored by Geophysicists including Jack Oliver and Brian Isacks and structural/marine geologist Daniel Karig. Jack and Brian are considered as one of the many fathers of plate tectonics, mainly due to their work in subduction zones in the Pacific and Chile while Dan investigated plate margin tectonics / interactions (mainly accretion and jostling of plates) in the Philippines, Marianas, Indonesia, Turkey and Iran. These folks are heavy into plate motions, interactions and coupling.

Attach is my recent communication yesterday with one of their students, Dr.

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Eric Fielding (a geophysicist), who now works at NASA-JPL at Caltech. He studied the 2010 Haiti earthquake and noted some thrust component (i.e. some vertical slip). He also studied the plate motions on last week Japan's M9 and I happen to read his opinion below in one of the news clips (so I googled him and e-mailed him):

"...But last week's tremor changed the coastal landscape-and not just above sea level. It created a trench in the sea floor 380 km long and 190 km wide as one tectonic plate dove nine meters beneath another, said Eric Fielding of NASA's Jet Propulsion Laboratory."

This is huge motion (underthrusting) ~ 9 meters or 27 feet.

These geophysicists coming out of Cornell in the 80's know their plate and microplate motions (and can define possible coupling of blocks/plates/microplates). Their data can provide the tsunami experts some info (e.g. re-energy or magnitude, coupling of blocks, plate /micro-plate motions for wave propagation/generation) resulting from plate/fault block interactions. Eric indicated that Eric Calais at Perdue (or Purdue) and Paul Mann at UT Austin work on Caribbean tectonics but he is not sure if they look at tsunami issues (see attach e-mail). Another Cornell product that is very good in plate interactions is Dr. Michael Hamburger, now a Professor at Indiana University, he did a lot of research in the Philippines (western Pacific), a country so tectonically active it looks like Japan (subduction zones and volcanoes) and California (San Andreas Fault) combined; recently one of Mike students had published a very comprehensive paper that investigated coupling, movement and relative (micro)plate motions in the Philippines.

George

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

From: Case, Michael [<mailto:Michael.Case@nrc.gov>]
Sent: Tuesday, March 22, 2011 6:14 AM
To: Bacuta, George C Jr MVN; Rosenberg, Stacey
Cc: Imboden, Andy; Attard, Anthony; Mendiola, Anthony
Subject: RE: Atlantic Ocean Tsunamis

Thanks George. Attached is some info on some of our latest research on Tsunamis on the Atlantic side to support new reactor licensing.

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

From: Bacuta, George C Jr MVN [<mailto:George.C.Bacuta@usace.army.mil>]
Sent: Monday, March 21, 2011 10:46 AM
To: Rosenberg, Stacey
Cc: Imboden, Andy; Attard, Anthony; Mendiola, Anthony; Case, Michael
Subject: FW: Atlantic Ocean Tsunamis

Hi Stacey: Saw your pic at Operation Center, glad to know you are on the case. Saw the link also of NRC's FAQs on seismicity/subduction zones around CONUS.

You may want to add to address in a FAQ also on possible Atlantic tsunamis. In particular are the October 11, 1918 Puerto Rico (historical) and possible those transform faults at the Cuba/Haiti(recent)-Dominican Republic plates or micro-plates. Puerto Rico's is related to subduction zone tectonics as well a dip component at the Haiti transform faults may render the power plants in Florida (Miami-Homestead/Turkey Point area and Indian Point?/Jupiter? Area) and SE US vulnerable (see link below from the Geology Journal <http://geology.com/noaa/atlantic-ocean-tsunami/>). I cc-copy Mike Case since

the FAQs (<http://www.nrc.gov/japan/faqs-related-to-japan.pdf>) may be coming from Research and NRO, and may miss the atlantic ocean tsunamis.

George

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

From: George Bacuta [<mailto:terraspring0@yahoo.com>]

Sent: Friday, March 18, 2011 8:22 PM

To: Bacuta, George C Jr MVN

Subject: Atlantic Ocean Tsunamis

Atlantic Ocean Tsunamis

Maps of Atlantic Tsunami Travel Times

Travel Time Maps Composed by NOAA using Tsunami Travel Time Software.

<http://geology.com/noaa/atlantic-ocean-tsunami/>

Atlantic Ocean Tsunamis: Rare but Possible

A tsunami in the Atlantic Ocean is a rare event. Part of the reason for this low incidence of tsunamis is the lack of subduction zones - the most common source of tsunami-causing earthquakes.

Although the incidence of Atlantic tsunamis is low the threat should be taken seriously because millions of people live in low-elevation locations around the rim of the Atlantic basin. The travel time maps below show that once a tsunami is generated the response time for mass evacuation can be uncomfortably short.

Subduction Zones

The only subduction zones in the Atlantic basin are along the eastern edge of the Caribbean Plate and the eastern edge of the Scotia Plate in the South Atlantic. These subduction zones are small, they are not exceptionally active and that accounts for the low incidence of earthquake-generated tsunamis.

The magnitude 7.3 earthquake that occurred off the northwest coast of Puerto Rico on October 11, 1918 was a subduction zone earthquake. It generated a tsunami with a run-up height of 6 meters that cause extensive damage and killed over 100 people. A travel time map for this tsunami can be seen below.

Lisbon, Portugal - 1755

The most widely known Atlantic Ocean tsunami struck Lisbon, Portugal on November 1, 1755 . It was caused by a magnitude 8.6 earthquake beneath the floor of the Atlantic about 100 miles offshore. This earthquake and associated tsunami destroyed most of the city of Lisbon. Waves up to 12 meters high hit the coastlines of Spain and Portugal just minutes after this earthquake. Over nine hours later waves with seven meter runup heights arrived in the Caribbean and caused significant damage. The earthquake and tsunami killed between 60,000 and 100,000 people. A travel-time map for this tsunami is shown below.

Submarine Landslides

Submarine landslides have caused tsunamis in the Atlantic Ocean. On November 18, 1929, an earthquake on the southern edge of the Grand Banks, south of Newfoundland, triggered a large submarine landslide that generated a tsunami. That tsunami was recorded all along the eastern coast of the United States and in the Caribbean. At least 28 people were killed in Newfoundland. A travel time map for this tsunami is shown below.

Some researchers believe that a large landslide in the Canary Islands could generate a tsunami with basin-wide impact. Faults on the southwest side of La Palma Island associated with Cumbre Vieja Volcano could be the detachment surface of a mega-landslide (see image at right).

Esmaili, Hossein

From: Esmaili, Hossein
Sent: Tuesday, March 22, 2011 9:07 AM
To: J. & R. Schaperow; Tinkler, Charles; Schaperow, Jason
Subject: RE: Spent fuel pool status

we were wondering about the source of white smoke from unit 2 last nite. Last we heard, they were pumping about 330 l/min (~86 gpm) into the vessel. They need about 50 gpm to remove decay heat, so the vessel is steaming and presumably discharging into the SP thru the valves. This is the unit that they suspect some torus damage (and I think they are not injecting into the containment). They had already injected into the SFP and the last reading from the pool was 49C. Looking at the pictures, the white smoke seems to be coming from the side of the RB. any thoughts?

From: J. & R. Schaperow [jrcompany@verizon.net]
Sent: Tuesday, March 22, 2011 6:46 AM
To: Tinkler, Charles; Schaperow, Jason; Esmaili, Hossein
Subject: Spent fuel pool status

I did some checking this morning on spent fuel pool status. I found the following:

March 15 - unit 4 - fire, explosion, pool may be boiling
March 16 - unit 4 - smoke rising
March 16 - unit 3 - white smoke
March 21 - unit 2 - white smoke

Also, I checked to see the status of the Bechtel shipment from Australia. I found the following in wiki:

http://en.wikipedia.org/wiki/Fukushima_I_nuclear_accidents

On 22 March, the Australian military flew in Bechtel-owned robotic equipment for remote spraying and viewing of the pool. The Australian reported this would give the first clear view of the pool in the "most dangerous" of the reactor buildings.^[194]

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Scott, Michael

From: RMTPACTSU_CRC [RMTPACTSU_CRC@ofda.gov]
Sent: Tuesday, March 22, 2011 10:56 AM
To: Scott, Michael
Cc: RMTPACTSU_ELNRC
Subject: FW: eInvoice, March 22 for SCOTT

Hi Michael,

Please see the link below for your electronic ticket. I will also forward the completed TA for your records in just a moment. Feel free to call me if you have any questions and enjoy your flight.

Best,

Katie Johnston
Pacific Tsunami and Japan Earthquake Response Management Team
USAID/DHCA/OFDA
Rmtpactsu_crc@ofda.gov
202-712-0036

From: RMTPACTSU_AC
Sent: Tuesday, March 22, 2011 10:55 AM
To: RMTPACTSU_CRC
Subject: FW: eInvoice, March 22 for SCOTT

From: MANASSAS TRAVEL [<mailto:usaid@manassastravel.com>]
Sent: Tuesday, March 22, 2011 10:54 AM
To: RMTPACTSU_AC; travel
Subject: eInvoice, March 22 for SCOTT

Your Travel Arranger is pleased to deliver your complete travel itinerary through Sabre® Virtually There®. To view your eInvoice, click on the link below. Once the itinerary is displayed, click on the eInvoice icon.

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If the above link is inactive, please paste this URL into your browser to access your reservations:

<https://www.virtuallythere.com/new/reservationsChron.html?host=1W&pnr=2Y1056M4SSPY&name=SCOTT&language=0&email=2>

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Lee, Richard

From: Gauntt, Randall O [rogaunt@sandia.gov]
Sent: Tuesday, March 22, 2011 11:32 AM
To: Tinkler, Charles; Lee, Richard
Subject: Decks For ORNL

I am getting impatient and impassioned requests from Jess Gehan at ORNL for us to send them our input decks for PB reactor and SFP.

I need NRC to organize matters.

Can I start Leonard and Wagner to work using Sandia manpower to get Fukushima reactor and SFP analyses going?

T/139

Lee, Richard

From: Wagner, Katie
Sent: Tuesday, March 22, 2011 11:51 AM
To: Lee, Richard
Cc: Zigh, Ghani
Subject: RE: BWR Zr-fire report

Richard – Is this complete or still pending? – Thanks, Katie

From: Lee, Richard
Sent: Tuesday, March 22, 2011 8:05 AM
To: Elkins, Scott
Cc: Zigh, Ghani; Wagner, Katie; Gibson, Kathy; Scott, Michael
Subject: BWR Zr-fire report

Refn: Brain Sheron's request for the SAND report on BWR Zr-fire.

Scott: Ghani knows the SAND report on BWR Zr-fire.

Ghani: Please provide the report or the ADAMS # to Scott.

Katie: Please log in this action

Lee, Richard

From: Wagner, Katie
Sent: Tuesday, March 22, 2011 1:04 PM
To: Lee, Richard
Subject: RE: BWR Zr-fire report
Attachments: image001.gif

Richard,

I'm not sure if this is for NEI or not . . . I have this item logged as #29 and an NEI request logged as #30 as you can see below (could be a duplicate):

29	3/22/2011	Brian Sheron ! NEW	301-251-7400	Ghani Zigh x7505 Scott Elkins x7544	DSA	Request for the SAND report on BWR Zr-fire.	Provide the SAND report on BWR Zr-fire to Brian.	Pending
30	3/22/2011	Brian Sheron for NEI ! NEW	301-251-7400	Carlos Navarro x7485 Ghani Zigh x7505	SPB/DSA	Brian Sheron requests the BWR results from 2007 be sent to NEI. Report(s) may require redaction.	Send BWR report(s).	Pending

Sharepoint: <http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>

Thanks,
Katie

From: Lee, Richard
Sent: Tuesday, March 22, 2011 12:39 PM
To: Wagner, Katie
Subject: RE: BWR Zr-fire report

Katie:

This is for NEI. Am I correct? Per Kathy Gibson, before anything release to NEI, we need to check with NRR first. I believe Pat is checking with NRR on this.

Richard

From: Wagner, Katie
Sent: Tuesday, March 22, 2011 11:51 AM
To: Lee, Richard
Cc: Zigh, Ghani
Subject: RE: BWR Zr-fire report

Richard – Is this complete or still pending? – Thanks, Katie

From: Lee, Richard
Sent: Tuesday, March 22, 2011 8:05 AM
To: Elkins, Scott
Cc: Zigh, Ghani; Wagner, Katie; Gibson, Kathy; Scott, Michael
Subject: BWR Zr-fire report

Refn: Brian Sheron's request for the SAND report on BWR Zr-fire.

Scott: Ghani knows the SAND report on BWR Zr-fire.

7/14/11

Ghani: Please provide the report or the ADAMS # to Scott.

Katie: Please log in this action

Esmaili, Hossein

From: Notafrancesco, Allen
Sent: Tuesday, March 22, 2011 1:33 PM
To: Lee, Richard; Salay, Michael; RES_DSA_FSTB
Subject: RE: Fukushima

Mike,

On the site you put MELCOR calcs for a Mark I showing results of a LT SBO thru the time of containment failure, it appears it was taken from the SOARCA work.

Note some uncertainties have not been quantified, particularly I proposed the following scoping study to be performed years ago:

Specifically for BWRs, it appears during the melt progression we are under estimating the potential for "surrounding" metals to be added to the melt, if enough metal is added to the melt the thermal inertia and fission product evolution may be affected. For example, this aspect could affect Mark I containment failure timing caused by liner melt-through. Currently for BWRs, the external lower head structures such as CRDM, supports etc. are not modeled in the MELCOR state-of-the-art model, these components have significant mass and may fragment the melt front, moreover, the calculated temperatures of the steam separators are high enough to collapse these structures, also adding to the melt.

Just to make you aware of this, there are more complexities in the details... by the way the RES ranking process did not push to pursue this... Allen

From: Lee, Richard
Sent: Tuesday, March 22, 2011 12:22 PM
To: Salay, Michael; RES_DSA_FSTB
Subject: RE: Fukushima

Mike:

Let's FSTB staff review this among ourselves before we make it available to those outside of FSTB.

Thanks, Richard

From: Salay, Michael
Sent: Tuesday, March 22, 2011 9:11 AM
To: RES_DSA_FSTB
Subject: Fukushima

Hi guys,

The same questions keep getting raised after issues answers have been provided. It is good to have a central repository for information to reference to improve communications so that the same questions don't keep getting raised.

I set up folders (seen on the left side link) for issues that have arisen in the past few days. If I set it up right, FSTB can modify site and DSA can view and add documents.

The site is
<http://portal.nrc.gov/edo/res/DSA/FSTB/Fukushima/default.aspx>

located at

Office of Nuclear Regulatory Research > DSA > Fuel and Source Term Branch (FSTB) > Fukushima

If you guys agree – we can inform Kathy, etc and extend view to others.

By the way, issues and status are posted at:

<http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>

-Mike

Michael Salay
United States Nuclear Regulatory Commission
Washington, DC 20555
MS: C3-C07M
michael.salay@nrc.gov
tel: 301-251-7543
fax: 301-251-7436

Pannier, Stephen

From: King, Mark
Sent: Tuesday, March 22, 2011 1:16 PM
To: Garmon-Candelaria, David; Bernardo, Robert
Cc: NRR DIRS IOEB Distribution; Tabatabai, Omid; Musser, Randy; OBryan, Phil; Kolcum, Gregory; Saba, Farideh
Subject: FW: Could you help me find answers? - Questions regarding Brunswick and hydrogen issues in Japan - UCS discussing
Attachments: image003.jpg; image004.jpg
Importance: High

A reporter is asking question on **Brunswick test** / report and hydrogen explosions that may relate to Japan event.

If anyone has insights / awareness of this – let me know.

The Union of Concerned Scientists said “A little-known test performed decades ago at the **Brunswick**” that **could explain the hydrogen explosions at Japan’s Fukushima Daiichi plant**. See the UCS analysis below. Could you help me get answers to the following questions?

1. Did the test actually happen? If so,
2. Why was the test performed and when was it performed?
3. Did the UCS analysis below accurately reflect the test and the test result?
4. Did Brunswick report the test results to NRC or the industry? If so,
5. Did either the NRC or industry require or suggest any modifications to mitigate the risk?
6. Did Brunswick take measures to mitigate the risk?

Thanks, don't do a search (I will do that) – just in case you were aware of something already because of the on-going issues.

I have **CC'd the Brunswick Branch Chief** (Randy. Musser) **and SRI/RI** (Phil. O'Bryan, SRI:G. Kolcum, RI) **and PM** (FARIDEH SABA) so they are aware that Brunswick site is being discussed by the USC - see (March 18 write up) at http://allthingsnuclear.org/tagged/Japan_nuclear at the UCS link below [Japan nuclear](#) - FYI.

Mark

From: Thomas, Eric
Sent: Tuesday, March 22, 2011 12:02 PM
To: King, Mark
Subject: FW: Could you help me find answers?
Importance: High

Any ideas?

Eric Thomas

U.S. Nuclear Regulatory Commission
NRR/DIRS/IOEB
OWFN-7E24
eric.thomas@nrc.gov
301-415-6772 (office)

Nelson, Robert

From: Nelson, Robert *NRK*
Sent: Tuesday, March 22, 2011 9:34 AM
To: Markley, Michael; Oesterle, Eric; Meighan, Sean; Nguyen, Quynh
Subject: FYI/Action: Transcript of Yesterdays Meeting
Attachments: 20110321.pdf

Attached.

Quynh: Please provide a link to this document on the NRR internal web site.

NELSON

T/144

From:

OST02 HOC

To:

Abrams, Charlotte; Abu-Eid, Bobby; Adams, John; Afshar-Tous, Mugeh; Ahn, Hosung; Alemu, Bezakulu; Alter, Peter; Anderson, Brian; Anderson, James; Arribas-Colon, Maria; Ashkebousi, Nima; Athey, George; Baker, Stephen; Ballam, Nick; Barnhurst, Daniel; Barr, Cynthia; Barss, Dan; Bazian, Samuel; Bensi, Michelle; Bergman, Thomas; Berry, Rolie; Bhachu, Ujagar; Bloom, Steven; Blount, Tom; Boger, Bruce; Bonnette, Cassandra; Borchart, Bill; Bowers, Anthony; Bowman, Gregory; Boyce, Tom (RES); Brandon, Lou; Brandt, Philip; Brenner, Eliot; Brock, Kathryn; Brown, Cris; Brown, David; Brown, Eva; Brown, Frederick; Brown, Michael; Bukharin, Oleg; Burnell, Scott; Bush-Goddard, Stephanie; Campbell, Stephen; Camper, Larry; Carpenter, Cynthia; Carter, Mary; Case, Michael; Casto, Greg; Cecere, Bethany; Cervera, Margaret; Chazell, Russell; Chen, Yen-Ju; Cheok, Michael; Chokshi, Niles; Chowdhury, Prosanta; Circle, Jeff; Clement, Richard; Clinton, Rebecca; Coggins, Angela; Collins, Frank; Cool, Donald; Correia, Richard; Costa, Arlon; Couret, Ivonne; Crutchley, Mary Glenn; Cruz, Zahira; Cuadrado, Leira; Dacus, Eugene; DeCicco, Joseph; Decker, David; Dembek, Stephen; Devlin, Stephanie; Dimmick, Lisa; Doane, Margaret; Dorman, Dan; Dorsey, Cynthia; Dozier, Jerry; Drake, Margaret; Drogitis, Spiros; Dube, Donald; Dudes, Laura; Eads, Johnny; Emche, Danielle; English, Lance; Erlanger, Craig; Esmaili, Hossein; Figueroa, Roberto; Fiske, Jonathan; Flannery, Cindy; Floyd, Daphene; Foggie, Kirk; Foster, Jack; Fragovannis, Nancy; Franovich, Rani; Frazier, Alan; Freshman, Steve; Fuller, Edward; Galletta, Thomas; Gambone, Kimberly; Gibson, Kathy; Glitter, Joseph; Gilmer, James; Gordon, Dennis; Gott, William; Grant, Jeffery; Greenwood, Carol; Grimes, Kelly; Grobe, Jack; Gross, Allen; Gulla, Gerald; Hale, Jerry; Hardesty, Duane; Harrington, Holly; Harris, Tim; Hart, Ken; Hart, Michelle; Harvey, Brad; Hasselberg, Rick; Hayden, Elizabeth; Helton, Donald; Henderson, Karen; Hiland, Patrick; Holahan, Patricia; Holahan, Vincent; Holian, Brian; Howard, Tabitha; Huffert, Anthony; Hurd, Sapna; Huyck, Doug; Imboden, Andy; Isom, James; Jackson, Karen; Jacobson, Jeffrey; Jervay, Richard; Jessie, Janelle; Johnson, Michael; Jolicoeur, John; Jones, Andrea; Jones, Cynthia; Jones, Henry; Kahler, Carolyn; Kammerer, Annie; Karas, Rebecca; Kauffman, John; Khan, Omar; Kolb, Timothy; Kotzalas, Margie; Kowalczyk, Jeffrey; Kratchman, Jessica; Kugler, Andrew; Lamb, Christopher; Lane, John; Larson, Emily; Laur, Steven; LaVie, Steve; Lewis, Robert; Li, Yong; Lichtz, Taylor; Lising, Jason; Lombard, Mark; Lubinski, John; Lui, Christiana; Lukes, Kim; Lynch, Jeffery; Ma, John; Mamish, Nader; Manahan, Michelle; Marksberry, Don; Marshall, Jane; Masao, Nagai; Maupin, Cardelia; Mayros, Lauren; Mazaika, Michael; McConnell, Keith; McCoppin, Michael; McDermott, Brian; McGinty, Tim; McGovern, Denise; McIntyre, David; McMurtry, Anthony; Merritt, Christina; Meyer, Karen; Miller, Charles; Miller, Chris; Milligan, Patricia; Miranda, Samuel; Mohseni, Aby; Moore, Scott; Morlang, Gary; Morris, Scott; Mroz (Sahm), Sara; Munson, Clifford; Murray, Charles; Nerret, Amanda; Nguyen, Caroline; Norris, Michael; Norton, Charles; Ordaz, Vonna; Owens, Janice; Padovan, Mark; Parillo, John; Patel, Jay; Patel, Pravin; Patrick, Mark; Perin, Vanice; Pope, Tia; Powell, Amy; Purdy, Gary; Quinlan, Kevin; Raddatz, Michael; Ragland, Robert; Ralph, Melissa; Ramsey, Jack; Reed, Elizabeth; Reed, Sara; Reed, Wendy; Reis, Terrence; Resner, Mark; Riley (OCA), Timothy; Riner, Kelly; Rini, Brett; Robinson, Edward; Rodriguez-Luccioni, Hector; Roggenbrodt, William; Ropon, Kimberly; Rosenberg, Stacey; Ross-Lee, MaryJane; Roundtree, Amy; Ruland, William; Ryan, Michelle; Salay, Michael; Salter, Susan; Salus, Amy; Sanfilippo, Nathan; Scarbrough, Thomas; Schaperow, Jason; Schmidt, Duane; Schmidt, Rebecca; Schoenebeck, Greg; Schrader, Eric; Schwartzman, Jennifer; Seber, Dogan; See, Kenneth; Shane, Raeann; Shea, James; Shepherd, Jill; Sheron, Brian; Skarda, Raymond; Skeen, David; Sloan, Scott; Smiroldo, Elizabeth; Smith, Brooke; Smith, Stacy; Smith, Theodore; Stahl, Eric; Stang, Annette; Steger (Tucci), Christine; Stieve, Alice; Stone, Rebecca; Stransky, Robert; Sturz, Fritz; Sullivan, Randy; Summers, Robert; Sun, Casper; Tappert, John; Tegeler, Bret; Temple, Jeffrey; Thaggard, Mark; Thomas, Eric; Thorp, John; Tiruneh, Nebiyu; Tobin, Jennifer; Trefethen, Jean; Tschiltz, Michael; Turtill, Richard; Uhle, Jennifer; Valencia, Sandra; Vaughn, James; Versluis, Robert; Vick, Lawrence; Virgilio, Martin; Virgilio, Rosetta; Ward, Leonard; Ward, William; Wastler, Sandra; Watson, Bruce; Webber, Robert; Weber, Michael; White, Bernard; Wiggins, Jim; Williams, Donna; Williams, Joseph; Williamson, Linda; Willis, Dori; Wimbush, Andrea; Wittick, Brian; Wray, John; Wright, Lisa (Gibney); Wright, Ned; Wunder, George; Young, Francis; Zimmerman, Jacob; Zimmerman, Roy

Date:

Tuesday, March 22, 2011 12:52:30 PM

Attachments:

MASTER RESPONDER SCHEDULE FOR MAR 19-25-11- JAPAN EARTHQUAKE (2).pdf

Please disregard the last copy which was the template.

Revised Copy

Attached is the OPS Center watchbill for March 18-26th, you will be receiving the watchbill for the week of March 26-April 2nd, in the future. If you need to change the schedule, please send an email to OST02 HOC.

T/145

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

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

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Fri-Sat	3/18-3/19	11pm-7am	Scott Moore
Sat	19-Mar	7am - 3pm	Larry Camper
Sat	19-Mar	3pm-11pm	Patricia Holahan
Sat-Sun	3/19-3/20	11pm - 7am	Rob Lewis
Sun	20-Mar	7am - 3pm	Vonna Ordaz
Sun	20-Mar	3pm-11pm	Larry Camper
Sun-Mon	3/20-3/21	11pm - 7am	Cynthia Carpenter
Mon	21-Mar	7am - 3pm	Charlie Miller
Mon	21-Mar	3pm-11pm	Larry Camper
Mon-Tues	3/21-3/22	11pm - 7am	Rob Lewis
Tues	22-Mar	7am - 3pm	Charlie Miller
Tues	22-Mar	3pm-11pm	Patricia Holahan
Tues-Wed	3/22-3/23	11pm - 7am	Cynthia Carpenter
Wed	23-Mar	7am - 3pm	Charlie Miller
Wed	23-Mar	3pm-11pm	Patricia Holahan
Wed-Thur	3/23-3/24	11pm - 7am	Cynthia Carpenter
Thur	24-Mar	7am - 3pm	Charlie Miller
Thur	24-Mar	3pm-11pm	Larry Camper
Thur-Fri	3/24-3/25	11pm - 7am	Cynthia Carpenter
Fri	25-Mar	7am - 3pm	Charlie Miller
Fri	25-Mar	3pm-11pm	Patricia Holahan
Fri-Sat	3/25-3/26	11pm-7am	Cynthia Carpenter

Executive Briefing Team

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

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Sat-Sun	3/19-3/20	11pm - 7am	Jim Andersen
Sun	20-Mar	7am - 3pm	Yen-Ju Chen
Sun	20-Mar	3pm-11pm	Caroline Nguyen
Sun-Mon	3/20-3/21	11pm - 7am	Jim Andersen
Mon	21-Mar	7am - 3pm	Yen-Ju Chen
Mon	21-Mar	3pm-11pm	Sara Mroz
Mon-Tues	3/21-3/22	11pm - 7am	Jim Andersen
Tues	22-Mar	7am - 3pm	Caroline Nguyen
Tues	22-Mar	3pm-11pm	Sara Mroz
Tues-Wed	3/22-3/23	11pm - 7am	Jim Andersen
Wed	23-Mar	7am - 3pm	Yen-Ju Chen
Wed	23-Mar	3pm-11pm	Sara Mroz
Wed-Thur	3/23-3/24	11pm - 7am	Jim Andersen
Thur	24-Mar	7am - 3pm	Yen-Ju Chen
Thur	24-Mar	3pm-11pm	Sara Mroz
Thur-Fri	3/24-3/25	11pm - 7am	Jim Andersen
Fri	25-Mar	7am - 3pm	Yen-Ju Chen
Fri	25-Mar	3pm-11pm	Sara Mroz
Fri-Sat	3/25-3/26	11pm-7am	Jim Andersen

Executive Support Team

EST Status Officer			
Fri-Sat	3/18-3/19	11pm-7am	Doug Huyck
Sat	19-Mar	7am - 3pm	Craig Erlanger
Sat	19-Mar	3pm-11pm	John Jolicoeur
Sat-Sun	3/19-3/20	11pm - 7am	Doug Huyck
Sun	20-Mar	7am - 3pm	Craig Erlanger
Sun	20-Mar	3pm-11pm	John Jolicoeur
Sun-Mon	3/20-3/21	11pm - 7am	Doug Huyck
Mon	21-Mar	7am - 3pm	Jane Marshall
Mon	21-Mar	3pm-11pm	Bill Gott
Mon-Tues	3/21-3/22	11pm - 7am	Jeff Grant
Tues	22-Mar	7am - 3pm	John Jolicoeur
Tues	22-Mar	3pm-11pm	Bill Gott
Tues-Wed	3/22-3/23	11pm - 7am	Jeff Grant
Wed	23-Mar	7am - 3pm	Sally Billings/Jane Marshall
Wed	23-Mar	3pm-11pm	Bill Gott
Wed-Thur	3/23-3/24	11pm - 7am	Jeff Grant
Thur	24-Mar	7am - 3pm	Jane Marshall
Thur	24-Mar	3pm-11pm	Bill Gott
Thur-Fri	3/24-3/25	11pm - 7am	Jeff Grant
Fri	25-Mar	7am - 3pm	Jane Marshall
Fri	25-Mar	3pm-11pm	Bill Gott
Fri-Sat	3/25-3/26	11pm-7am	Jeff Grant
EST Actions Officer			
Fri-Sat	3/18-3/19	11pm-7am	Amy Roundtree
Sat	19-Mar	7am - 3pm	Bezakulu Alemu
Sat	19-Mar	3pm-11pm	Melissa Ralph
Sat-Sun	3/19-3/20	11pm - 7am	Jonathan Fiske
Sun	20-Mar	7am - 3pm	Melissa Ralph

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

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

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

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

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Wed	23-Mar	7am - 3pm	Karen Meyer
Wed	23-Mar	3pm-11pm	Mary Glenn Crutchley
Wed-Thur	3/23-3/24	11pm - 7am	Andrea Wimbush
Thur	24-Mar	7am - 3pm	Cynthia Dorsey
Thur	24-Mar	3pm-11pm	Mary Glenn Crutchley
Thur-Fri	3/24-3/25	11pm - 7am	Tabitha Howard
Fri	25-Mar	7am - 3pm	Karen Meyer
Fri	25-Mar	3pm-11pm	Michelle Manahan
Fri-Sat	3/25-3/26	11pm-7am	Linda Williamson

Liaison Team

LT Director			
Fri-Sat	3/18-3/19	11pm-7am	Tom Blount
Sat	19-Mar	7am - 3pm	Tom Bergman
Sat	19-Mar	3pm-11pm	Bob Webber
Sat-Sun	3/19-3/20	11pm - 7am	John Adams
Sun	20-Mar	7am - 3pm	Tom Bergman
Sun	20-Mar	3pm-11pm	Bob Webber
Sun-Mon	3/20-3/21	11pm - 7am	John Adams
Mon	21-Mar	7am - 3pm	Tom Bergman
Mon	21-Mar	3pm-11pm	Bob Webber
Mon-Tues	3/21-3/22	11pm - 7am	John Adams
Tues	22-Mar	7am - 3pm	Tom Bergman
Tues	22-Mar	3pm-11pm	Bob Webber
Tues-Wed	3/22-3/23	11pm - 7am	John Adams
Wed	23-Mar	7am - 3pm	Michael Tschiltz
Wed	23-Mar	3pm-11pm	Rich Correia
Wed-Thur	3/23-3/24	11pm - 7am	Jake Zimmerman
Thur	24-Mar	7am - 3pm	Michael Tschiltz
Thur	24-Mar	3pm-11pm	Rich Correia
Thur-Fri	3/24-3/25	11pm - 7am	Jake Zimmerman
Fri	25-Mar	7am - 3pm	Michael Tschiltz
Fri	25-Mar	3pm-11pm	Rich Correia
Fri-Sat	3/25-3/26	11pm-7am	Jake Zimmerman

LT Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Janelle Jessie
Sat	19-Mar	7am - 3pm	Jeff Temple
Sat	19-Mar	3pm-11pm	Rani Franovich
Sat-Sun	3/19-3/20	11pm - 7am	Janelle Jessie
Sun	20-Mar	7am - 3pm	Jeff Temple
Sun	20-Mar	3pm-11pm	Nathan Sanfilippo
Sun-Mon	3/20-3/21	11pm - 7am	Milt Murray
Mon	21-Mar	7am - 3pm	Jeff Temple
Mon	21-Mar	3pm-11pm	Nathan Sanfilippo
Mon-Tues	3/21-3/22	11pm - 7am	Milt Murray
Tues	22-Mar	7am - 3pm	Rani Franovich
Tues	22-Mar	3pm-11pm	Nathan Sanfilippo
Tues-Wed	3/22-3/23	11pm - 7am	Milt Murray
Wed	23-Mar	7am - 3pm	Rani Franovich
Wed	23-Mar	3pm-11pm	Jeff Temple

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Wed-Thur	3/23-3/24	11pm - 7am	Milt Murray
Thur	24-Mar	7am - 3pm	Rani Franovich
Thur	24-Mar	3pm-11pm	Jeff Temple
Thur-Fri	3/24-3/25	11pm - 7am	Milt Murray
Fri	25-Mar	7am - 3pm	Janelle Jessie
Fri	25-Mar	3pm-11pm	Rani Franovich
Fri-Sat	3/25-3/26	11pm-7am	Milt Murray
LT State Liaison			
Thur-Fri	3/17-3/18	9pm-7am	Ryan/Turtill (ON CALL ONLY)
Fri	18-Mar	7am-2pm	Lukes/Flannery
Fri	18-Mar	2pm-9pm	Turtill/Maupin
Fri-Sat	3/18-3/19	9pm-7am	Ryan/Turtill (ON CALL ONLY)
Sat	19-Mar	7am-2pm	Ryan/Turtill (ON CALL ONLY)
Sat	19-Mar	2pm-9pm	Ryan/Turtill (ON CALL ONLY)
Sat-Sun	3/19-3/20	9pm-7am	Ryan/Turtill (ON CALL ONLY)
Sun	20-Mar	7am-2pm	Ryan/Turtill (ON CALL ONLY)
Sun	20-Mar	2pm-9pm	Ryan/Turtill (ON CALL ONLY)
Sun-Mon	3/20-3/21	9pm-7am	Ryan/Turtill (ON CALL ONLY)
Mon	21-Mar	7am-2pm	Flannery (Riveria-On Call)
Mon	21-Mar	2pm-9pm	Easson (Turtill-On Call)
Mon-Tue	3/21-3/22	9pm-7am	Ryan/Turtill
Tue	22-Mar	7am-2pm	Flannery (Riveria-On Call)
Tue	22-Mar	2pm-9pm	Easson (Turtill-On Call)
Tue-Wed	3/22-3/23	9pm-7am	Ryan/Turtill
Wed	23-Mar	7am-2pm	Maupin (Lukes-On Call)
Wed	23-Mar	2pm-9pm	Rivera (Easson-On Call)
Wed-Thur	3/23-3/24	9pm-7am	Ryan/Turtill
Thur	24-Mar	7am-2pm	Lukes (Flannery-On Call)
Thur	24-Mar	2pm-9pm	Maupin (Riveria-On Call)
Thur-Fri	3/24-3/25	9pm-7am	Ryan/Turtill
Fri	25-Mar	7am-2pm	Ryan (Maupin-On Call)
Fri	25-Mar	2pm-9pm	Turtill (Riveria-On Call)
Fri-Sat	3/25-3/26	9pm-7am	Ryan/Turtill (ON CALL ONLY)
LT Federal Liaison (2)			
Fri-Sat	3/18-3/19	11pm-7am	Scott Sloan
Sat	19-Mar	7am - 3pm	Russ Chazell
Sat	19-Mar	3pm-11pm	Jeff Lynch
Sat-Sun	3/19-3/20	11pm - 7am	Scott Sloan
Sun	20-Mar	7am - 3pm	Ned Wright
Sun	20-Mar	3pm-11pm	Jerry Hale
Sun-Mon	3/20-3/21	11pm - 7am	Lisa Wright
Mon	21-Mar	7am - 3pm	Beth Reed/Ted Smith
Mon	21-Mar	3pm-11pm	Ned Wright
Mon-Tues	3/21-3/22	11pm - 7am	Lisa Wright
Tues	22-Mar	7am - 3pm	Beth Reed/Ted Smith
Tues	22-Mar	3pm-11pm	Ned Wright
Tues-Wed	3/22-3/23	11pm - 7am	Lisa Wright
Wed	23-Mar	7am - 3pm	Jerry Hale/Ted Smith
Wed	23-Mar	3pm-11pm	Ned Wright
Wed-Thur	3/23-3/24	11pm - 7am	Lisa Wright

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Thur	24-Mar	7am - 3pm	Ted Smith/Bethany Cecere
Thur	24-Mar	3pm-11pm	Jerry Hale
Thur-Fri	3/24-3/25	11pm - 7am	Scott Sloan
Fri	25-Mar	7am - 3pm	Ted Smith/Bethany Cecere
Fri	25-Mar	3pm-11pm	Jerry Hale
Fri-Sat	3/25-3/26	11pm-7am	Scott Sloan

LT Congressional Liaison (2)

Sat	19-Mar	7am - 2pm	Spiros Droggitis
	19-Mar	2pm-9pm	Tim Riley
Sun	20-Mar	7am - 2pm	Rebecca Schmidt
	20-Mar	2pm-9pm	Reanne Shane
Mon	21-Mar	7am - 2pm	Spiros Droggitis
	21-Mar	2pm-9pm	Tim Riley
Tues	22-Mar	7am - 2pm	Tim Riley
	22-Mar	2pm-9pm	Spiros Droggitis
Wed	23-Mar	7am - 2pm	Gene Dacus
	23-Mar	2pm-9pm	Raeann Shane
Thur	24-Mar	7am - 2pm	Spiros Droggitis
	24-Mar	2pm-9pm	Raeann Shane
Fri	25-Mar	7am - 2pm	Gene Dacus
	25-Mar	2pm-9pm	Amy Powell

LT International Liaison (2)

Fri-Sat	3/18-3/19	11pm-7am	Elizabeth Smiroldo/Danielle Emche
Sat	19-Mar	7am - 3pm	Lance English/Steve Bloom
Sat	19-Mar	3pm-11pm	Jenny Tobin/Jill Shephard
Sat-Sun	3/19-3/20	11pm - 7am	Elizabeth Smiroldo/Danielle Emche
Sun	20-Mar	7am - 3pm	Karen Henderson/Steve Baker
Sun	20-Mar	3pm-11pm	Eric Stahl/Nancy Fragoyanis
Sun-Mon	3/20-3/21	11pm - 7am	Elizabeth Smiroldo/Jenny Tobin
Mon	21-Mar	7am - 3pm	Jen Schwartzman/Charlotte Abrams/Nancy (12-3)
Mon	21-Mar	3pm-11pm	Danielle Emche/Lauren Mayros
Mon-Tues	3/21-3/22	11pm - 7am	Eric Stahl/Mugeh Afshar-Tous
Tues	22-Mar	7am - 3pm	Jen Schwartzman/Charlotte Abrams/Nancy (12-3)
Tues	22-Mar	3pm-11pm	Danielle Emche/Lauren Mayros
Tues-Wed	3/22-3/23	11pm - 7am	Eric Stahl/Mugeh
Wed	23-Mar	7am - 3pm	Jen Schwartzman/Charlotte Abrams/Nancy (12-3)
Wed	23-Mar	3pm-11pm	Danielle Emche/Lauren Mayros
Wed-Thur	3/23-3/24	11pm - 7am	Eric Stahl/Mugeh
Thur	24-Mar	7am - 3pm	Steve Bloom/Lance English
Thur	24-Mar	3pm-11pm	Janice/Jenny Tobin
Thur-Fri	3/24-3/25	11pm - 7am	Andrea/Elizabeth Smiroldo
Fri	25-Mar	7am - 3pm	Steve Bloom/Lance English
Fri	25-Mar	3pm-11pm	Janice/Jenny Tobin
Fri-Sat	3/25-3/26	11pm-7am	Andrea/Elizabeth Smiroldo

Protective Measures Team

PMTR Director			
Fri-Sat	3/18-3/19	11pm-7am	Kathy Gibson
Sat	19-Mar	7am - 3pm	John Lubinski

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE
MARCH 18-26

Sat	19-Mar	3pm-11pm	Don Cool
Sat-Sun	3/19-3/20	11pm - 7am	Kathy Gibson
Sun	20-Mar	7am - 3pm	John Lubinski
Sun	20-Mar	3pm-11pm	Don Cool
Sun-Mon	3/20-3/21	11pm - 7am	Kathy Gibson
Mon	21-Mar	7am - 3pm	John Lubinski
Mon	21-Mar	3pm-11pm	Don Cool
Mon-Tues	3/21-3/22	11pm - 7am	John Tappert
Tues	22-Mar	7am - 3pm	John Lubinski
Tues	22-Mar	3pm-11pm	Don Cool
Tues-Wed	3/22-3/23	11pm - 7am	John Tappert
Wed	23-Mar	7am - 3pm	Terry Reis
Wed	23-Mar	3pm-11pm	Cindy Jones
Wed-Thur	3/23-3/24	11pm - 7am	Randy Sullivan
Thur	24-Mar	7am - 3pm	Terry Reis
Thur	24-Mar	5pm-11pm	Cindy Jones
Thur-Fri	3/24-3/25	11pm - 7am	Randy Sullivan
Fri	25-Mar	7am - 3pm	Terry Reis
Fri	25-Mar	5pm-11pm	Cindy Jones
Fri-Sat	3/25-3/26	11pm-7am	Randy Sullivan
PMTR Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Mike Norris
Sat	19-Mar	7am - 3pm	Duane Hardesty
Sat	19-Mar	3pm-11pm	Jay Patel
Sat-Sun	3/19-3/20	11pm - 7am	Lou Brandon
Sun	20-Mar	7am - 3pm	Nima Ashkeboussi
Sun	20-Mar	3pm-11pm	Jay Patel
Sun-Mon	3/20-3/21	11pm - 7am	Lou Brandon
Mon	21-Mar	7am - 3pm	Prosanta Chowdhury (8 am)
Mon	21-Mar	3pm-11pm	Jay Patel
Mon-Tues	3/21-3/22	11pm - 7am	Lou Brandon
Tues	22-Mar	7am - 3pm	Prosanta Chowdhury (8 am)
Tues	22-Mar	3pm-11pm	Nima Ashkeboussi
Tues-Wed	3/22-3/23	11pm - 7am	Mike Norris
Wed	23-Mar	7am - 3pm	John Wray
Wed	23-Mar	3pm-11pm	Nima Ashkeboussi
Wed-Thur	3/23-3/24	11pm - 7am	Mike Norris
Thur	24-Mar	7am - 3pm	John Wray
Thur	24-Mar	3pm-11pm	Nima Ashkeboussi
Thur-Fri	3/24-3/25	11pm - 7am	Mike Norris
Fri	25-Mar	7am - 3pm	Duane Hardesty
Fri	25-Mar	3pm-11pm	Jay Patel
Fri-Sat	3/25-3/26	11pm-7am	Lou Brandon
PMTR Prot Actions Asst Dir			
Fri-Sat	3/18-3/19	11pm-7am	Greg Casto
Sat	19-Mar	7am - 3pm	Kathryn Brock
Sat	19-Mar	3pm-11pm	Kevin Williams
Sat-Sun	3/19-3/20	11pm - 7am	Greg Casto
Sun	20-Mar	7am - 3pm	Kathryn Brock
Sun	20-Mar	3pm-11pm	Tim Harris

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Sun-Mon	3/20-3/21	11pm - 7am	Greg Casto (Jessica Kratchman - to shadow)
Mon	21-Mar	7am - 3pm	Kathryn Brock
Mon	21-Mar	3pm-11pm	Dan Barss
Mon-Tues	3/21-3/22	11pm - 7am	Jessica Kratchman
Tues	22-Mar	7am - 3pm	Kathryn Brock
Tues	22-Mar	3pm-11pm	Tim Harris
Tues-Wed	3/22-3/23	11pm - 7am	Jessica Kratchman
Wed	23-Mar	7am - 3pm	Sandra Wastler
Wed	23-Mar	3pm-11pm	Vince Holahan
Wed-Thur	3/23-3/24	11pm - 7am	Jessica Kratchman
Thur	24-Mar	7am - 3pm	Sandra Wastler
Thur	24-Mar	3pm-11pm	Stacey Rosenberg
Thur-Fri	3/24-3/25	11pm - 7am	Jessica Kratchman
Fri	25-Mar	7am - 3pm	Kathryn Brock
Fri	25-Mar	3pm-11pm	Vince Holahan
Fri-Sat	3/25-3/26	11pm-7am	Greg Casto
PMTR RAAD			
Fri-Sat	3/18-3/19	11pm-7am	Randy Sullivan
Sat	19-Mar	7am - 3pm	Bruce Watson
Sat	19-Mar	3pm-11pm	Michelle Hart
Sat-Sun	3/19-3/20	11pm - 7am	Patricia Milligan
Sun	20-Mar	7am - 3pm	Eric Schrader
Sun	20-Mar	3pm-11pm	Steve LaVie
Sun-Mon	3/20-3/21	11pm - 7am	Mike Norris
Mon	21-Mar	7am - 3pm	Michelle Hart
Mon	21-Mar	3pm-11pm	Steve Lavie
Mon-Tues	3/21-3/22	11pm - 7am	Boby Abu-Eid
Tues	22-Mar	7am - 3pm	Bruce Watson
Tues	22-Mar	3pm-11pm	Steve LaVie
Tues-Wed	3/22-3/23	11pm - 7am	Boby Abu-Eid
Wed	23-Mar	7am - 3pm	Bruce Watson
Wed	23-Mar	3pm-11pm	Michelle Hart
Wed-Thur	3/23-3/24	11pm - 7am	Patricia Milligan
Thur	24-Mar	7am - 3pm	Bruce Watson
Thur	24-Mar	3pm-11pm	Steve LaVie
Thur-Fri	3/24-3/25	11pm - 7am	Cynthia Barr
Fri	25-Mar	7am - 3pm	Randy Sullivan
Fri	25-Mar	3pm-11pm	Michelle Hart
Fri-Sat	3/25-3/26	11pm-7am	Cynthia Barr
PMTR Dose Assessment (RASCAL)			
Fri-Sat	3/18-3/19	11pm-7am	Duane Schmidt/Tony Huffert
Sat	19-Mar	7am - 3pm	Casper Sun / Joe DeCicco (10am arrive)
Sat	19-Mar	3pm-11pm	Margaret Cervera / Joe DeCicco
Sat-Sun	3/19-3/20	11pm - 7am	Kimberly Gambone/John Parillo
Sun	20-Mar	7am - 3pm	Casper Sun / Duane Schmidt
Sun	20-Mar	3pm-11pm	Margaret Cervera / Tony Huffert
Sun-Mon	3/20-3/21	11pm - 7am	Kimberly Gambone/John Parillo
Mon	21-Mar	7am - 3pm	Eric Schrader/Rich Clement
Mon	21-Mar	3pm-11pm	Margaret Cervera/Tony Huffert
Mon-Tues	3/21-3/22	11pm - 7am	John Parillo / Bernie White

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Tues	22-Mar	7am - 3pm	Eric Schrader/Rich Clement
Tues	22-Mar	3pm-11pm	Gary Purdy/Casper Sun
Tues-Wed	3/22-3/23	11pm - 7am	Margaret Cervera/Tony Huffert
Wed	23-Mar	7am - 3pm	Eric Schrader/Rich Clement
Wed	23-Mar	3pm-11pm	Kimberly Gambone/Casper Sun
Wed-Thur	3/23-3/24	11pm - 7am	Tony Huffert/John Parillo
Thur	24-Mar	7am - 3pm	Eric Schrader/Rich Clement
Thur	24-Mar	3pm-11pm	Kimberly Gambone/Casper Sun
Thur-Fri	3/24-3/25	11pm - 7am	Tony Huffert/John Parillo
Fri	25-Mar	7am - 3pm	Eric Schrader/Rich Clement
Fri	25-Mar	3pm-11pm	Gary Purdy/Casper Sun
Fri-Sat	3/25-3/26	11pm-7am	John Parillo / Bernie White
PMTR GIS Analyst			
Fri-Sat	3/18-3/19	11pm-7am	Stephanie Devlin
Sat	19-Mar	7am - 3pm	Nebiyu Tiruneh
Sat	19-Mar	3pm-11pm	Yong Li
Sat-Sun	3/19-3/20	11pm - 7am	Alice Stieve
Sun	20-Mar	7am - 3pm	Phil Brandt
Sun	20-Mar	3pm-11pm	Ken See
Sun-Mon	3/20-3/21	11pm - 7am	Alice Stieve
Mon	21-Mar	7am - 3pm	Nebiyu Tiruneh
Mon	21-Mar	3pm-11pm	Stephanie Devlin
Mon-Tues	3/21-3/22	11pm - 7am	Alice Stieve
Tues	22-Mar	7am - 3pm	Yong Li
Tues	22-Mar	3pm-11pm	Stephanie Devlin
Tues-Wed	3/22-3/23	11pm - 7am	Alice Stieve
Wed	23-Mar	7am - 3pm	Allen Gross
Wed	23-Mar	3pm-11pm	Stephanie Devlin
Wed-Thur	3/23-3/24	11pm - 7am	Phil Brandt
Thur	24-Mar	7am - 3pm	Yong Li
Thur	24-Mar	3pm-11pm	Stephanie Devlin
Thur-Fri	3/24-3/25	11pm - 7am	Dogan Seber
Fri	25-Mar	7am - 3pm	Hosang Ahn
Fri	25-Mar	3pm-11pm	Stephanie Devlin
Fri-Sat	3/25-3/26	11pm-7am	Phil Brandt
PMTR Meteorologist			
Fri-Sat	18-Mar	3pm-11pm	Mike Mazaika
Sat	3/18-3/19	11pm-7am	Dave Brown
Sat	19-Mar	7am - 3pm	Kevin Quinlan
Sat-Sun	19-Mar	3pm-11pm	Mike Mazaika
Sun	3/19-3/20	11pm - 7am	David Brown
Sun	20-Mar	7am - 3pm	Kevin Quinlan
Sun	20-Mar	3pm-11pm	Mike Mazaika
Sun-Mon	3/20-3/21	11pm - 7am	David Brown
Mon	21-Mar	7am - 3pm	Mike Mazaika
Mon	21-Mar	3pm-11pm	Brad Harvey
Mon-Tues	3/21-3/22	11pm - 7am	Kevin Quinlan
Tues	22-Mar	7am - 3pm	David Brown
Tues	22-Mar	3pm-11pm	Brad Harvey
Tues-Wed	3/22-3/23	11pm - 7am	Andy Imboden/Kevin Quinlan

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Wed	23-Mar	7am - 3pm	Mike Mazaika
Wed	23-Mar	3pm-11pm	Brad Harvey
Wed-Thur	3/23-3/24	11pm - 7am	Kevin Quinlan
Thur	24-Mar	7am - 3pm	David Brown
Thur	24-Mar	3pm-11pm	Brad Harvey
Thur-Fri	3/24-3/25	11pm - 7am	Kevin Quinlan
Fri	25-Mar	7am - 3pm	Mike Mazaika
Fri	25-Mar	3pm-11pm	Brad Harvey
Fri-Sat	3/25-3/26	11pm-7am	Kevin Quinlan

Reactor Safety Team

RST Director			
Fri-Sat	3/18-3/19	11pm-7am	Jennifer Uhle
Sat	19-Mar	7am - 3pm	Laura Dudes
Sat	19-Mar	3pm-11pm	Dave Skeen
Sat-Sun	3/19-3/20	11pm - 7am	Jennifer Uhle
Sun	20-Mar	7am - 3pm	Laura Dudes
Sun	20-Mar	3pm-11pm	Dave Skeen
Sun-Mon	3/20-3/21	11pm - 7am	Jennifer Uhle
Mon	21-Mar	7am - 3pm	Fred Brown
Mon	21-Mar	3pm-11pm	Dave Skeen
Mon-Tues	3/21-3/22	11pm - 7am	Jennifer Uhle
Tues	22-Mar	7am - 3pm	Fred Brown
Tues	22-Mar	3pm-11pm	Dave Skeen
Tues-Wed	3/22-3/23	11pm - 7am	Brian Holian
Wed	23-Mar	7am - 3pm	Fred Brown
Wed	23-Mar	3pm-11pm	Bill Ruland
Wed-Thur	3/23-3/24	11pm - 7am	Brian Holian
Thur	24-Mar	7am - 3pm	Fred Brown
Thur	24-Mar	3pm-11pm	Bill Ruland
Thur-Fri	3/24-3/25	11pm - 7am	Brian Holian
Fri	25-Mar	7am - 3pm	Pat Hiland
Fri	25-Mar	3pm-11pm	Bill Ruland
Fri-Sat	3/25-3/26	11pm-7am	Brian Holian
Sat	26-Mar	7am - 3pm	Pat Hiland
Sat	26-Mar	3pm-11pm	Bill Ruland
Sat	3/26-27/2011	11pm - 7am	Mike Case

RST Coordinator			
Fri-Sat	3/18-3/19	11pm-7am	Rollie Berry
Sat	19-Mar	7am - 3pm	Scott Sloan
Sat	19-Mar	3pm-11pm	Oleg Bukharin
Sat-Sun	3/19-3/20	11pm - 7am	Frank Collins
Sun	20-Mar	7am - 3pm	Peter Alter
Sun	20-Mar	3pm-11pm	Eric Thomas
Sun-Mon	3/20-3/21	11pm - 7am	Mike Morlang
Mon	21-Mar	7am - 3pm	Peter Alter
Mon	21-Mar	3pm-11pm	Greg Schoenebeck
Mon-Tues	3/21-3/22	11pm - 7am	Frank Collins
Tues	22-Mar	7am - 3pm	Rick Hasselberg
Tues	22-Mar	3pm-11pm	Mike Morlang

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Tues-Wed	3/22-3/23	11pm - 7am	Oleg Bukharin
Wed	23-Mar	7am - 3pm	Eric Thomas
Wed	23-Mar	3pm-11pm	Greg Schoenebeck
Wed-Thur	3/23-3/24	11pm - 7am	Frank Collins
Thur	24-Mar	7am - 3pm	Rick Hasselberg
Thur	24-Mar	3pm-11pm	Brett Rini
Thur-Fri	3/24-3/25	11pm - 7am	Tom Boyce (RES)
Fri	25-Mar	7am - 3pm	Eric Thomas
Fri	25-Mar	3pm-11pm	Brett Rini
Fri-Sat	3/25-3/26	11pm-7am	Frank Collins

Severe Accident/PRA

Fri-Sat	3/18-3/19	11pm - 7am	Don Marksberry
Sat	19-Mar	7am - 3pm	Len Ward
Sat	19-Mar	3pm-11pm	Ed Fuller
Sat-Sun	3/19-3/20	11pm - 7am	Mike Salay
Sun	20-Mar	7am - 3pm	John Lane
Sun	20-Mar	3pm-11pm	Jim Gilmer
Sun-Mon	3/20-3/21	11pm - 7am	Don Dube
Mon	21-Mar	7am - 3pm	Jeff Circle
Mon	21-Mar	3pm-11pm	Hossein Esmaili
Mon-Tues	3/21-3/22	11pm - 7am	Jim Gilmer
Tues	22-Mar	7am - 3pm	Ed Fuller
Tues	22-Mar	3pm-11pm	Len Ward
Tues-Wed	3/22-3/23	11pm - 7am	Hossein Esmaili
Wed	23-Mar	7am - 3pm	Jeff Circle
Wed	23-Mar	3pm-11pm	Sam Miranda
Wed-Thur	3/23-3/24	11pm - 7am	Mike Salay
Thur	24-Mar	7am - 3pm	Jeff Circle
Thur	24-Mar	3pm-11pm	Steve Laur
Thur-Fri	3/24-3/25	11pm - 7am	Don Helton
Fri	25-Mar	7am - 3pm	Steven Arndt
Fri	25-Mar	3pm-11pm	Steve Laur
Fri-Sat	3/25-3/26	11pm-7am	Don Helton

BWR Expertise

Fri-Sat	3/18-3/19	11pm-7am	Mike Brown
Sat	19-Mar	7am - 3pm	Peter Alter
Sat	19-Mar	3pm-11pm	Chuck Norton
Sat-Sun	3/19-3/20	11pm - 7am	John Kauffman
Sun	20-Mar	7am - 3pm	Larry Vick
Sun	20-Mar	3pm-11pm	Chuck Norton
Sun-Mon	3/20-3/21	11pm - 7am	Mike Brown
Mon	21-Mar	7am - 3pm	Bob Summers
Mon	21-Mar	3pm-11pm	Chuck Norton
Mon-Tues	3/21-3/22	11pm - 7am	Mike Brown
Tues	22-Mar	7am - 3pm	Tom Boyce (RES)
Tues	22-Mar	3pm-11pm	Chuck Norton
Tues-Wed	3/22-3/23	11pm - 7am	Mike Brown
Wed	23-Mar	7am - 3pm	Larry Vick
Wed	23-Mar	3pm-11pm	Chuck Norton
Wed-Thur	3/23-3/24	11pm - 7am	Eva Brown

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Thur	24-Mar	7am - 3pm	Peter Alter
Thur	24-Mar	3pm-11pm	Chuck Norton
Thur-Fri	3/24-3/25	11pm - 7am	Eva Brown
Fri	25-Mar	7am - 3pm	Bob Summers
Fri	25-Mar	3pm-11pm	Chuck Norton
Fri-Sat	3/25-3/26	11pm-7am	Eva Brown
RST Comm/ERDS Operator			
Fri-Sat	3/18-3/19	11pm-7am	Andy Kugler
Sat	19-Mar	7am - 3pm	Joseph Williams
Sat	19-Mar	3pm-11pm	John Thorp
Sat-Sun	3/19-3/20	11pm - 7am	Ujagar Bhachu
Sun	20-Mar	7am - 3pm	Denise McGovern
Sun	20-Mar	3pm-11pm	Donna Williams
Sun-Mon	3/20-3/21	11pm - 7am	Ujagar Bhachu
Mon	21-Mar	7am - 3pm	Joseph Williams
Mon	21-Mar	3pm-11pm	John Thorp
Mon-Tues	3/21-3/22	11pm - 7am	Bill Roggenbrodt
Tues	22-Mar	7am - 3pm	Steve Bloom
Tues	22-Mar	3pm-11pm	Jim Isom
Tues-Wed	3/22-3/23	11pm - 7am	Bill Roggenbrodt
Wed	23-Mar	7am - 3pm	Joseph Williams
Wed	23-Mar	3pm-11pm	Ken Hart
Wed-Thur	3/23-3/24	11pm - 7am	Bill Roggenbrodt
Thur	24-Mar	7am - 3pm	Andrew Kugler
Thur	24-Mar	3pm-11pm	John Thorp
Thur-Fri	3/24-3/25	11pm - 7am	Bill Roggenbrodt
Fri	25-Mar	7am - 3pm	Donna Williams
Fri	25-Mar	3pm-11pm	Jim Isom
Fri-Sat	3/25-3/26	11pm-7am	David Solorio
RST Support (Seismology Q&A)			
Fri-Sat	3/18-3/19	11pm-7am	Off (On Call)
Sat	19-Mar	7am - 3pm	Off (On Call)
Sat	19-Mar	3pm-11pm	Off (On Call)
Sat-Sun	3/19-3/20	11pm - 7am	Alice Stieve (On Call) Working as PMT GIS
Sun	20-Mar	7am - 3pm	Cliff Munson (On Call)
Sun	20-Mar	3pm-11pm	Annie Kammerer (On Call)
Sun-Mon	3/20-3/21	11pm - 7am	Stephanie Devlin (On Call)
Mon	21-Mar	7am - 3pm	Cliff Munson (On Call)
Mon	21-Mar	3pm-11pm	A. Kammerer 3-11; M. Bensi 3-6 (On Call)
Mon-Tues	3/21-3/22	11pm - 7am	Dogan Seber (On Call)
Tues	22-Mar	7am - 3pm	Nilesh Chokchi On Call)
Tues	22-Mar	3pm-11pm	S. Devlin 3-11; M. Bensi 3-6 (On Call)
Tues-Wed	3/22-3/23	11pm - 7am	Cliff Munson (On Call)
Wed	23-Mar	7am - 3pm	Nilesh Chokchi On Call)
Wed	23-Mar	3pm-11pm	A. Kammerer 3-11, M. Bensi 3-6 (On Call)
Wed-Thur	3/23-3/24	11pm - 7am	Annie Kammerer (On Call)
Thur	24-Mar	7am - 3pm	Cliff Munson (On Call)
Thur	24-Mar	3pm-11pm	A. Kammerer 3-11, M. Bensi 3-6 (On Call)
Thur-Fri	3/24-3/25	11pm - 7am	Dogan Seber (On Call)
Fri	25-Mar	7am - 3pm	Dogan Seber (On Call)

JAPAN EARTHQUAKE - ERO STAFFING SCHEDULE

MARCH 18-26

Fri	25-Mar	3pm-11pm	A.Kammerer 3-11, M. Bensi 3-6 (On Call)
Fri-Sat	3/25-3/26	11pm-7am	Dogan Seber (On Call)
RST Support (Structural)			
Fri-Sat	3/18-3/19	11pm-7am	Off (On Call)
Sat	19-Mar	7am - 3pm	Off (On Call)
Sat	19-Mar	3pm-11pm	Off (On Call)
Sat-Sun	3/19-3/20	11pm - 7am	Off (On Call)
Sun	20-Mar	7am - 3pm	Off (On Call)
Sun	20-Mar	3pm-11pm	Off (On Call)
Sun-Mon	3/20-3/21	11pm - 7am	Off (On Call)
Mon	21-Mar	7am - 3pm	Off (On Call)
Mon	21-Mar	3pm-11pm	Bret Tegeler (On Call)
Mon-Tues	3/21-3/22	11pm - 7am	Bret Tegeler (On Call)
Tues	22-Mar	7am - 3pm	Pravin Patel (On Call)
Tues	22-Mar	3pm-11pm	Bret Tegeler (On Call)
Tues-Wed	3/22-3/23	11pm - 7am	Bret Tegeler (On Call)
Wed	23-Mar	7am - 3pm	Pravin Patel (On Call)
Wed	23-Mar	3pm-11pm	Samir Chakrabart (On Call)
Wed-Thur	3/23-3/24	11pm - 7am	Samir Chakrabart (On Call)
Thur	24-Mar	7am - 3pm	Pravin Patel (On Call)
Thur	24-Mar	3pm-11pm	Jerry Chung (On Call)
Thur-Fri	3/24-3/25	11pm - 7am	Jerry Chung (On Call)
Fri	25-Mar	7am - 3pm	Pravin Patel (On Call)
Fri	25-Mar	3pm-11pm	Manas Chakravorty (On Call)
Fri-Sat	3/25-3/26	11pm-7am	Manas Chakravorty (On Call)

Hogan, Rosemary

From: Richards, Stuart
Sent: Tuesday, March 22, 2011 3:15 PM
To: RES_DE; Boyce, Tom (RES); Csontos, Aladar; Gavrilas, Mirela; Hogan, Rosemary; Koshy, Thomas; Sydnor, Russell
Cc: Rivera-Lugo, Richard; Case, Michael
Subject: RE: Spreadsheet

If you are working to support the agency response to the events in Japan, please provide the information requested below by noon tomorrow to Richie Rivera-Lugo.

Thanks
Stu

From: Valentin, Andrea
Sent: Tuesday, March 22, 2011 3:02 PM
To: Case, Michael; Richards, Stuart; Gibson, Kathy; Coe, Doug; Coyne, Kevin; Kardaras, Tom
Cc: Sheron, Brian
Subject: Spreadsheet
Importance: High

Hello All,

I am collecting the names and dates to send to CFO for work being done in support of the Japan response. CFO needs this info since HRMS may not allow the employee to enter time worked unless some changes are made to the system. The memo dated 3/16 said that they need this information ASAP to avoid difficulties processing the appropriate payments.

I plan to submit this interim list by COB tomorrow so CFO can get started on what they need to do. I can always send additional names later. Please remember to send me both names and dates worked (or planned schedule if it has not occurred yet).

Thanks,
Andrea

T/3/4/6

Hogan, Rosemary

From: Pires, Jose
Sent: Tuesday, March 22, 2011 3:26 PM
To: RES_DE_SGSEB
Subject: FW: Spreadsheet

Please see the notice below that relates to HRMS and work done in support of the response to the Japanese earthquake.

Provide the input to Richie and notice the immediacy of the request.

From: Richards, Stuart
Sent: Tuesday, March 22, 2011 3:15 PM
To: RES_DE; Boyce, Tom (RES); Csontos, Aladar; Gavrilas, Mirela; Hogan, Rosemary; Koshy, Thomas; Sydnor, Russell
Cc: Rivera-Lugo, Richard; Case, Michael
Subject: RE: Spreadsheet

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Thanks
Stu

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Sent: Tuesday, March 22, 2011 3:02 PM
To: Case, Michael; Richards, Stuart; Gibson, Kathy; Coe, Doug; Coyne, Kevin; Kardaras, Tom
Cc: Sheron, Brian
Subject: Spreadsheet
Importance: High

Hello All,

I am collecting the names and dates to send to CFO for work being done in support of the Japan response. CFO needs this info since HRMS may not allow the employee to enter time worked unless some changes are made to the system. The memo dated 3/16 said that they need this information ASAP to avoid difficulties processing the appropriate payments.

I plan to submit this interim list by COB tomorrow so CFO can get started on what they need to do. I can always send additional names later. Please remember to send me both names and dates worked (or planned schedule if it has not occurred yet).

Thanks,
Andrea

From: Manoly, Kamal *NR*
To: Kammerer, Annie; Munson, Clifford
Cc: Ake, Jon; Chokshi, Niles; Hogan, Rosemary; Hiland, Patrick; Skeen, David
Subject: FW: G20110177
Date: Tuesday, March 22, 2011 2:20:12 PM
Attachments: ACTION G20110177.msg

Annie, Cliff,

Please take a look at question No 2. The contention that there is an 82% probability of a 7.0 magnitude earthquake to occur at the locations of DC and SONGS, and a 37% probability that a 7.5 magnitude earthquake to occur at the same locations is something within your area of expertise that you can address with knowledge. The percentages sound awfully high to me and I don't believe they are right.

Would you please send me a response to this contention that would justify why we don't agree with the contention that we need to retrofit Diablo and SONGS.

I used some of the stuff you prepared in the Qs & As you compiled to develop complete responses to items number 3 & 7.

Kamal

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

From: Scales, Kerby *NR*
Sent: Thursday, March 17, 2011 5:55 PM
To: Mathew, Roy; Meighan, Sean; Manoly, Kamal
Cc: Hiland, Patrick; Skeen, David; Wilson, George; Khanna, Meena
Subject: FW: G20110177

Kamal, Roy, Sean,

Attached is a green ticket assigned to the EDO office with questions on seismic safety features in US operating reactors. The EDO office will respond to these questions but they may seek our assistance. Please be prepared to support the EDO office if they have any questions. Also please discuss your response with your director / division director before responding to the EDO office.

I reviewed the green ticket and I think the question should be distributed to the following divisions:

1. NRR/DORL. I believe the questions has already been answered.
2. NRR/DE & RES. Kamal please coordinate with RES.
3. NRR/DE & RES. Kamal please coordinate with RES.
4. NRR/DE
- 5a. NRR/DORL
- 5b/c. NRR/DE
7. NRR/DE

Thanks,
kerby

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

From: RidsNrrMailCenter Resource *NR*
Sent: Wednesday, March 16, 2011 1:26 PM
To: RidsNrrDe Resource
Cc: Scales, Kerby
Subject: G20110177

Green ticket assigned to EDO on Seismic Safety Features in United States Operational Nuclear Reactor. EDO to coordinate with NRR, NSIR and OGC.

7/147

Thanks,
Patti

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

From: Jaegers, Cathy

Sent: Wednesday, March 16, 2011 10:39 AM

To: Rihm, Roger

Cc: RidsNrrMailCenter Resource; RidsNsirMailCenter Resource; Wimbush, Andrea; RidsOgcMailCenter Resource; Remsburg, Kristy; RidsOcaMailCenter Resource; Belmore, Nancy

Subject: ACTION: G20110177

Attached is the action green ticket for OEDO (Rihm) to coordinate with NRR and NSIR, if required. The ADAMS version will be sent after DPC processes.

Attachment ACTION G20110177_1.msg (2560 Bytes) cannot be converted to PDF format.

From: [Richards, Stuart](#)
To: [Pires, Jose](#)
Cc: [Case, Michael](#)
Subject: RE: G20110177
Date: Tuesday, March 22, 2011 4:12:53 PM

Jose

Please check with Annie and discuss her workload. We may need to task this to others.

Please let me know what you find out.

Thanks
Stu

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

From: Pires, Jose
Sent: Tuesday, March 22, 2011 3:44 PM
To: Richards, Stuart
Subject: FW: G20110177

Stu,
FYI

Below is a request from Kamal Manoly from NRR/DE for assistance with preparing a reply to a letter from two congressmen that involve seismic questions.

I think that Annie is already working on this since Kamal emailed her.

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

From: Graves, Herman
Sent: Tuesday, March 22, 2011 2:46 PM
To: Pires, Jose
Subject: FW: G20110177

Jose,

FYI

<<Herman>>
<<301.251.7625>>
mail to: Herman.Graeves@nrc.gov

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

From: Manoly, Kamal
Sent: Tuesday, March 22, 2011 2:21 PM
To: Graves, Herman
Subject: FW: G20110177

Herman,
FYI; since you are acting for Rosemary. Thanks.
Kamal

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

From: Manoly, Kamal
Sent: Tuesday, March 22, 2011 2:20 PM
To: Kammerer, Annie; Munson, Clifford
Cc: Ake, Jon; Chokshi, Nilesh; Hogan, Rosemary; Hiland, Patrick; Skeen, David

7/1148

Subject: FW: G20110177

Annie, Cliff,

Please take a look at question No 2. The contention that there is an 82% probability of a 7.0 magnitude earthquake to occur at the locations of DC and SONGS, and a 37% probability that a 7.5 magnitude earthquake to occur at the same locations is something within your area of expertise that you can address with knowledge. The percentages sound awfully high to me and I don't believe they are right.

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I used some of the stuff you prepared in the Qs & As you compiled to develop complete responses to items number 3 & 7.

Kamal

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

From: Scales, Kerby

Sent: Thursday, March 17, 2011 5:55 PM

To: Mathew, Roy; Meighan, Sean; Manoly, Kamal

Cc: Hiland, Patrick; Skeen, David; Wilson, George; Khanna, Meena

Subject: FW: G20110177

Kamal, Roy, Sean,

Attached is a green ticket assigned to the EDO office with questions on seismic safety features in US operating reactors. The EDO office will respond to these questions but they may seek our assistance. Please be prepared to support the EDO office if they have any questions. Also please discuss your response with your director / division director before responding to the EDO office.

I reviewed the green ticket and I think the question should be distributed to the following divisions:

1. NRR/DORL. I believe the questions has already been answered.
2. NRR/DE & RES. Kamal please coordinate with RES.
3. NRR/DE & RES. Kamal please coordinate with RES.
4. NRR/DE
- 5a. NRR/DORL
- 5b/c. NRR/DE
7. NRR/DE

Thanks,
kerby

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

From: RidsNrrMailCenter Resource

Sent: Wednesday, March 16, 2011 1:26 PM

To: RidsNrrDe Resource

Cc: Scales, Kerby

Subject: G20110177

Green ticket assigned to EDO on Seismic Safety Features in United States Operational Nuclear Reactor. EDO to coordinate with NRR, NSIR and OGC.

Thanks,
Patti

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

From: Jaegers, Cathy

Sent: Wednesday, March 16, 2011 10:39 AM

To: Rihm, Roger

Cc: RidsNrrMailCenter Resource; RidsNsirMailCenter Resource; Wimbush, Andrea; RidsOgcMailCenter Resource; Remsburg, Kristy; RidsOcaMailCenter Resource; Belmore, Nancy
Subject: ACTION: G20110177

Attached is the action green ticket for OEDO (Rihm) to coordinate with NRR and NSIR, if required. The ADAMS version will be sent after DPC processes.

From: Mayros, Lauren
To: Stahl, Eric; Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smioldo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis
Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Mamish, Nader; Dembek, Stephen
Subject: RE: OIP Ops Center Coverage: March 21-April 15
Date: Tuesday, March 22, 2011 2:47:58 PM

Hello Folks – Is there a kind person out there who can cover part of my shift on Wednesday, March 30th, from 12:00 pm until 3:00 pm? There is a meeting downtown that I really need to attend.

Thanks in advance to whomever is willing to cover those 3 hours for me!!

Lauren

From: Stahl, Eric
Sent: Tuesday, March 22, 2011 7:21 AM
To: Stahl, Eric; Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smioldo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis
Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Mamish, Nader; Dembek, Stephen
Subject: RE: OIP Ops Center Coverage: March 21-April 15

Based on the decreased level-of-work during the **11pm-7am** shift in recent days, only one staff member will need to cover the international liaison desk during that shift from now on.

On the coverage sheet, two people will still be listed as responsible for the shift's coverage. Now, only one of you will be expected to staff the Ops Center, while the other will be expected to serve as their back-up (in case you need to be called in due to heavy workload, illness, etc.). It is up to the two staff members designated to work the shift to determine who is responsible for being in the office. One person can cover all three days, you can rotate days, you can flip a coin for each day - the choice is yours and yours alone.

At this point, all other shifts will require two staff members covering the international liaison desks. If you all believe that two staff members is superfluous at any other times, please let me know.

I have attached the coverage document to this email for your awareness. If you have any other questions, please let me know.

Thanks again,
Eric

From: Stahl, Eric
Sent: Monday, March 21, 2011 10:39 PM

T/149

To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smioldo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis

Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Mamish, Nader; Dembek, Stephen

Subject: RE: OIP Ops Center Coverage: March 21-April 15

Is everyone having fun yet?

Please find a slightly revised copy of the OIP Ops Center coverage sheet through April 15. This document should include all changes made through Monday (that I was notified about). If you have any other changes, please let me know. If you have already told me you cannot work a shift, it is highlighted in yellow. If you would like to volunteer for one of the yellow shifts, please let me know. In addition, if you cannot work a shift that you have been designated to cover and have been unable to find a replacement yet, please let me know and I will update the sheet and try to find volunteers. Lastly, if you see any inaccuracies, please let me know.

As a reminder, please respond only to me and not the whole email distribution.

Thanks,

Eric

From: Stahl, Eric

Sent: Thursday, March 17, 2011 11:44 AM

To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smioldo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian

Cc: Doane, Margaret; Young, Francis; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Jones, Andrea; Mamish, Nader; Dembek, Stephen

Subject: OIP Ops Center Coverage: March 21-April 15

Team OIP –

First of all, thank you for providing input on such short notice concerning OIP's coverage of the international liaison desks in the Ops Center. Attached you will find the coverage sheet from March 21 through April 15. Most of you will work for three days on, followed by six days off. The reason for this is that management believed it was important to maintain staff consistency in the Ops Center, while not overburdening specific people.

Please read the following information carefully:

- I did my best to incorporate when you all preferred to work. Since most people preferred 7am-3pm, this did not always work.
- I did my best to incorporate feedback concerning you leave, CWS and travel into the document, this did not always work.
- If you are scheduled to work a shift that you cannot work (whether because you have leave, have other obligations, are on CWS, etc.), it is your responsibility to find a replacement. I will maintain the master copy, so if there is a change, please email it to me.

- I will plan on sending out updates to the sheet as necessary every few days.
- In addition to the people who have already been working in the Ops Center or will start shifts there soon, feel free to reach out to Gerri, Wilkins, Andrea, Kirk and Brooke when they return to the office. We have 20+ people in the office who are available and eager to help, so it should not be too difficult to find a replacement when needed.
 - At this point, we are under the assumption that we will need two people manning the international liaison desk through April 15. If this changes, we will let you know.

Once again, please look at the coverage spreadsheet closely. Your name may only appear a few times or it may appear 10+ times. In some cases you may have been substituted for people who are away on travel in what may appear to be random fashion. It is your responsibility to show up during your designated shift or to find a replacement for it. If you have any questions or concerns, please reply directly to me only.

Please note: coverage through this Sunday (March 20) has already been finalized. The document with this information is also attached.

Once again, thank you all for your contributions. Everyone understands this has been an overwhelming and challenging time for OIP, but I think everyone's eagerness to help and flexibility have been clearly demonstrated.

From: Stahl, Eric
To: Stahl, Eric; Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis
Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Mamish, Nader; Dembek, Stephen
Subject: RE: OIP Ops Center Coverage: March 21-April 15
Date: Tuesday, March 22, 2011 7:21:01 AM
Attachments: March 21 - April 15 - International Liaison Schedule.doc

Based on the decreased level-of-work during the **11pm-7am** shift in recent days, only one staff member will need to cover the international liaison desk during that shift from now on.

On the coverage sheet, two people will still be listed as responsible for the shift's coverage. Now, only one of you will be expected to staff the Ops Center, while the other will be expected to serve as their back-up (in case you need to be called in due to heavy workload, illness, etc.). It is up to the two staff members designated to work the shift to determine who is responsible for being in the office. One person can cover all three days, you can rotate days, you can flip a coin for each day - the choice is yours and yours alone.

At this point, all other shifts will require two staff members covering the international liaison desks. If you all believe that two staff members is superfluous at any other times, please let me know.

I have attached the coverage document to this email for your awareness. If you have any other questions, please let me know.

Thanks again,
Eric

From: Stahl, Eric
Sent: Monday, March 21, 2011 10:39 PM
To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis
Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Mamish, Nader; Dembek, Stephen
Subject: RE: OIP Ops Center Coverage: March 21-April 15

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T/150

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Thanks,
Eric

From: Stahl, Eric

Sent: Thursday, March 17, 2011 11:44 AM

To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smioldo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian

Cc: Doane, Margaret; Young, Francis; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Jones, Andrea; Mamish, Nader; Dembek, Stephen

Subject: OIP Ops Center Coverage: March 21-April 15

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- In addition to the people who have already been working in the Ops Center or will start shifts there soon, feel free to reach out to Gerri, Wilkins, Andrea, Kirk and Brooke when they return to the office. We have 20+ people in the office who are available and eager to help, so it should not be too difficult to find a replacement when needed.
- At this point, we are under the assumption that we will need two people manning the international liaison desk through April 15. If this changes, we will let you know.

Once again, please look at the coverage spreadsheet closely. Your name may only appear a few times or it may appear 10+ times. In some cases you may have been substituted for people who are away on travel in what may appear to be random fashion. It is your responsibility to show up during your designated shift or to find a replacement for it. If you have any questions or concerns, please reply directly to me only.

Please note: coverage through this Sunday (March 20) has already been finalized. The document

with this information is also attached.

Once again, thank you all for your contributions. Everyone understands this has been an overwhelming and challenging time for OIP, but I think everyone's eagerness to help and flexibility have been clearly demonstrated.

11/22

From: Nelson, Robert
To: Leeds, Eric; Boger, Bruce; Grobe, Jack
Cc: Meighan, Sean; Nguyen, Quynh; Oesterle, Eric; Marklev, Michael; Thomas, Eric; Bahadur, Sher; Blount, Tom; Brown, Frederick; Cheok, Michael; Evans, Michele; Ferrell, Kimberly; Galloway, Melanie; Gitter, Joseph; Givvines, Mary; Hiland, Patrick; Holian, Brian; Howe, Allen; Lee, Samson; Lubinski, John; McGinty, Tim; Quav, Theodore; Ruland, William; Skeen, David; Thomas, Brian
Subject: FYI: Comm Team SitRep
Date: Tuesday, March 22, 2011 4:11:22 PM
Attachments: FYI OBE SSE maximum flooding level and protection level for each operating reactor site.msg

1. Developed responses to 32 Qs received from various sources. Forwarded to OPA for review. Many came from RIV which has its first EOC meeting at Robinson on Thursday.
2. Working with the LT Chair Bill Ruland & Jim Corbett OIS to limit the impact of the AP FOIA while still complying with the request.
3. Supported the EDO's meeting with the Lt Governor of NY.
4. DORL is working to support a request from IL Cong Schilling for a briefing to his staff on Quad Cities.
5. Eric Thomas and DIRS staff are looking into additional info that can be provided to the staff regarding the Japan situation including:
 - a. Link to the Operating Experience COMM that we have been updating.
 - b. 1-pager listing a table with design information for each Fukushima Daiichi unit
 - c. A document that gets updated each day and includes status for each of the 6 units at Daiichi
 - d. Timelines for Units 1-4 since the beginning of the event
6. Distributed OBE/SSE info (see attached).
7. Completed screening of 11 potentially sensitive licensing actions. The decision was made to proceed with normal processing for all including an MUR for Limerick. Backlog of actions waiting to be screened reduced to one. We'll review that one later this week. We're maintaining a file of all screened actions.

NELSON

T/151

Attachment FYI OBE SSE maximum flooding level and protect.msg (2560 Bytes) cannot be converted to PDF format.

From: Hiland, Patrick
To: Gray, Kathy; Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Date: Tuesday, March 22, 2011 4:39:21 PM

Ok to all

From: Gray, Kathy
Sent: Tuesday, March 22, 2011 12:04 PM
To: Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza; Gray, Kathy
Subject: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Importance: High

Please confirm that you are available to provide coverage in the Ops Center, as the RST Director, as follows:

Reactor Safety Team (RST) Director Schedule

March 26 – April 2, 2011

Shift	3/26 (Sat)	3/27 (Sun)	3/28 (Mon)	3/29 (Tues)	3/30 (Wed)	3/31 (Thur)	4/1 (Fri)	4/2 (Sat)
7am– 3pm	Pat Hiland	Pat Hiland	Pat Hiland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Brian Holian
3pm– 11pm	Bill Ruland	Fred Brown	Fred Brown	Fred Brown	Fred Brown	Bill Ruland	Bill Ruland	Bill Ruland
11pm– 7am	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen	Dave Skeen	Dave Skeen	Dave Skeen

Thanks very much.

Kathy A. Gray
Information Management Asst.
Operating Experience Branch, DIRS/NRR
Rm. O-7F04, Phone: 301-415-1166
Kathy.Gray@nrc.gov

7/152

From: Hiland, Patrick
To: Gray, Kathy; Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Case, Michael; Holian, Brian; Dudes, Laura
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 4/3-10/2011
Date: Tuesday, March 22, 2011 4:38:18 PM

Ok with me

From: Gray, Kathy
Sent: Tuesday, March 22, 2011 2:40 PM
To: Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael; Holian, Brian; Dudes, Laura
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza; Gray, Kathy
Subject: ACTION: Confirmation requested for RST Director Schedule - 4/3-10/2011
Importance: High

Please confirm that you are available to provide coverage in the Ops Center, as the RST Director, as follows:

Reactor Safety Team (RST) Director Schedule

April 3 – April 10, 2011

Shift	4/3 (Sun)	4/4 (Mon)	4/5 (Tues)	4/6 (Wed)	4/7 (Thur)	4/8 (Fri)	4/9 (Sat)	4/10 (Sun)
7am– 3pm	Brian Holian	Brian Holian	Brian Holian	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen
3pm– 11pm	Bill Ruland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Pat Hiland	Pat Hiland	Pat Hiland
11pm– 7am	Laura Dudes	Laura Dudes	Laura Dudes	Laura Dudes	Fred Brown	Fred Brown	Fred Brown	Fred Brown

Thanks very much.

Kathy A. Gray
Information Management Asst.
Operating Experience Branch, DIRS/NRR
Rm. O-7F04, Phone: 301-415-1166
Kathy.Gray@nrc.gov

7/153

From: Gray, Kathy
To: Case, Michael
Cc: Thorp, John
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Date: Tuesday, March 22, 2011 3:05:30 PM

Thanks Mike. FYI – Dave has duty today from 3pm-11pm, so we may not hear back from him til tomorrow or Thursday.

Please note, if you do a complete swap of mids with Dave, you'll have duty March 30-April 2 (mids) and then day duty (7-3pm) starting April 6-9 – are you sure you're up for all those mids and days?

From: Case, Michael
Sent: Tuesday, March 22, 2011 2:54 PM
To: Skeen, David; Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

It looks like I'm very moveable since we're both on mids. Just propose which ones you want to do and I'll do the rest.

From: Skeen, David
Sent: Tuesday, March 22, 2011 2:48 PM
To: Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

All,

I will be unable to support the RST from April 1 – April 14, since I will be in Vienna for the Convention on Nuclear Safety. I can swap with someone and take one of the shifts earlier in the week, if someone would care to swap (maybe Fred or Mike?).

Thanks!

From: Gray, Kathy
Sent: Tuesday, March 22, 2011 12:04 PM
To: Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza; Gray, Kathy
Subject: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Importance: High

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Reactor Safety Team (RST) Director Schedule

March 26 – April 2, 2011

	3/26	3/27	3/28	3/29	3/30	3/31	4/1	4/2
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7/1/11

Shift	(Sat)	(Sun)	(Mon)	(Tues)	(Wed)	(Thur)	(Fri)	(Sat)
7am– 3pm	Pat Hiland	Pat Hiland	Pat Hiland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Brian Holian
3pm– 11pm	Bill Ruland	Fred Brown	Fred Brown	Fred Brown	Fred Brown	Bill Ruland	Bill Ruland	Bill Ruland
11pm– 7am	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen	Dave Skeen	Dave Skeen	Dave Skeen

Thanks very much.

Kathy A. Gray

Information Management Asst.

Operating Experience Branch, DIRS/NRR

Rm. O-7F04, Phone: 301-415-1166

Kathy.Gray@nrc.gov

From: Csontos, Aladar
To: Gavrilas, Mirela; Dunn, Darrell; Tregoning, Robert
Cc: Case, Michael; Richards, Stuart
Subject: RE: Feedback on Issues Related to Sea Water in a BWR Plant
Date: Wednesday, March 23, 2011 9:15:17 AM

Will do. Last night was the first email out and I was in a rush to get it out before 10pm.

From: Gavrilas, Mirela
Sent: Wednesday, March 23, 2011 9:14 AM
To: Dunn, Darrell; Csontos, Aladar; Tregoning, Robert
Subject: Re: Feedback on Issues Related to Sea Water in a BWR Plant

Thanks, Darrell.

Please keep me on cc if CMB staff is involved or provides information that is distributed beyond division boundary. .

M.

From: Dunn, Darrell
To: Gavrilas, Mirela
Sent: Wed Mar 23 08:01:58 2011
Subject: FW: Feedback on Issues Related to Sea Water in a BWR Plant

From: Csontos, Aladar
Sent: Tuesday, March 22, 2011 9:53 PM
To: Klein, Paul; Mendiola, Anthony; Ward, Leonard; Taylor, Robert; Tregoning, Robert; Hardies, Robert; Makar, Gregory; Dunn, Darrell
Subject: RE: Feedback on Issues Related to Sea Water in a BWR Plant

Folks,

I looked over the CNWRA 92-021 report that Darrell Dunn suggested, particularly Figure 3-15 on page 3-36. The SCC crack growth rates are not on the order of 0.001"/year as suggested in the salt paper that we got this am. Looking at Figure 3-15 for 316 in a creviced condition, CGRs are on the order of 0.1 mm/hr at 80C and at 3% NaCl or 0.01 mm/hr at 0.03% NaCl at a stress intensity of 15 kgf/mm^{3/2}. I'll have to do the conversion to MPa m^{1/2} to get a real gauge of the K relationship. Also, 304 would probably have a faster CGR than 316 (not sure but a trend between the two alloys).

Darrell returns tomorrow and I'll discuss this with him in the morning. If you want, we can get some preliminary calcs for component integrity for some stainless steel piping similar to the BWRs in Japan. Let me know if you want that.

Al

From: Klein, Paul

T/ISS

Sent: Tuesday, March 22, 2011 1:32 PM

To: Mendiola, Anthony; Ward, Leonard; Taylor, Robert

Cc: Tregoning, Robert; Hardies, Robert; Makar, Gregory; Klein, Paul; Csontos, Aladar

Subject: Feedback on Issues Related to Sea Water in a BWR Plant

Tony,

Rob Taylor requested I send our comments (from the staff on cc distribution) on the subject paper to you. Please see the attached file.

Paul Klein

USNRC

301-415-4030

Jimenez, Manuel

From: Conatser, Richard
Sent: Wednesday, March 23, 2011 8:32 AM
To: Jimenez, Manuel
Subject: RE: REMP Reporting Levels and Fukushima

Manny,

I do not have official, reliable, documented information.

Richard

From: Jimenez, Manuel
Sent: Tuesday, March 22, 2011 12:42 PM
To: Conatser, Richard
Subject: RE: REMP Reporting Levels and Fukushima

Richard

Do we have any information on occupational doses of workers at the site

Manuel

From: Conatser, Richard
Sent: Monday, March 21, 2011 2:00 PM
To: Werner, Greg; Henderson, Pamela; Dickson, Billy; Bonser, Brian
Cc: Garry, Steven; Pedersen, Roger; Jimenez, Manuel; Clemons-Webb, Candace; Shoop, Undine; Ricketson, Larry; Carson, Louis; Graves, Chris; Greene, Natasha; Alldredge, Casey
Subject: RE: REMP Reporting Levels and Fukushima

Here is a link to the EPA RadNet Air Monitoring System. The graphs are updated daily.

<http://www.epa.gov/japan2011/rert/radnet-data.html#air-monitoring>

It has graphs of gross beta on air filters for various cities on the west coast.

Gross beta is more subject to background variability and it lacks the sensitivity of I-131 analysis, but it is still a good gross indicator.

From: Werner, Greg
Sent: Monday, March 21, 2011 1:45 PM
To: Conatser, Richard; Henderson, Pamela; Dickson, Billy; Bonser, Brian
Cc: Garry, Steven; Pedersen, Roger; Jimenez, Manuel; Clemons-Webb, Candace; Shoop, Undine; Ricketson, Larry; Carson, Louis; Graves, Chris; Greene, Natasha; Alldredge, Casey
Subject: RE: REMP Reporting Levels and Fukushima

SONGS, Diablo, and Palo Verde are reporting air samples with I-131 at around 1 E-12 at this time. Over the weekend they were approximately 3 -5 E-13 at Diablo and SONGS.

Greg

From: Conatser, Richard
Sent: Monday, March 21, 2011 12:18 PM
To: Werner, Greg; Henderson, Pamela; Dickson, Billy; Bonser, Brian

From: Ordaz, Vonna
To: Richards, Stuart; Weaver, Doug; Mohseni, Aby; Davis, Jack
Cc: RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael; McConnell, Keith; Watson, Bruce; Camper, Larry; Deegan, George; Waters, Michael
Subject: RE: Decommissioning Type Information
Date: Wednesday, March 23, 2011 3:13:39 PM

Thanks, Stu. We'll get back to you.

Vonna

From: Richards, Stuart
Sent: Wednesday, March 23, 2011 2:32 PM
To: Weaver, Doug; Mohseni, Aby; Davis, Jack
Cc: RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael; McConnell, Keith; Watson, Bruce; Camper, Larry; Deegan, George; Ordaz, Vonna; Waters, Michael
Subject: RE: Decommissioning Type Information
Importance: High

Dan Dorman has asked the Ops Center to respond to a number of questions related to the Japanese event.

Can NMSS respond to the following?

8. What should they be considering with respect to criticality prevention and decay heat removal during the entombment period?

The goal is to provide the response to the Ops Center by 6 pm tonight.

I will forward you the original request, which may help.

Thanks
Stu

From: Deegan, George
Sent: Wednesday, March 23, 2011 2:05 PM
To: Richards, Stuart; Camper, Larry
Cc: RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael; McConnell, Keith; Watson, Bruce
Subject: RE: Decommissioning Type Information

Stu- As your email came in, Brett Rini and I were speaking with one another. I indicated that FSME will be working on #7 (licensing requirements) and #9 (whatever relevant info we can pull together from the TMI event), but that the best shop for criticality type issues (Question #8) is probably NMSS.

From: Richards, Stuart
Sent: Wednesday, March 23, 2011 1:51 PM
To: Camper, Larry
Cc: Deegan, George; RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael
Subject: RE: Decommissioning Type Information

7/15/11

Larry

RES might be able to help you with Question #8. Richard Lee in DSA is our POC on this one.

We can provide you some thoughts on enclosures, but I agree that a good answer will take a lot of time and a lot more information on the status of the units.

Stu

From: Camper, Larry
Sent: Wednesday, March 23, 2011 12:49 PM
To: Dorman, Dan
Cc: Deegan, George; RST01 Hoc; Bowman, Gregory; Hickman, John
Subject: Decommissioning Type Information

Dan,

Greetings! Trust you are holding up well over there! Regarding your message of earlier today, we will be able to provide feedback on Question number 6 today by the 18:00 timeframe. Questions 6,8 and 9 will require a bit of review and interface with RES but we will start that process today. Standby for a better timeline on those. The staff did some work on the entombment issue via a couple of SECY's but the approach died out because it became clear that industry was not going to utilize it in the US. Of course, the situation in Japan is quite different etc. Regardless, our earlier work should be of some benefit but we just have to resurrect it and review etc. In thinking ahead just a bit, I suspect that we will need to put together some sort of Task Force or think tank type group to analyze possible paths forward for the overall decommissioning of the site and for the related waste management etc. Of course, we have some time to think about this issue but not too long etc.

Esmaili, Hossein

From: Helton, Donald
Sent: Wednesday, March 23, 2011 2:36 PM
To: Tinkler, Charles; Marksberry, Don; Salay, Michael; Schaperow, Jason; Esmaili, Hossein
Subject: Questions from our Hallway Discussion
Attachments: Suggested Questions of Interest for the RST Severe Accident Analyst - 032311.docx

All,

These are the questions that I compiled from our hallway discussion this morning...

Don

Don Helton
Senior Reliability & Risk Engineer
Division of Risk Analysis
NRC Office of Nuclear Regulatory Research
Physical address: 21 Church Street, CSB4-C9, Rockville, MD 20850
Postal address: US NRC / MS CSB4-C7M / Washington, DC 20555
Ph: 301 251-7594, Donald.Helton@nrc.gov

T/158

Suggested Questions of Interest for the RST Severe Accident Analyst:

Reminder: The RST Severe Accident Analyst should touch base with the PMT RASCAL analyst at the beginning of each shift, and periodically throughout the shift (recall that the RST/PMT liaison positions are not being staffed).

Reactors:

- ❖ Venting:
 - What were the vent paths used for the primary containment venting: drywell versus suppression pool airspace?
- ❖ (Potential) primary containment failure:
 - What is the basis for reports that the Unit 3 primary containment may be failed? Reports had previously indicated that the Unit 3 primary containment was pressurized, well after the initiating events and the hydrogen deflagration/detonation in the reactor building.
- ❖ Hydrogen:
 - What particular concern do the Japanese have regarding hydrogen accumulation on Unit 2? Is this a concern about primary containment becoming de-interted in the long-term, or due to containment failure, or is it a concern regarding a deflagration/detonation in the reactor building?
- ❖ Water injection:
 - What are the current estimated injection rates in to Units 1-3? Is the injection in to the RPV or the suppression pool?
- ❖ Water spraying:
 - Is the purpose of spraying water into reactor buildings for units 1, 3, and 4 to cool the primary containment by external spray onto the torus?
 - For reactor building 2, spraying water is not being done, so what is being done to cool the primary containment?
- ❖ Data requests:
 - For each reactor, could we get a plot (or enough data points to make a plot) for each of the critical indications listed below? If not, could we at least get a current, verified reading for these?
 - Reactor vessel pressure
 - Reactor vessel water level
 - Primary containment pressure
 - Primary containment hydrogen concentration

Spent Fuel Pools:

- ❖ Coolant inventory:
 - How much water is in each of the spent fuel pools for units 1, 2, 3, and 4?
 - Did the concrete pump used to put water in the unit 4 spent fuel pool have a camera on it? If so, what did the video show?

- Why was the pump stopped after delivering 150 tons of water? 150 tons is not enough to fill the spent fuel pool.

Other:

- ❖ Are any of the NRC in-country representatives stationed in the TEPCO or NISA Emergency Operations Facilities? If so, are they in a position to relay some of the measurements that are available (such as ones that would answer the above questions)?
- ❖ Has any assessment been done of the I-131/Cs-137 ratios that are being observed via field measurements, to determine if they originated from a reactor release versus a spent fuel pool release?
- ❖ What is the status of replacing spray/injection sources with potable water, rather than continuing to use seawater?
- ❖ Has water been observed draining from the loading bay door (or other areas) of any of the reactor buildings, coincident with the spraying operations?

Lee, Richard

From: Richards, Stuart
Sent: Wednesday, March 23, 2011 2:32 PM
To: Weaver, Doug; Mohseni, Aby; Davis, Jack
Cc: RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael; McConnell, Keith; Watson, Bruce; Camper, Larry; Deegan, George; Ordaz, Vonna; Waters, Michael
Subject: RE: Decommissioning Type Information
Importance: High

Dan Dorman has asked the Ops Center to respond to a number of questions related to the Japanese event.

Can NMSS respond to the following?

8. What should they be considering with respect to criticality prevention and decay heat removal during the entombment period?

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Stu

From: Deegan, George
Sent: Wednesday, March 23, 2011 2:05 PM
To: Richards, Stuart; Camper, Larry
Cc: RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael; McConnell, Keith; Watson, Bruce
Subject: RE: Decommissioning Type Information

Stu- As your email came in, Brett Rini and I were speaking with one another. I indicated that FSME will be working on #7 (licensing requirements) and #9 (whatever relevant info we can pull together from the TMI event), but that the best shop for criticality type issues (Question #8) is probably NMSS.

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To: Camper, Larry
Cc: Deegan, George; RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael
Subject: RE: Decommissioning Type Information

Larry

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We can provide you some thoughts on enclosures, but I agree that a good answer will take a lot of time and a lot more information on the status of the units.

Stu

From: Camper, Larry
Sent: Wednesday, March 23, 2011 12:49 PM

T/159

To: Dorman, Dan

Cc: Deegan, George; RST01 Hoc; Bowman, Gregory; Hickman, John

Subject: Decommissioning Type Information

Dan,

Greetings! Trust you are holding up well over there! Regarding your message of earlier today, we will be able to provide feedback on Question number 6 today by the 18:00 timeframe. Questions 6,8 and 9 will require a bit of review and interface with RES but we will start that process today. Standby for a better timeline on those. The staff did some work on the entombment issue via a couple of SECY's but the approach died out because it became clear that industry was not going to utilize it in the US. Of course, the situation in Japan is quite different etc. Regardless, our earlier work should be of some benefit but we just have to resurrect it and review etc. In thinking ahead just a bit, I suspect that we will need to put together some sort of Task Force or think tank type group to analyze possible paths forward for the overall decommissioning of the site and for the related waste management etc. Of course, we have some time to think about this issue but not too long etc.

Lee, Richard

From: Rini, Brett
Sent: Wednesday, March 23, 2011 2:14 PM
To: Deegan, George; Richards, Stuart; Camper, Larry
Cc: RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Case, Michael; McConnell, Keith; Watson, Bruce
Subject: RE: Decommissioning Type Information

George et al,

I discussed these questions with Brian Sheron. He recommended that we send any questions regarding entombment (original questions 6 and 8) to DOE via the Liaison Team in the Ops Center. DOE was heavily involved with the response to Chernobyl and would be the best source of historical information.

I've passed this information to Greg over the phone.

Thanks,

Brett

Brett A. Rini

Technical Assistant
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission
(301)251-7615
Brett.Rini@nrc.gov

From: Deegan, George
Sent: Wednesday, March 23, 2011 2:05 PM
To: Richards, Stuart; Camper, Larry
Cc: RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael; McConnell, Keith; Watson, Bruce
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Cc: Deegan, George; RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael
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To: Dorman, Dan
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Subject: Decommissioning Type Information

Dan,
Greetings! Trust you are holding up well over there! Regarding your message of earlier today, we will be able to provide feedback on Question number 6 today by the 18:00 timeframe. Questions 6,8 and 9 will require a bit of review and interface with RES but we will start that process today. Standby for a better timeline on those. The staff did some work on the entombment issue via a couple of SECY's but the approach died out because it became clear that industry was not going to utilize it in the US. Of course, the situation in Japan is quite different etc. Regardless, our earlier work should be of some benefit but we just have to resurrect it and review etc. In thinking ahead just a bit, I suspect that we will need to put together some sort of Task Force or think tank type group to analyze possible paths forward for the overall decommissioning of the site and for the related waste management etc. Of course, we have some time to think about this issue but not too long etc.

Lee, Richard

From: Burnell, Scott
Sent: Wednesday, March 23, 2011 1:56 PM
To: Lee, Richard
Cc: Elkins, Scott; Gibson, Kathy; Wagner, Katie; Coyne, Kevin
Subject: RE: Station blackout questions

Importance: High

All;

Another reporter is interested in CR-6890:

I need someone to go over appendix B from NUREG-1776 with me, and tell me if there is an updated version of that appendix. I don't see it in NUREG/CR-6890

Is it possible to locate someone on very short notice for that sort of discussion? Thanks.

Scott

7/162

Lee, Richard

From: Richards, Stuart
Sent: Wednesday, March 23, 2011 1:51 PM
To: Camper, Larry
Cc: Deegan, George; RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael
Subject: RE: Decommissioning Type Information

Larry

RES might be able to help you with Question #8. Richard Lee in DSA is our POC on this one.

We can provide you some thoughts on enclosures, but I agree that a good answer will take a lot of time and a lot more information on the status of the units.

Stu

From: Camper, Larry
Sent: Wednesday, March 23, 2011 12:49 PM
To: Dorman, Dan
Cc: Deegan, George; RST01 Hoc; Bowman, Gregory; Hickman, John
Subject: Decommissioning Type Information

Dan,
Greetings! Trust you are holding up well over there! Regarding your message of earlier today, we will be able to provide feedback on Question number 6 today by the 18:00 timeframe. Questions 6,8 and 9 will require a bit of review and interface with RES but we will start that process today. Standby for a better timeline on those. The staff did some work on the entombment issue via a couple of SECY's but the approach died out because it became clear that industry was not going to utilize it in the US. Of course, the situation in Japan is quite different etc. Regardless, our earlier work should be of some benefit but we just have to resurrect it and review etc. In thinking ahead just a bit, I suspect that we will need to put together some sort of Task Force or think tank type group to analyze possible paths forward for the overall decommissioning of the site and for the related waste management etc. Of course, we have some time to think about this issue but not too long etc.

T/163

Lee, Richard

From: Skarda, Raymond
Sent: Wednesday, March 23, 2011 11:56 AM
To: Lee, Richard
Subject: FW: NRC Operations Center Watchbill for Japan Event
Attachments: raycv_02_09_11.pdf

Richard,

I saw Kathy's note from yesterday that you are POC for these activities. I volunteered Severe Accident/PRA - per below. If you see other positions where I might be able to contribute please let me know as well.

Operations Center requested qualifications so I sent those below. I've attached a CV here for your use with more detail.

Thanks,

Ray

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

From: OST02 HOC
Sent: Monday, March 21, 2011 4:28 PM
To: Skarda, Raymond
Subject: RE: NRC Operations Center Watchbill for Japan Event

Ray...

Thanks!! I have passed your information to the RST Coordinator and we'll be back in touch with you.

Thanks for your patience!
OST02

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

From: Skarda, Raymond
Sent: Monday, March 21, 2011 4:14 PM
To: OST02 HOC
Subject: RE: NRC Operations Center Watchbill for Japan Event

Qualifications:

NARB/DSA/RES -

- MELCOR validation modeling and review of integral Pressurized Water Reactor Severe Accidents - NuScale and mPower
- Review of TRACE calculations and simulations of integral pressurized water reactor design basis accidents.
- Expert Panel Review Member for Aqueous Homogenous Reactor Interim Staff Guidance: Reactor Core, Reactor Cooling Systems, Accident Analysis.
- Point kinetics-radiolytic gas calculations for solution reactors with power oscillations
- HTGR-NGNP triso particle analytical diffusion calculations

Analytical and Numerical modeling of nuclear device criticality accidents/events - 2004-2007 Previous member of LANL JTOT (emergency response home team) - training exercises as device modeler, DOE rad worker II certified

7/1/64

MCNP training follow on unusual geometry criticality calculations

PhD Mechanical Engineering,
Licensed Professional Engineer Mechanical Engineering

Ray

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

From: OST02 HOC
Sent: Monday, March 21, 2011 3:56 PM
To: Skarda, Raymond
Subject: RE: NRC Operations Center Watchbill for Japan Event

Hello Ray...

Please hold off on these slots for now as there may already be someone else in these slots. If you would, please provide your qualifications so that we can share them with the RST Coordinator. If other time slots become available for the team, based on your qualifications, we will get in touch with you.

Sorry for the confusion.

Thanks...
OST02

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

From: OST02 HOC
Sent: Monday, March 21, 2011 12:54 PM
To: Skarda, Raymond
Subject: RE: NRC Operations Center Watchbill for Japan Event

Thank you Ray.

Confirmed for:
Severe Accident/PRA, Fri-Sat 3/25-3/26 11pm-7am Severe-Accident/PRA Thurs-Fri 3/31-4/1 11pm-7am
Severe-Accident/PRA Fri-Sat 4/1-4/2 11pm-7am

Would you be available for??:
Severe Accident/PRA Tues-Wed 3/22-3/23 11pm-7am

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

From: Skarda, Raymond
Sent: Monday, March 21, 2011 11:58 AM
To: OST02 HOC
Subject: FW: NRC Operations Center Watchbill for Japan Event

Hi,

I just spoke with someone in ops/adm. Regarding following:

Willing to fill positions below

Severe Accident/PRA Thurs-Fri 3/24-3/25 11pm-7am

Severe Accident/PRA, Fri-Sat 3/25-3/26 11pm-7am

Severe-Accident/PRA Thurs-Fri 3/31-4/1 11pm-7am

Severe-Accident/PRA Fri-Sat 4/1-4/2 11pm-7am

Can Schedule further out if needed.

Sincerely,

Ray Skarda

J. Raymond Skarda
Division of System Analysis
Office of Regulatory Research
U.S. Nuclear Regulatory Commission
(301)251-7969

From: Gibson, Kathy
Sent: Saturday, March 19, 2011 4:17 PM
To: Gavrilas, Mirela; RES_DSA
Subject: Fw: NRC Operations Center Watchbill for Japan Event

Operations Center is looking for support. Please see the attached watchbill and if there is a position you can fill, let the ops center (and your supervisor) know.

Thanks!


From: OST02 HOC
To: Abrams, Charlotte; Adams, John; Afshar-Tous, Mugeh; Alemu, Bezakulu; Alter, Peter; Anderson, James; Ashkeboussi, Nima; Athey, George <george.athey@nrc.gov>; Baker, Stephen; Bergman, Thomas; Berry, Rollie; Bhachu, Ujagar; Bloom, Steven; Blount, Tom; Boger, Bruce; Borchardt, Bill; Bower, Anthony; Bowman, Gregory; Brandon, Lou; Brandt, Philip; Brock, Kathryn; Brown, Cris; Brown, David; Brown, Eva; Brown, Frederick; Brown, Michael; Bukharin, Oleg; Camper, Larry; Carpenter, Cynthia; Carter, Mary; Case, Michael; Casto, Greg; Cecere, Bethany; Cervera, Margaret; Chazell, Russell; Chen, Yen-Ju; Cheok, Michael; Chokshi, Niles; Chowdhury, Prosanta; Circle, Jeff; Clement, Richard; Clinton, Rebecca; Coggins, Anita <anita.coggins@nrc.gov>; Collins, Frank; Cool, Donald; Costa, Richard; Crutchley, Mary Glenn; Cruz, Zahira; Cutaiar, Robert <robert.cutaiar@nrc.gov>; Dacus, Eugene; DeCicco, Joseph; Decker, David; Dembek, Stephen; Devlin, Stephanie; Doane, Margaret; Dorman, Dan; Dorsey, Cynthia; Dozier, Jerry; Droggitis, Spiros; Dube, Donald; Dudes, Laura; Eads, Johnny; Emche, Danielle; English, Lance; Erlanger, Craig; Esmaili, Hossein; Figueroa, Roberto; Fiske, Jonathan; Floyd, Daphene; Foggie, Kirk; Foster, Jack; Fragoyannis, Nancy; Franovich, Rani; Frazier, Alan; Freshwater, David <david.freshwater@nrc.gov>; Fuller, Edward; Galletta, Thomas; Gambone, Kimberly; Gibson, Kathy; Giitter, Joseph; Gilmer, James; Gordon, Dennis; Gott, William; Grant, Jeffery; Grimes, Kelly; Grobe, Jack; Gulla, Gerald; Hale, Jerry; Hardesty, Duane; Harris, Tim; Hart, Ken; Hart, Michelle; Harvey, Brad; Hasselberg, Rick; Henderson, Karen; Hiland, Patrick; Holahan, Patricia; Holahan, Vincent; Holian, Brian; Howard, Tabitha; Huffert, Anthony; Hurd, Sapna; Huyck, Doug; Isom, James; Jackson, Karen; Jacobson, Jeffrey; Jessie, Janelle; Johnson, Michael; Jolicoeur, John; Jones, Andrea; Jones, Cynthia; Kahler, Carolyn; Kammerer, Annie; Karas, Rebecca; Khan, Omar; Kolb, Timothy; Kotzalas, Margie; Kowalczyk, Jeffrey; Kratchman, Jessica; Kugler, Andrew; Lamb, Christopher; Lane, John; Larson, Emily; Laur, Steven; LaVie, Steve; Lewis, Robert; Li, Yong; Lising, Jason; Lombard, Mark; Lubinski, John; Lui, Christiana; Lynch, Jeffery; Mamish, Nader; Manahan, Michelle; Marksberry, Don; Marshall, Jane; Masao, Nagai <nagai.masao@nrc.gov>; Maupin, Cardilia <cardilia.maupin@nrc.gov>; Mayros, Lauren; Mazaika, Michael; McConnell, Keith; McCoppin, Michael; McDermott, Brian; McGinty, Tim; McGovern, Denise; McMurtray,

Anthony; Merritt, Christina; Meyer, Karen; Miller, Charles; Miller, Chris; Milligan, Patricia; Mohseni, Aby; Moore, Scott; Morlang, Gary; Morris, Scott; Mroz (Sahm), Sara; Munson, Clifford; Murray, Charles; Nerret, Amanda; Nguyen, Carolyn <carolyn.nguyen@nrc.gov>; Norris, Michael; Norton, Charles; Ordaz, Vonna; Owens, Janice; Padovan, Mark; Parillo, John; Patel, Jay; Perin, Vanice; Pope, Tia; Powell, Amy; Purdy, Gary; Quinlan, Kevin; Ragland, Robert; Ragland, Randolph; Ralph, Melissa; Ramsey, Jack; Reed, Elizabeth; Reed, Sara <sara.reed@nrc.gov>; Reed, Wendy; Reis, Terrence; Resner, Mark; Riley (OCA), Timothy; Riner, Kelly; Rini, Brett; Robinson, Edward; Rodriguez-Luccioni, Hector; Rosenberg, Stacey; Ross-Lee, MaryJane; Roundtree, Amy; Ruland, William; Salay, Michael; Salter, Susan; Salus, Amy; Sanfilippo, Nathan; Scarbrough, Thomas; Schaperow, Jason; Schmidt, Duane; Schmidt, Rebecca; Schoenebeck, Greg; Schrader, Eric; Schwartzman, Jennifer; Seber, Dogan; See, Kenneth; Shane, Raeann; Shea, James; Shepherd, Jill; Sheron, Brian; Skeen, David; Sloan, Scott; Smioldo, Elizabeth; Smith, Brooke; Smith, Theodore; Stahl, Eric; Stang, Annette; Steger (Tucci), Christine; Stieve, Alice; Stone, Rebecca; Stransky, Robert; Sturz, Fritz; Sullivan, Randy; Sun, Casper; Tappert, John; Temple, Jeffrey; Thaggard, Mark; Thomas, Eric; Thorp, John; Tobin, Jennifer; Trefethan, Jean <jean.trefethan@nrc.gov>; Tschiltz, Michael; Turtill, Richard; Uhle, Jennifer; Valencia, Sandra; Vaughn, James; Vick, Lawrence; Virgilio, Martin; Virgilio, Rosetta; Ward, Leonard; Wastler, Sandra; Watson, Bruce; Webber, Robert; Weber, Michael; White, Bernard; Wiggins, Jim; Williams, Donna; Williams, Joseph; Williamson, Linda; Willis, Dori; Wimbush, Andrea; Wittick, Brian; Wray, John; Wright, Lisa (Gibney); Wright, Ned; Wunder, George; Young, Francis; Zimmerman, Roy

Sent: Sat Mar 19 06:23:06 2011

Subject: NRC Operations Center Watchbill for Japan Event

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

Lee, Richard

From: Santiago, Patricia
Sent: Wednesday, March 23, 2011 11:49 AM
To: Ramirez, Annie; Elkins, Scott; Zaki, Tarek; Lee, Richard; Bush-Goddard, Stephanie; Hoxie, Chris
Cc: Navarro, Carlos
Subject: RE: ACTION: Japan Impacts (Due @ 11:00AM Today)

Some MACCS work may be slowed as well since Nate Bixler is helping but I don't see a long term impact. And as you note most everything for SOARCA.
thanks

From: Ramirez, Annie
Sent: Wednesday, March 23, 2011 10:25 AM
To: Elkins, Scott; Zaki, Tarek; Lee, Richard; Bush-Goddard, Stephanie; Santiago, Patricia; Hoxie, Chris
Subject: ACTION: Japan Impacts (Due @ 11:00AM Today)
Importance: High

BC's

Please see the e-mail below and let me know if you have any input.

From: Gibson, Kathy
Sent: Wednesday, March 23, 2011 10:20 AM
To: Armstrong, Kenneth; Ramirez, Annie
Subject: Fw: Impacts

Please forward to the BCs and request response by 11 so I can review and get to Brian at 11:30.

Thx

From: Sheron, Brian
To: Rini, Brett; Case, Michael; Coe, Doug; Correia, Richard; Gibson, Kathy; Richards, Stuart; Scott, Michael; Uhle, Jennifer; Valentin, Andrea
Sent: Wed Mar 23 10:03:49 2011
Subject: Impacts

Bill Borchardt is having a meeting from 12:30 pm to 1:30 pm today with Office Directors and RAs to discuss how the Japanese event is impacting our work. So far, I am aware of the impact on SOARCA, and I am assuming there will be some impact on our seismic work.

1.) Mike, can I get a little more detail on what the impact is, if any, on our seismic work because of Annie's and Jon Ake's participation.

2.) Please let me know if there are other areas that are or will be impacted by the Japanese event. I need this by about 11:30 am today. Thanks.

T/165

Lee, Richard

From: Farmer, Mitchell T. [farmer@anl.gov]
Sent: Wednesday, March 23, 2011 11:36 AM
To: Salay, Michael
Cc: Lee, Richard; Tinkler, Charles
Subject: FW: A file has been uploaded for you

Hi Mike,

The reports can be downloaded from the temporary website shown below. I accidentally attached 'cat2 final' also that isn't really relevant to your request, so you might want to note that (although they may want to look at it when sanity returns).

Mitch

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

From: Herman, Andjelka
Sent: Wednesday, March 23, 2011 10:30 AM
To: Farmer, Mitchell T.
Subject: FW: A file has been uploaded for you

Mitch,

See below for the link.

Let me know if you have problems.

Angie Herman

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

From: filetransfer@anl.gov [mailto:filetransfer@anl.gov]
Sent: Wednesday, March 23, 2011 10:30 AM
To: Herman, Andjelka
Subject: A file has been uploaded for you

A file has been uploaded by () through the Argonne National Laboratory File Transfer Utility so that you may have access to it.

Clicking on the following link will bring you to the download page.
<https://webapps.anl.gov/filetransfer/downloader/977849055012558/>

Any files at this location will be deleted after 30 days.

Note: This email was automatically generated. For assistance, contact the CIS Help Desk at 630-252-9999, option 2

T/1166

Lee, Richard

From: Kelly, John E (NE) [JohnE.Kelly@Nuclear.Energy.Gov]
Sent: Wednesday, March 23, 2011 11:29 AM
To: Lee, Richard
Subject: RE: VGs and Seismic Q&A provided to Secretary Chu

test

From: Lee, Richard [mailto:Richard.Lee@nrc.gov]
Sent: Friday, March 18, 2011 4:12 PM
To: Kelly, John E (NE)
Subject: VGs and Seismic Q&A provided to Secretary Chu

John:

Attached are the VG and the document Brian provided during our meeting at DOE.

Richard

P.S. Just to let you know that NRC receives three FOIA requests from the Associated Press for information related to the event in Japan.

7/16/11

Lee, Richard

From: Farmer, Mitchell T. [farmer@anl.gov]
Sent: Wednesday, March 23, 2011 10:39 AM
To: Salay, Michael
Cc: Lee, Richard; Basu, Sudhamay
Subject: RE: MCCI Info for RST and NISA - Fukushima

Hi Mike,

I'm having the final versions uploaded to a temproray website right now so you can send on to Japan. (It's about 30 MB) - this is project final as well as MCCI final which I think you are most interested in.

Mitch

From: Salay, Michael [mailto:Michael.Salay@nrc.gov]
Sent: Wednesday, March 23, 2011 9:08 AM
To: Farmer, Mitchell T.
Cc: Lee, Richard; Basu, Sudhamay
Subject: MCCI Info for RST and NISA - Fukushima
Importance: High

Mitch,

The RST has requested documentation

Would you provide me with a copy of a report that provides an up to date summary of the status of knowledge on MCCI – e.g. conditions under which it occurs? Since Japan is a member country to the OECD MCCI project they should have access to the recent info. (I discussed with Sud Basu)

I thought of the mcci-2 final_7_draft (Nov 2010). After glancing over seems to be more experiment-centric. If you think that is the best summary I'll send with a notice of restrictions on access. If you have something that you think would be more useful, please send.

Thanks,
-Mike

Michael Salay
United States Nuclear Regulatory Commission
Washington, DC 20555
MS: C3-C07M
michael.salay@nrc.gov
tel: 301-251-7543
fax: 301-251-7436

7/168

Lee, Richard

From: Ramirez, Annie
Sent: Wednesday, March 23, 2011 10:25 AM
To: Elkins, Scott; Zaki, Tarek; Lee, Richard; Bush-Goddard, Stephanie; Santiago, Patricia; Hoxie, Chris
Subject: ACTION: Japan Impacts (Due @ 11:00AM Today)
Importance: High

BC's

Please see the e-mail below and let me know if you have any input.

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1.) Mike, can I get a little more detail on what the impact is, if any, on our seismic work because of Annie's and Jon Ake's participation.

2.) Please let me know if there are other areas that are or will be impacted by the Japanese event. I need this by about 11:30 am today. Thanks.

T/1169

Lee, Richard

From: Salay, Michael
Sent: Wednesday, March 23, 2011 10:08 AM
To: Farmer, Mitchell T.
Cc: Lee, Richard; Basu, Sudhamay
Subject: MCCI Info for RST and NISA - Fukushima

Importance: High

Mitch,

The RST has requested documentation

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Thanks,
-Mike

Michael Salay
United States Nuclear Regulatory Commission
Washington, DC 20555
MS: C3-C07M
michael.salay@nrc.gov
tel: 301-251-7543
fax: 301-251-7436

T/mo

Lee, Richard

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 9:59 AM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: RE: SOARCA App A - Peach Bottom

Pat – I got your voicemail message just now and was looking for the zip file, it looks like this is all figured out now. Can you confirm that this action (item #33, <http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>) is complete now? –
Thanks, Katie

From: Santiago, Patricia
Sent: Wednesday, March 23, 2011 9:54 AM
To: Dacus, Eugene
Cc: Wagner, Katie
Subject: SOARCA App A - Peach Bottom

Eugene

This is the report that I sent you a password in an earlier email.

Thanks,

Pat

Patricia A. Santiago
Chief, Special Projects Branch
Division of Systems Analysis
Office of Nuclear Regulatory Research
Phone- 301-251-7982
Fax- 301-251-7426
Patricia.Santiago@nrc.gov

Lee, Richard

From: Gibson, Kathy
Sent: Wednesday, March 23, 2011 9:37 AM
To: Sheron, Brian; Uhle, Jennifer
Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin; Zigh, Ghani; Aissa, Mourad; Wagner, Katie
Subject: Re: TASKING FROM BRIAN SHERON

Let us know if you would like a briefing.

From: Aissa, Mourad
To: Gibson, Kathy
Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin; Zigh, Ghani
Sent: Wed Mar 23 09:31:18 2011
Subject: RE: TASKING FROM BRIAN SHERON

Request # 21 (Requestor: Brian Sheron, 3/21/2001): Evaluation of the risk benefit of pulling out spent fuel out of the SFP as soon as the specific assembly heat load permits.

Response:

Peach Bottom Unit 3 pool was used as illustrative example and the analysis results are based on spent pool inventory data from 2003 involving approximately 3000 fuel assemblies.

The analysis of the thermal heat load reduction achieved by removing fuel assemblies from the SFP is as follows (See attached graphs):

- **For assemblies cooled 5 years or longer, only:**
 - o Maximum heat reduction achievable is ~18%
 - o Number of removed assemblies: 2142
 - o Cask loading: 68 assemblies per cask
 - o Number of casks needed: 32
- **If assemblies cooled 3 year or longer are included:**
 - o Maximum heat reduction achievable is ~ 25%
 - o Number of removed assemblies: 2433
 - o Cask loading: 34 assemblies per cask for fuel 3-5 years old
 - o Number of casks needed: 41
- **The assemblies with cooling less than 3 years cannot be loaded in casks, regardless of cask loading reduction.**

Conclusion:

- Even when including the "3-year-or-older" assemblies, the remaining heat load is still elevated (only reduced by ~25%). The same is observed for pool activity (~30% reduction).

From: Lee, Richard
Sent: Wednesday, March 23, 2011 9:11 AM
To: Aissa, Mourad
Subject: FW: TASKING FROM BRIAN SHERON

Mourad:

Attached is the tasking from Brian.

Richard

From: Scott, Michael

Sent: Saturday, March 19, 2011 9:16 AM

To: Gibson, Kathy; Santiago, Patricia; Lee, Richard; Zigh, Ghani; Coyne, Kevin

Subject: TASKING FROM BRIAN SHERON

Brian advised me yesterday that he would like us to evaluate the risk benefit of pulling spent fuel out of the SFP as soon as the specific assembly heat load permits. The risk reduction could be in terms of time to boiling (I believe that would be small, since by definition fuel old enough to be put in dry storage would not contribute all that much to pool heatup), and with reduced source term in the SFP. He may have already spoken to Ghani about this. He does not want this work to interfere with crisis work, but does want the evaluation done.

Mike

Lee, Richard

From: Sheron, Brian
Sent: Wednesday, March 23, 2011 9:52 AM
To: Gibson, Kathy; Uhle, Jennifer
Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin; Zigh, Ghani; Aissa, Mourad; Wagner, Katie
Subject: RE: TASKING FROM BRIAN SHERON

This is not new information. When I first discussed with Charlie, he estimated that 80% of the heat load on the pool came from the most recently discharged fuel.

However, you increase the volume of water in the pool when you remove assemblies. This increases the water available for boiloff in the event of loss of pool cooling. Thus, you buy time for restoring pool cooling before uncover. The question is, how much time does this buy you?

Also, if you remove all assemblies that can be air cooled in casks, that allows you to spread out the remaining assemblies that require water cooling. Spreading them out improves their ability to transfer heat, even when uncovered. Specifically, if they are not in close contact with another assembly, radiation and convective heat transfer away from an uncovered assembly can either slow down the heat up time to ignition, or perhaps even prevent heat up to the ignition temperature. The question is, how much time does this buy you? And what is the cumulative amount of time you can buy from both effects?

Brief me when you get answers to the two other items.

From: Gibson, Kathy
Sent: Wednesday, March 23, 2011 9:37 AM
To: Sheron, Brian; Uhle, Jennifer
Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin; Zigh, Ghani; Aissa, Mourad; Wagner, Katie
Subject: Re: TASKING FROM BRIAN SHERON

Let us know if you would like a briefing.

From: Aissa, Mourad
To: Gibson, Kathy
Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin; Zigh, Ghani
Sent: Wed Mar 23 09:31:18 2011
Subject: RE: TASKING FROM BRIAN SHERON

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Response:

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 - o Number of casks needed: 32

7/173

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 - o Maximum heat reduction achievable is ~ 25%
 - o Number of removed assemblies: 2433
 - o Cask loading: 34 assemblies per cask for fuel 3-5 years old
 - o Number of casks needed: 41
- **The assemblies with cooling less than 3 years cannot be loaded in casks, regardless of cask loading reduction.**

Conclusion:

- Even when including the "3-year-or-older" assemblies, the remaining heat load is still elevated (only reduced by ~25%). The same is observed for pool activity (~30% reduction).

From: Lee, Richard
Sent: Wednesday, March 23, 2011 9:11 AM
To: Aissa, Mourad
Subject: FW: TASKING FROM BRIAN SHERON

Mourad:

Attached is the tasking from Brian.

Richard

From: Scott, Michael
Sent: Saturday, March 19, 2011 9:16 AM
To: Gibson, Kathy; Santiago, Patricia; Lee, Richard; Zigh, Ghani; Coyne, Kevin
Subject: TASKING FROM BRIAN SHERON

Brian advised me yesterday that he would like us to evaluate the risk benefit of pulling spent fuel out of the SFP as soon as the specific assembly heat load permits. The risk reduction could be in terms of time to boiling (I believe that would be small, since by definition fuel old enough to be put in dry storage would not contribute all that much to pool heatup), and with reduced source term in the SFP. He may have already spoken to Ghani about this. He does not want this work to interfere with crisis work, but does want the evaluation done.

Mike

Lee, Richard

From: Aissa, Mourad
Sent: Wednesday, March 23, 2011 9:42 AM
To: Gibson, Kathy
Subject: RE: TASKING FROM BRIAN SHERON

Kathy,
Please make sure that Brian gets the email attachment.
Thanks
Mourad

From: Gibson, Kathy
Sent: Wednesday, March 23, 2011 9:37 AM
To: Sheron, Brian; Uhle, Jennifer
Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin; Zigh, Ghani; Aissa, Mourad; Wagner, Katie
Subject: Re: TASKING FROM BRIAN SHERON

Let us know if you would like a briefing.

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Request # 21 (Requestor: Brian Sheron, 3/21/2001): Evaluation of the risk benefit of pulling out spent fuel out of the SFP as soon as the specific assembly heat load permits.

Response:

Peach Bottom Unit 3 pool was used as illustrative example and the analysis results are based on spent pool inventory data from 2003 involving approximately 3000 fuel assemblies.

The analysis of the thermal heat load reduction achieved by removing fuel assemblies from the SFP is as follows (See attached graphs):

- **For assemblies cooled 5 years or longer, only:**
 - o Maximum heat reduction achievable is ~18%
 - o Number of removed assemblies: 2142
 - o Cask loading: 68 assemblies per cask
 - o Number of casks needed: 32
- **If assemblies cooled 3 year or longer are included:**
 - o Maximum heat reduction achievable is ~ 25%
 - o Number of removed assemblies: 2433
 - o Cask loading: 34 assemblies per cask for fuel 3-5 years old
 - o Number of casks needed: 41
- **The assemblies with cooling less than 3 years cannot be loaded in casks, regardless of cask loading reduction.**

Conclusion:

- Even when including the "3-year-or-older" assemblies, the remaining heat load is still elevated (only reduced by ~25%). The same is observed for pool activity (~30% reduction).

From: Lee, Richard
Sent: Wednesday, March 23, 2011 9:11 AM
To: Aissa, Mourad
Subject: FW: TASKING FROM BRIAN SHERON

Mourad:

Attached is the tasking from Brian.

Richard

From: Scott, Michael
Sent: Saturday, March 19, 2011 9:16 AM
To: Gibson, Kathy; Santiago, Patricia; Lee, Richard; Zigh, Ghani; Coyne, Kevin
Subject: TASKING FROM BRIAN SHERON

Brian advised me yesterday that he would like us to evaluate the risk benefit of pulling spent fuel out of the SFP as soon as the specific assembly heat load permits. The risk reduction could be in terms of time to boiling (I believe that would be small, since by definition fuel old enough to be put in dry storage would not contribute all that much to pool heatup), and with reduced source term in the SFP. He may have already spoken to Ghani about this. He does not want this work to interfere with crisis work, but does want the evaluation done.

Mike

Lee, Richard

From: Zigh, Ghani
Sent: Wednesday, March 23, 2011 9:40 AM
To: Aissa, Mourad; Gibson, Kathy
Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin
Subject: RE: TASKING FROM BRIAN SHERON

What about the peak cladding temperature (PCT) while the spent fuel is in the dry cask.
It should be less than 400 C. that depends on the decay heat and placement of the rods in the cask.

From: Aissa, Mourad
Sent: Wednesday, March 23, 2011 9:31 AM
To: Gibson, Kathy
Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin; Zigh, Ghani
Subject: RE: TASKING FROM BRIAN SHERON
Importance: High

Request # 21 (Requestor: Brian Sheron, 3/21/2001): Evaluation of the risk benefit of pulling out spent fuel out of the SFP as soon as the specific assembly heat load permits.

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Subject: FW: TASKING FROM BRIAN SHERON

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Sent: Saturday, March 19, 2011 9:16 AM

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Subject: TASKING FROM BRIAN SHERON

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Mike

Lee, Richard

From: Salay, Michael
Sent: Wednesday, March 23, 2011 9:32 AM
To: RES_DSA_FSTB
Subject: RE: Severe accident related NUREGs relating to BWRs

Richard (and FSTB),

Some of these docs have been uploaded to sharepoint. I haven't cross checked and haven't uploaded any of the hydrogen stuff. We had already been collecting much of this info. I didn't seem to have write access to the FSTB site but could make links and new attached sites. So we now have a Fukushima site and a source term site. These sites, and the main FSTB site have links to each other in the right hand toolbar. Document collections are listed on the left hand toolbar.

All of FSTB should have write access to the In the source term. After entering a document collection from the left hand toolbar from one of these sites, documents can be uploaded using the "upload" tab at the top of the document list. New directories can be made using the "new" tab at the top of the list.

Links:

Main FSTB site: <http://portal.nrc.gov/edo/res/DSA/FSTB/default.aspx>

Fukushima site: <http://portal.nrc.gov/edo/res/DSA/FSTB/Fukushima/default.aspx>

Source term site: <http://portal.nrc.gov/edo/res/DSA/FSTB/sourceterm/default.aspx>

-Mike

Michael Salay
United States Nuclear Regulatory Commission
Washington, DC 20555
MS: C3-C07M
michael.salay@nrc.gov
~~tel: 301-251-7543~~
fax: 301-251-7436

From: Lee, Richard
Sent: Wednesday, March 23, 2011 8:11 AM
To: Marksberry, Don
Cc: Salay, Michael; Esmaili, Hossein; Notafrancesco, Allen
Subject: RE: Severe accident related NUREGs relating to BWRs

Thanks, Don.
I will have this add to share point site under FSTB, and work on getting the documents together.
Richard

From: Marksberry, Don
Sent: Wednesday, March 23, 2011 7:58 AM
To: Tinkler, Charles; Stutzke, Martin; Schaperow, Jason; Esmaili, Hossein; Lee, Richard; Salley, MarkHenry; Coyne, Kevin; RST01 Hoc; Helton, Donald
Subject: Severe accident related NUREGs relating to BWRs

From the old Reactor Safety Team resource library with inputs from Jocelyn Mitchell, Charlie Tinkler, and Farouk Eltawila.

A must read is NUREGCR-5132, Severe Accident Insights Report. (Farouk and Ralph Meyer went on a two week road show to give seminars at HQ, 5 Regional offices and TTC back in 1988.)

Please pass on others to me. I plan to setup a SharePoint page or ADAMS page (if I know how).

These are in ADAMS:

NUREG-0956, Reassessment of the Technical Bases for Estimating Source Terms, Final Report..pdf
NUREG-1079, Estimates of Early Containment Loads from Core Melt Accidents.pdf
NUREG-1228, Source Term Estimation During.pdf
NUREG-1465, Accident Source Terms for Light-Water Nuclear Power Plants, Final Report.pdf
NUREGCR-2940, Realistic Simulation of Severe Accidents in BWRs-Computer Modeling Requirements.pdf
NUREGCR-4041, System Analysis Handbook.pdf
NUREGCR-4177, Vol. 1, Management of Severe Accidents, Perspectives on Managing Severe Accidents in NPPs.pdf
NUREGCR-4177, Vol. 2, Management of Severe Accidents, Extending Plant Operating Procedures Into the Severe Accident Regime.pdf
NUREGCR-4214, Rev. 1, Part II, Add 1, Health Effects Models for Nuclear Power Plant Accident Consequence Analysis, Low LET Radiation.pdf
NUREGCR-4214, Rev. 1, Part II, Add 2, Health Effects Models for Nuclear Power Plant Accident Consequence Analysis - Alphas.pdf
NUREGCR-4214, Rev. 2, Part I, Health Effects Models for Nuclear Power Plant Accident Consequence Analysis.pdf
NUREGCR-4883, Review of Research on Uncertainties in Estimates of Source Terms from Severe Accidents in Nuclear Power Plants.pdf
NUREGCR-4920, Vol. 1, Assessment of Severe Accident Prevention and Mitigation Features - BWR, Mark I Containment.pdf
NUREGCR-4920, Vol. 3, Assessment of Severe Accident Prevention and Mitigation Features BWR, Mark III Containment Design.pdf
NUREGCR-4920, Vol. 4, Assessment of Severe Accident Prevention and Mitigation Features PWR, Large Dry Containment Design.pdf
NUREGCR-4920, Vol. 5, Assessment of Severe Accident Prevention and Mitigation Features PWR, Ice-Condenser Containment Design.pdf
NUREGCR-5132, Severe Accident Insights Report.pdf
NUREGCR-5368, Reactivity Accidents, A Reassessment of the Design-Basis Events.pdf
NUREGCR-5423, The Probability of Liner Failure in a Mark I Containment.pdf
NUREGCR-5447, Depressurization as an Accident Management Strategy to Minimize the Consequences of DCH.pdf
NUREGCR-5474_Assessment of Candidate Accident Management Strategies.pdf
NUREGCR-5634, Containment and Release Management Strategies for a BWR Mark I Containment.pdf
NUREGCR-5640, Overview and Comparison of U.S. Commercial Nuclear Power Plants.pdf
NUREGCR-5682, Specific Topics in Severe Accident Management.pdf
NUREGCR-5702, Accident Management Information Needs for a BWR with a MARK I Containment.pdf
NUREGCR-5780, Summary of a Workshop on Severe Accident Management for BWRs.pdf
NUREGCR-5869, Identification and Assessment of BWR In-Vessel Severe Accident Mitigation Strategies.pdf
NUREGCR-6042, R2, Perspective of Nuclear Safety.pdf
NUREGCR-6133, Fragmentation and Quench Behavior of Corium Melt Streams in Water.pdf
NUREGCR-6158_Implications for Accident Management of Adding Water to a Degrading Reactor Core.pdf
NUREGCR-6527, Final Results of the XR2-1 BWR Metallic Melt Relocation Experiment.pdf

Hydrogen

NUREGCR-1263, Detonability of H₂-Air-Diluent Mixtures (1987).pdf
NUREGCR-2475, Hydrogen Combustion Characteristics Related to Reactor Accidents (1981).pdf
NUREGCR-2486, Final Results of the Hydrogen Igniter Experimental Program (1981).pdf
NUREGCR-2726, Rev. 3, Light Water Reactor Hydrogen Manual.pdf
NUREGCR-4905, Detonability of H₂-Air-Diluent Mixtures.pdf
NUREGCR-4961, A Summary of Hydrogen - Air Detonation Experiments.pdf
NUREGCR-5079, Experimental Results Pertaining to the Performance of Thermal Igniters (1989).pdf
NUREGCR-5525, Hydrogen-Air-Diluent Detonation Study for Nuclear Reactor Safety Analyses (1991).pdf
NUREGCR-6530, Deliberate Ignition of Hydrogen-Air-Steam Mixtures in Condensing Steam Environments (1997).pdf
NUREGCR-6851, Hydrogen Effects on Air Oxidation of Zirlo Alloy (2004).pdf
Pages from NUREGCR-6042, R2, Perspective of Nuclear Safety, Section 4.6 Hydrogen Combustion.pdf

Lee, Richard

From: Salay, Michael
Sent: Wednesday, March 23, 2011 8:03 AM
To: RES_DSA_FSTB
Subject: RE: Fukushima

Please ensure that anything you guys upload indicates source and provides time so that conflicting information can be checked and timeline constructed. E.g. date image was taken, or time of sensor reading, or report written. This has typically been added in the filename.

Thanks,
-Mike

Michael Salay
United States Nuclear Regulatory Commission
Washington, DC 20555
MS: C3-C07M
michael.salay@nrc.gov
tel: 301-251-7543
fax: 301-251-7436

From: Notafrancesco, Allen
Sent: Tuesday, March 22, 2011 1:33 PM
To: Lee, Richard; Salay, Michael; RES_DSA_FSTB
Subject: RE: Fukushima

Mike,

On the site you put MELCOR calcs for a Mark I showing results of a LT SBO thru the time of containment failure, it appears it was taken from the SOARCA work.

Note some uncertainties have not been quantified, particularly I proposed the following scoping study to be performed years ago:

Specifically for BWRs, it appears during the melt progression we are under estimating the potential for "surrounding" metals to be added to the melt, if enough metal is added to the melt the thermal inertia and fission product evolution may be affected. For example, this aspect could affect Mark I containment failure timing caused by liner melt-through. Currently for BWRs, the external lower head structures such as CRDM, supports etc. are not modeled in the MELCOR state-of-the-art model, these components have significant mass and may fragment the melt front, moreover, the calculated temperatures of the steam separators are high enough to collapse these structures, also adding to the melt.

Just to make you aware of this, there are more complexities in the details... by the way the RES ranking process did not push to pursue this....Allen

From: Lee, Richard
Sent: Tuesday, March 22, 2011 12:22 PM
To: Salay, Michael; RES_DSA_FSTB
Subject: RE: Fukushima

Mike:

Let's FSTB staff review this among ourselves before we make it available to those outside of FSTB.

T/m

Thanks, Richard

From: Salay, Michael
Sent: Tuesday, March 22, 2011 9:11 AM
To: RES_DSA_FSTB
Subject: Fukushima

Hi guys,

The same questions keep getting raised after issues answers have been provided. It is good to have a central repository for information to reference to improve communications so that the same questions don't keep getting raised.

I set up folders (seen on the left side link) for issues that have arisen in the past few days. If I set it up right, FSTB can modify site and DSA can view and add documents.

The site is
<http://portal.nrc.gov/edo/res/DSA/FSTB/Fukushima/default.aspx>

located at
Office of Nuclear Regulatory Research > DSA > Fuel and Source Term Branch (FSTB) > Fukushima

If you guys agree – we can inform Kathy, etc and extend view to others.

By the way, issues and status are posted at:
<http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>

-Mike

Michael Salay
United States Nuclear Regulatory Commission
Washington, DC 20555
MS: C3-C07M
michael.salay@nrc.gov
tel: 301-251-7543
fax: 301-251-7436

Lee, Richard

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 3:30 PM
To: Zigh, Ghani
Cc: Lee, Richard
Subject: Items completed?
Attachments: image001.gif

Good Afternoon Ghani,

Could you please let me know if the following items are "Completed" or still "Pending"?

30	3/22/2011	Brian Sheron for NEI ! NEW	301-251-7400	Carlos Navarro x7485 Ghani Zigh x7505	SPB/DSA	Brian Sheron requests the BWR results from 2007 be sent to NEI. Report(s) may require redaction.	Send BWR report(s).	Pending
31	3/22/2011	S. Durbin for DOE/NE (Patrick Scwab) ! NEW	sdurbin@sandia.gov	Carlos Navarro x7485 Ghani Zigh x7505	SPB/DSA	A request was received from DOE/NE (Patrick Scwab) for two executive test videos and the BWR SFP Final report.	Transmit executive test videos and the BWR SFP Final report, if allowable and redact as necessary.	Pending

Thanks,
Katie

T/m8

Lee, Richard

From: Gibson, Kathy
Sent: Wednesday, March 23, 2011 1:59 PM
To: Lee, Richard; Wagner, Katie
Cc: Bush-Goddard, Stephanie
Subject: FW: Public health: another issue that needs near-term action
Attachments: Kathy Halvey Gibson.vcf

Assign this one to Stephanie

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

From: Sheron, Brian
Sent: Wednesday, March 23, 2011 1:57 PM
To: Gibson, Kathy; Bush-Goddard, Stephanie
Cc: Uhle, Jennifer
Subject: Fw: Public health: another issue that needs near-term action

See below. Any thoughts?

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

From: Per F. Peterson <peterson@nuc.berkeley.edu>
To: Koonin, Steven <Steven.Koonin@science.doe.gov>; Adams, Ian <Ian.Adams@Hq.Doe.Gov>; Aoki, Steven <Steven.Aoki@nnsa.doe.gov>; Binkley, Steve <Steve.Binkley@science.doe.gov>; Brinkman, Bill <Bill.Brinkman@science.doe.gov>; RJBudnitz@lbl.gov <RJBudnitz@lbl.gov>; SCHU <SCHU@hq.doe.gov>; DAgostino, Thomas <Thomas.DAgostino@nnsa.doe.gov>; Steven_A._Fetter@ostp.eop.gov <Steven_A._Fetter@ostp.eop.gov>; Finck, Phillip <phillip.finck@inl.gov>; rgarwin@ostp.eop.gov <rgarwin@ostp.eop.gov>; Grossenbacher, John (INL) <john.grossenbacher@inl.gov>; John Holdren <jholdren@ostp.eop.gov>; Hurlbut, Brandon <Brandon.Hurlbut@hq.doe.gov>; Kelly, John E (NE) <JohnE.Kelly@Nuclear.Energy.Gov>; McFarlane, Harold <harold.mcfarlane@inl.gov>; Owens, Missy <Missy.Owens@hq.doe.gov>; Poneman, Daniel <Daniel.Poneman@hq.doe.gov>; Sheron, Brian; ronaldo.szilard@inl.gov <ronaldo.szilard@inl.gov>; rlg2@us.ibm.com <rlg2@us.ibm.com>; Per F. Peterson <peterson@nuc.berkeley.edu>; Lyons, Peter <Peter.Lyons@Nuclear.Energy.gov>
Sent: Wed Mar 23 13:35:11 2011
Subject: Public health: another issue that needs near-term action

I would like to raise another issue which now merits expeditious, near term action.

There is a short time window now, of about 6 to 8 weeks, during which it will remain possible to use whole-body counting and other methods to measure any I-131 that members of the public may have ingested. There are a number of reasons why collecting this data, from a sufficiently large sample of the public and workers to get statistically strong data, would be very valuable. I have raised this question with other members of the UCB faculty, and there is general agreement that prompt action should be taken in this area. I do understand that the IAEA has been making measurements, but I am not sure what specifically they have been doing and whether this includes whole-body counting (which can measure body burdens of radioactive materials resolved by isotopes).

Below I discuss this issue in greater detail, outline the reasons why prompt action is likely warranted, and discuss what actions DOE could take immediately in this area.

There has been a program at the Carlsbad Environmental Monitoring and Research Center near WIPP, that has been funded by the DOE, that has performed whole body counting:

<http://www.cemrc.org/health/liedown.htm>

This program at CEMRC has had important and valuable effects in increasing public confidence, since any member of the public with a concern about potential exposures can determine whether any has happened.

In the longer term many cases of thyroid cancer, and other health problems, may end up being attributed to exposures from the Fukushima accident, both in Japan and on the U.S. west coast. Unless statistically strong data is collected in this short time window, it will be difficult to provide a strong and scientifically valid argument about the probability that these diseases have originated from exposures resulting from this accident.

The second reason to collect this data is that it is possible that we will find that some people have received doses of I-131 and other radionuclides that could exceed the levels that current Protective Action Guidelines are designed to prevent. This could provide a basis for immediate action to change PAG's, as well as the ability in the longer term to reassess and improve our approaches to PAGs.

Also, the effectiveness of emergency response depends strongly on the level of public confidence that the government has people's best interests in mind; collecting data that shows the effectiveness (or lack of effectiveness) of these efforts could be central to building longer-term confidence and thus incentivizing more people to follow government recommendations in future emergencies of all types.

The third reason to collect this data is that it could identify individuals who have had significant exposure to I-131 or other radionuclides, and alert them and their medical care professionals to monitor for potential health effects. For remaining people, it could provide reassurance that they do not need to worry about long-term health impacts from the accident.

A fourth reason to collect this data is that it could provide a good statistical basis to correlate data taken from hand-held monitors (I presume these exist) that can be used to screen large numbers of people, to actual, isotope-resolved whole-body burdens. It may even make sense to support bringing some people to the CEMRC facility in Carlsbad, since it has extremely high resolution, so that there can be a direct comparison between rapid monitoring methods, conventional whole body counts, and the extremely accurate counts possible at the CEMRC facility.

I should emphasize that substantial care must be taken in organizing any activity to collect data, with respect to public opinion in Japan. There are very strong reasons to gather data, but it must be done in a way that is broadly viewed as being in the interest of the public and the individuals involved. Having some significant role played by universities may be helpful, as well as the IAEA, so that the effort would not be viewed as being a government-directed effort, given current low levels of trust in the government.

There is only a 6 to 8 week window where whole body counting is practical for detecting I-131. I would recommend that we look at making facilities at the national laboratories (LLNL and PNNL both have these capabilities, I believe) available to the public over the next few months. This is an action that DOE could take that could be beneficial. Having the U.S. doing this may also make it easier to have the same thing done in Japan. DOE could also help, as necessary, in transferring equipment to Japan for this purpose, and in making the CEMRC facility in Carlsbad available for high-accuracy counting.

Thoughts?

-Per

--

Per F. Peterson
Professor and Chair
Department of Nuclear Engineering

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4153 Etcheverry Hall
Berkeley, California 94720-1730
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Office: (510) 643-7749 Fax: (510) 643-9685
http://www.nuc.berkeley.edu/People/Per_Peterson

EXEMPT #6
PI

From: [Sheron, Brian](#)
To: [Case, Michael](#); [Coe, Doug](#); [Correia, Richard](#); [Gibson, Kathy](#); [Richards, Stuart](#); [Scott, Michael](#); [Uhle, Jennifer](#); [Valentin, Andrea](#)
Subject: FW: Heads up: Japan evacuations
Date: Wednesday, March 23, 2011 2:31:53 PM
Attachments: [Japan evacuation.doc](#)

From: Leeds, Eric
Sent: Wednesday, March 23, 2011 2:24 PM
To: Brenner, Eliot; Hayden, Elizabeth
Cc: Borchardt, Bill; Virgilio, Martin; Weber, Michael; Johnson, Michael; Holahan, Gary; Wiggins, Jim; Evans, Michele; Miller, Charles; Sheron, Brian; Uhle, Jennifer; Doane, Margaret; Mamish, Nader; Grobe, Jack; Boger, Bruce; Ruland, William; Dean, Bill; McCree, Victor; Pederson, Cynthia; Howell, Art; Batkin, Joshua
Subject: Heads up: Japan evacuations

FYI - I asked our contact at the NEA for info on other countries evacuating around Fukushima. Some other members of the international community followed the US recommendation. Some did other things See below and attached.

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

From: Diane.JACKSON@oecd.org [mailto:Diane.JACKSON@oecd.org]
Sent: Wednesday, March 23, 2011 1:22 PM
To: Leeds, Eric
Subject: Your question about Japan evacuations

Eric –

I did some web searching. Canada, South Korea, UK and Australia stated an evacuation distance of 80 km/ 50 miles.

Many countries, such as France, urged their citizens in the north-east Japan and Tokyo to evacuate. In most reports, most countries do not state the reason is nuclear and they do not give a defined distance.

Attached are excerpts from reports with web sources.

Hope that helps,
Diane

7/180

CANADIAN NUCLEAR SAFETY COMMISSION (CNSC): March 17, 2011 19:08 EDT:
"Given the evolving situation, Canadians located within 80 km of the Fukushima Nuclear Power Plant should consider, as a further precautionary measure, evacuating this area. The directions of the Japanese government and local emergency response personnel should also be followed by all Canadians in Japan."

CANADA FOREIGN AFFAIRS AND INTERNATIONAL TRADE: 23 March, 2011

"Following damage to the Fukushima nuclear power station in Okumacho, Canadians are strongly advised to follow the advice issued by the Japanese authorities. An evacuation order is in effect for the zone within 20 km of the Fukushima Nuclear Power Plant. Japanese authorities recommend that people between 20 km and 30 km from the plant remain indoors with windows and doors closed and refrain from using ventilation systems. Given the evolving situation, Canadians located within 80 km of the plant are advised that they should, as a further precautionary measure, evacuate this area. The directions of the Japanese government and local emergency response personnel should also be followed by all Canadians in Japan. "

Kyodo News: March 18, Kyodo

<http://english.kyodonews.jp/news/2011/03/79157.html>

"S. Korea to mobilize military planes to evacuate nationals from Japan"

On Thursday, South Korea upgraded a safety advisory telling its citizens in Japan to stay at least 80 kilometers away from the crippled nuclear reactors in Fukushima Prefecture, more than doubling the previous evacuation distance of 30 km amid rising fears of exposure to radiation.

Australian Business Traveller: 18 March 2011

<http://www.ausbt.com.au/australian-government-to-japan-travellers-leave-now-tokyo-unsafe>

ARPANSA [the Australian Radiation Protection and Nuclear Safety Agency] recommended that Australians within 80 kilometres of the Fukushima Nuclear Power Plant move out of the area as a precautionary measure.

Travel Weekly: Mar 17, 2011 07:43

"Nuclear fears in Japan prompt FCO warning"

<http://www.travelweekly.co.uk/Articles/2011/03/17/36516/nuclear-fears-in-japan-prompt-fco-warning.html>

The Government is chartering aircraft to evacuate Britons from Japan to Hong Kong as concerns heighten over fallout from the stricken Fukushima nuclear plant.

The Foreign and Commonwealth Office updated its travel advice today, saying: "Due to the evolving situation at the Fukushima nuclear facility and potential disruptions to the supply of goods, transport, communications, power and other infrastructure, British nationals currently in Tokyo and to the north of Tokyo should consider leaving the area.

"The UK government is chartering flights from Tokyo to Hong Kong to supplement commercially available options for those wishing to leave Japan."

Britons were urged to remain outside an 80km radius of the nuclear plant "as an additional precautionary measure," saying the call was in line with the US government's advice to its citizens in Japan.

"If you are currently between 30km and 80km from the facility, we advise you to leave the area or take shelter indoors if you are unable to travel," the FCO said. Britons seeking to leave Japan were advised to use commercial flights as their first option or register interest in the charter option to Hong Kong.

BBC report: 18 march 2011

<http://www.bbc.co.uk/news/world-asia-pacific-12775329>

"Foreign evacuations"

- US - providing flights for people who wish to leave, advising 50-mile exclusion zone around Fukushima
- France - urging people to leave northern Japan and Tokyo, sending government planes to fly French out
- UK - advising nationals to leave north-east and Tokyo, chartering flights out
- China - bringing thousands to Niigata for evacuation
- Australia - people with non-essential roles to leave Japan

China says it has evacuated more than 6,000 of its nationals from quake-hit areas, mostly to Niigata on Japan's west coast, and is laying on six to eight additional flights to bring them home.

South Korea has said it will mobilise military ships and aircraft to evacuate its citizens if the situation worsens. At the moment it has told its nationals to stay 50 miles away from the plant.

Most other countries have also advised their nationals to evacuate from the north-eastern region of Japan or to leave the country altogether if they can.

Financial Times report Published: March 17 2011 17:14

"Foreign governments step up evacuations"

<http://www.ft.com/cms/s/0/592cdc28-50b1-11e0-9227-00144feab49a.html#axzz1HRMbjqdg>

In the clearest sign yet that foreign governments are losing confidence in the Japanese government's ability to contain radioactivity from the crippled reactors, embassies including Australia, China, South Korea and Thailand upgraded their warnings to nationals in Japan.

The US and UK governments on Thursday said they were arranging charter flights for their nationals to leave Japan. The UK and Australia also expanded the evacuation zone to 80km in line with advice from the US to its nationals.

World News Company report: March 17 2011

<http://www.worldnewsco.com/4528/residents-radius-80-km-fukushima-nuclear-power-plant/>

The government of United States called on their citizens within a radius of 80 kilometers from the Fukushima nuclear power plant to leave the area. U.S. warning shows the evacuation radius which is wider than the evacuation order issued by Japanese government.

The Japanese government had previously urged people living within a radius of 20 kilometers from the Fukushima nuclear power plant to flee to other places.

The Japanese government also urged people residing within a radius of 32 kilometers from the Fukushima nuclear power plant to not leave the house if they can not leave the area.

While the British Foreign Office said, English people should now consider to go from Tokyo and the northeast region of Japan.

"Concerning the situation in the Fukushima nuclear facilities, the last suggestion of The UK Government Chief Scientific Adviser (GCSA) is for those who are outside the exclusion zone established by the Japanese authorities, no real problems to worry about the health of human society. This advice is kept under review constantly," the statement of British Foreign Office.

"However, due to the situation that developed at the Fukushima nuclear facilities and potential disruptions to supply of goods, transportation, communications, electricity and other infrastructure, British citizens who currently resides in Tokyo and the north of Tokyo to consider leaving the area," thus, the official statement of British Foreign Office as reported by the Daily Telegraph on Thursday (March 17, 2011).

The Swiss government also urged its citizens to leave Tokyo and northeastern Japan. Previously, the Australian government had also urged its citizens residing in Tokyo, near Fukushima nuclear power plant and other areas affected by earthquake and tsunami to go to

evacuate. The call of evacuation of residents also issued by the governments of South Korea and France.

International Business Time: March 17, 2011 9:45 PM AEST

<http://au.ibtimes.com/articles/123822/20110318/uk-japan.htm>

As foreigners in Japan become increasingly desperate to flee the country, the British government has chartered planes to fly Britons in the country from Tokyo to Hong Kong.

"The UK government is chartering flights from Tokyo to Hong Kong to supplement commercially available options for those wishing to leave Japan," said a spokesman for the Foreign Office.

"Due to the evolving situation at the Fukushima nuclear facility and potential disruptions to the supply of goods, transport, communications, power and other infrastructure, British nationals in Tokyo and to the north of Tokyo should consider leaving the area," a UK government spokesman stated.

Britain follows other nations, including France, Turkey and China, which have already advised its nations to leave Japan

From: [Rivera-Lugo, Richard](#)
To: [RES DE](#)
Cc: [Parks, Jazel](#); [Kardaras, Tom](#)
Subject: CORRECTION - TAC for FOIAs
Date: Wednesday, March 23, 2011 4:03:22 PM

---- CORRECTION ----

Per correction from our RES FOIA coordinator, Jazel Parks, please use TAC# **ZF0001** to record your time in HRMS related to activities in response to a FOIA request.

ZF0001 - "Effort associated with time spent estimating how long it will take to complete the FOIA/PA request; time spent looking for records that respond to a request including a page-by-page or line-by-line identification of information within records; time spent examining records to determine whether they contain any information that is exempt from disclosure; and other time spent that is associated with a specific FOIA/PA request (e.g., typing appendices, copying records, etc.)."

I apologize for any inconvenience that this correction may cause.

Richard Rivera-Lugo, EIT, MEM
Technical Assistant (Acting)
U.S. Nuclear Regulatory Commission – HQ
RES/DE
Ph. 301-251-7652
Fax 301-251-7420
Mail M.S. C5C07M
E-mail Richard.Rivera-Lugo@nrc.gov



Please consider the Environment before printing this e-mail.

7/18/11

From: Gray, Kathy
To: Dudes, Laura; Holian, Brian; Skeen, David; Brown, Frederick; Ruland, William; Case, Michael; Hiland, Patrick; Hackett, Edwin; Howe, Allen
Cc: Thorp, John; Thomas, Eric; Gray, Kathy
Subject: A few more shifts need to be filled for the RST Director 3/26 - 4/8/2011
Date: Wednesday, March 23, 2011 4:44:07 PM
Importance: High

I was asked by the RST Coordinator to complete the watch bill for March 26 – April 8 (shift 0700-1500). Initially the schedule was requested through April 10, thus the strikeouts. I need to fill a few more shifts .. any volunteers? **A response is requested by 3pm tomorrow please.**

Thanks very much for your continued support.

Shift	3/26 (Sat)	3/27 (Sun)	3/28 (Mon)	3/29 (Tues)	3/30 (Wed)	3/31 (Thur)	4/1 (Fri)	4/2 (Sat)
7am– 3pm	Pat Hiland	Pat Hiland	Pat Hiland	Ed Hackett	VACANT	Ed Hackett	Allen Howe	Brian Holian
3pm– 11pm	Bill Ruland	Fred Brown	Fred Brown	Fred Brown	Fred Brown	Bill Ruland	Bill Ruland	VACANT
11pm– 7am	Dave Skeen	Dave Skeen	Dave Skeen	Dave Skeen	Mike Case	Mike Case	Mike Case	Mike Case

Shift	4/3 (Sun)	4/4 (Mon)	4/5 (Tues)	4/6 (Wed)	4/7 (Thur)	4/8 (Fri)	4/9 (Sat)	4/10 (Sun)
7am– 3pm	Brian Holian	Brian Holian	Brian Holian	Mike Case	Mike Case	Mike Case	Mike Case	VACANT
3pm– 11pm	Bill Ruland	VACANT	VACANT	Ed Hackett	VACANT	Pat Hiland	Pat Hiland	Pat Hiland
11pm– 7am	Laura Dudes	Laura Dudes	Laura Dudes	Laura Dudes	Fred Brown	Fred Brown	Fred Brown	Fred Brown

Kathy A. Gray
 Information Management Asst.
 Operating Experience Branch, DIRS/NRR
 Rm. O-7F04, Phone: 301-415-1166
Kathy.Gray@nrc.gov

7/182

From:
To:

OST02 HQC

Abrams, Charlotte; Abu-Eid, Boby; Adams, John; Afshar-Tous, Mugeh; Ahn, Hosung; Alemu, Bezakulu; Algama, Don; Alter, Peter; Anderson, Brian; Anderson, James; Arndt, Steven; Arribas-Colon, Maria; Ashkeboussi, Nima; Athey, George; Baker, Stephen; Ballam, Nick; Barnhurst, Daniel; Barr, Cynthia; Barss, Dan; Bazian, Samuel; Bensl, Michelle; Bergman, Thomas; Berry, Rollie; Bhachu, Ujagar; Bloom, Steven; Blount, Tom; Boger, Bruce; Bonnette, Cassandra; Borchardt, Bill; Bowers, Anthony; Bowman, Gregory; Boyce, Tom (RES); Brandon, Lou; Brandt, Philip; Brenner, Eliot; Brock, Kathryn; Brown, Cris; Brown, David; Brown, Eva; Brown, Frederick; Brown, Michael; Bukharin, Oleg; Burnell, Scott; Bush-Goddard, Stephanie; Campbell, Stephen; Camper, Larry; Carpenter, Cynthia; Carter, Mary; Case, Michael; Casto, Greg; Cecere, Bethany; Cervera, Margaret; Chazell, Russell; Chen, Yen-Ju; Cheok, Michael; Chokshi, Niles; Chowdhury, Prosanta; Circle, Jeff; Clement, Richard; Clinton, Rebecca; Coggins, Angela; Collins, Frank; Cool, Donald; Correia, Richard; Costa, Arlon; Couret, Yvonne; Crutchley, Mary Glenn; Cruz, Zahira; Cuadrado, Leira; Dacus, Eugene; DeCicco, Joseph; Decker, David; Dembek, Stephen; Devlin, Stephanie; Dimmick, Lisa; Doane, Margaret; Dorman, Dan; Dorsey, Cynthia; Dozier, Jerry; Drake, Margaret; Droggitis, Spiros; Dube, Donald; Dudes, Laura; Eads, Johnny; Emche, Danielle; English, Lance; Erlanger, Craig; Esmaili, Hossein; Figueroa, Roberto; Fiske, Jonathan; Flannery, Cindy; Floyd, Daphene; Foggie, Kirk; Foster, Jack; Fragoyannis, Nancy; Franovich, Rani; Frazier, Alan; Freshman, Steve; Fuller, Edward; Galletta, Thomas; Gambone, Kimberly; Gartman, Michael; Gibson, Kathy; Giltter, Joseph; Gilmer, James; Gordon, Dennis; Gott, William; Grant, Jeffery; Greenwood, Carol; Grimes, Kelly; Grobe, Jack; Gross, Allen; Gulla, Gerald; Hale, Jerry; Hardesty, Duane; Harrington, Holly; Harris, Tim; Hart, Ken; Hart, Michelle; Harvey, Brad; Hasselberg, Rick; Hayden, Elizabeth; Helton, Donald; Henderson, Karen; Hiland, Patrick; Holahan, Patricia; Holahan, Vincent; Holian, Brian; Howard, Arlette; Howard, Tabitha; Huffert, Anthony; Hurd, Sapna; Huyck, Doug; Imboden, Andy; Isom, James; Jackson, Karen; Jacobson, Jeffrey; Jervay, Richard; Jessie, Janelle; Johnson, Michael; Jolicoeur, John; Jones, Andrea; Jones, Cynthia; Jones, Henry; Kahler, Carolyn; Kammerer, Annie; Karas, Rebecca; Kauffman, John; Khan, Omar; Kolb, Timothy; Kotzalas, Margie; Kowalczyk, Jeffrey; Kratchman, Jessica; Kudler, Andrew; Lamb, Christopher; Lane, John; Larson, Emily; Laur, Steven; LaVie, Steve; Lewis, Robert; Li, Yong; Lichatz, Taylor; Lising, Jason; Lombard, Mark; Lubinski, John; Lui, Christiana; Lukes, Kim; Lynch, Jeffery; Ma, John; Mamish, Nader; Manahan, Michelle; Marksberry, Don; Marshall, Jane; Masao, Nagai; Maupin, Cardelia; Mayros, Lauren; Mazaika, Michael; McConnell, Keith; McCoppin, Michael; McDermott, Brian; McGinty, Tim; McGovern, Denise; McIntyre, David; McMurtry, Anthony; Merritt, Christina; Meyer, Karen; Miller, Charles; Miller, Chris; Milligan, Patricia; Miranda, Samuel; Mohseni, Aby; Moore, Scott; Morlang, Gary; Morris, Scott; Mroz (Sahm), Sara; Munson, Clifford; Murray, Charles; Nerret, Amanda; Nguyen, Caroline; Norris, Michael; Norton, Charles; Opara, Stella; Ordaz, Vonna; Owens, Janice; Padovan, Mark; Parillo, John; Patel, Jay; Patel, Pravin; Patrick, Mark; Perin, Vanice; Pope, Tia; Powell, Amy; Purdy, Gary; Quinlan, Kevin; Raddatz, Michael; Ragland, Robert; Ralph, Melissa; Ramsey, Jack; Reed, Elizabeth; Reed, Sara; Reed, Wendy; Reis, Terrence; Resner, Mark; Riley (OCA), Timothy; Riner, Kelly; Rini, Brett; Robinson, Edward; Rodriguez-Luccioni, Hector; Roggenbrodt, William; Ropon, Kimberly; Rosales-Cooper, Cindy; Rosenberg, Stacey; Ross-Lee, MaryJane; Roundtree, Amy; Ruland, William; Ryan, Michelle; Salay, Michael; Salter, Susan; Salus, Amy; Sanfilippo, Nathan; Scarbrough, Thomas; Schaperow, Jason; Schmidt, Duane; Schmidt, Rebecca; Schoenebeck, Greg; Schrader, Eric; Schwartzman, Jennifer; Seber, Dogan; See, Kenneth; Shane, Raeann; Shea, James; Shepherd, Jill; Sheron, Brian; Skarda, Raymond; Skeen, David; Sloan, Scott; Smiroldo, Elizabeth; Smith, Brooke; Smith, Stacy; Smith, Theodore; Stahl, Eric; Stang, Annette; Steger (Tucci), Christine; Stieve, Alice; Stone, Rebecca; Stransky, Robert; Sturz, Fritz; Sullivan, Randy; Summers, Robert; Sun, Casper; Tappert, John; Tegeler, Bret; Temple, Jeffrey; Thaggard, Mark; Thomas, Eric; Thorp, John; Tiruneh, Nebiyu; Tobin, Jennifer; Trefethen, Jean; Tschiltz, Michael; Turtill, Richard; Uhle, Jennifer; Valencia, Sandra; Vaughn, James; Vick, Lawrence; Virgilio, Martin; Virgilio, Rosetta; Ward, Leonard; Ward, William; Wastler, Sandra; Watson, Bruce; Webber, Robert; Weber, Michael; White, Bernard; Wiggins, Jim; Williams, Donna; Williams, Joseph; Williamson, Linda; Willis, Dori; Wimbush, Andrea; Wittick, Brian; Wray, John; Wright, Lisa (Gibney); Wright, Ned; Wunder, George; Young, Francis; Zimmerman, Jacob; Zimmerman, Roy

Subject: EAP Briefing to all Participants Working the Japan Event
Date: Wednesday, March 23, 2011 11:04:14 AM
Importance: High

NRC's Employee Assistance Program (EAP) will be briefing the Ops Center Staff on the issue of critical incident stress on Thursday, March 24th at the end of each shift rotation: 7:00a.m.-7:30a.m. and 3:00p.m.-3:30p.m.. We understand the high level of stress that staff has experienced during the current traumatic Japanese incident and we want to bring you the support you deserve during this heightened time of stress. We strongly encourage all employees to attend! The briefing will be held in T4B3.

*Michele Evans, Acting Deputy Director
Office of Nuclear Security and Incident Response*

7/183

From: Dudley, Richard
To: Ader, Charles; Case, Michael; Collins, Timothy; Cheek, Michael; Dinsmore, Stephen; Dube, Donald; Harrison, Donnie; Helton, Shana; Landry, Ralph; McGinty, Tim; Mizuno, Geary; Quay, Theodore; Ruland, William; Terao, David; Tregoning, Robert; Wilson, Jerry; Leeds, Eric; Boger, Bruce; Grobe, Jack; Virgilio, Martin; Borchardt, Bill; Jones, Bradley; Holahan, Gary
Subject: EDO Pre-Brief for 50.46a Commission meeting

When: Monday, March 14, 2011 4:00 PM-5:00 PM (GMT-05:00) Eastern Time (US & Canada).
Where: O 17B4

Note: The GMT offset above does not reflect daylight saving time adjustments.

~~*~*~*~*~*~*~*~*

Your are invited to attend the EDO Pre-briefing for the March 24 Commission meeting on the 50.46a Risk-Informed ECCS rule.

Richard Dudley
50.46a Project Manager
415-1116

From: Flory, Shirley
To: Rini, Brett; Armstrong, Kenneth; Rivera-Lugo, Richard; Ibarra, Jose; Case, Michael; Coe, Doug; Coyne, Kevin; Gibson, Kathy; Richards, Stuart; Sangimino, Donna-Marie; Scott, Michael; Sheron, Brian; Uhle, Jennifer; Valentin, Andrea
Subject: FW: EDO Alignment/Prebriefs for Commission Meetings
Date: Wednesday, March 23, 2011 11:35:27 AM
Attachments: EDO Alignment, Prebriefs for CM Meetings.doc

From: Taylor, Renee
Sent: Wednesday, March 23, 2011 11:29 AM
To: Andersen, James; Ash, Darren; Blount, Tom; Boger, Bruce; Borchardt, Bill; Bowman, Adriane; Boyce, Thomas (OIS); Boyd, Lena; Buckley, Patricia; Cannady, Ashley; Carpenter, Cynthia; Casby, Marcia; Casto, Chuck; Cianci, Sandra; Cohen, Miriam; Collins, Elmo; Collins, Jay; Cooper, LaToya; Corley, Cherrie; Damiano, Debra; Dapas, Marc; Dean, Bill; Dubose, Sheila; EDO_ETAs; Evans, Michele; Flory, Shirley; Garland, Stephanie; Givvines, Mary; Greene, LaTosha; Grobe, Jack; Haney, Catherine; Hasan, Nasreen; Higginbotham, Tina; Holahan, Gary; Howard, Patrick; Johnson, Michael; Kelley, Corentis; Landau, Mindy; Lee, Pamela; Leeds, Eric; Lockhart, Denise; Lubinski, John; Mamish, Nader; Matakas, Gina; Mayberry, Theresa; McClain, Nicole; McCrary, Cheryl; McCree, Victor; McGinty, Tim; Miles, Patricia; Miller, Charles; Mitchell, Matthew; Muessle, Mary; ODaniell, Cynthia; Owen, Lucy; Pederson, Cynthia; Penny, Melissa; Plisco, Loren; Quesenberry, Jeannette; Riddick, Nicole; Ronewicz, Lynn; Ross, Brenda; Salus, Amy; Satorius, Mark; Scarbrough, Thomas; Schaeffer, James; Schumann, Stacy; Schwarz, Sherry; Sheron, Brian; Sprogeris, Patricia; Tannenbaum, Anita; Taylor, Renee; Terry, Leslie; Thomas, Loretta; Tomczak, Tammy; Uhle, Jennifer; Veltri, Debra; Virgilio, Martin; Walker, Dwight; Weber, Michael; Wiggins, Jim; Williams, Barbara; Zimmerman, Roy
Subject: EDO Alignment/Prebriefs for Commission Meetings

Please see the attached list, Commission meeting times have been updated.

Thank you,
Renee

T/184

EDO ALIGNMENT/PRE-BRIEFS FOR COMMISSION MEETINGS

Updated: 03/23/11

03/24/11 (POSTPONED – New Date TBD)

(9:00 – 12:30)

Part 50.46a Rulemaking Risk-Informed ECCS Rule

EDO Alignment: 01/31/11 @ 4:00 pm

EDO Pre-brief: 03/14/11 @ 4:00 pm

03/29/11

(9:00 – 12:00)

Small Modular Reactors

EDO Alignment: 01/27/11 @ 1:30 pm

EDO Pre-brief: 03/17/11 @ 3:00 pm

03/31/11 (Closed)

(2:30 – 3:30)

Discussion of Management Issues

EDO Alignment: CANCELLED NOT NEEDED - 02/01/11 @ 3:00 pm

EDO Pre-brief: CANCELLED NOT NEEDED - 03/21/11 @ 3:00 pm

04/14/11

(9:00 – 12:00)

Japanese Earthquake Status – Focus on Health Effects of Radiation

EDO Alignment: 03/28/11 @ 3:00 pm (Joint meeting with 4/28 CM Alignment)

EDO Pre-brief: 04/06/11 @ 4:00 pm

04/19/11

(9:00 – 12:00)

Part 37 Rulemaking – Physical Protection & Byproduct Material

EDO Alignment: 02/10/11 @ 1:00 pm

EDO Pre-brief: 03/31/11 @ 10:00 am

04/28/11

(9:00 – 12:00)

Japanese Earthquake Status – Focus on Station Black-Out

EDO Alignment: 03/28/11 @ 3:00 pm (Joint meeting with 4/14 CM Alignment)
EDO Pre-brief: 04/14/11 @ 10:00 am

04/28/11 (POSTPONED – New Date TBD)

(9:00 – 12:15)

ITAAC Related Activities

EDO Alignment: CANCELLED - 02/28/11 @ 3:30 pm
EDO Pre-brief: CANCELLED - 04/18/11 @ 4:00 pm

05/03/11

(9:30 – 11:30)

Task Force Review – 30 Day Quick Look Following the Events in Japan

EDO Alignment: 04/07/11 @ 4:00 pm
(Tentative – Joint meeting with 6/16 CM Alignment)
EDO Pre-brief: 04/18/11 @ 4:00 pm

05/12/11 (Rescheduled from 06/02/11)

(9:00 – 12:00)

Information Briefing on Emergency Preparedness

EDO Alignment: 04/07/11 @ 1:00 pm (Rescheduled from 04/06/11)
EDO Pre-brief: 05/02/11 @ 3:00 pm (Rescheduled from 05/17/11)

05/12/11 (POSTPONED – New Date TBD)

(9:00 – 12:00)

Cumulative Effects of Reactor Regulation

EDO Alignment: CANCELLED - 03/22/11 @ 9:00 am
EDO Pre-brief: CANCELLED - 05/02/11 @ 3:00 pm

05/27/11

(9:00 – 12:00)

Briefing on Results of AARM

EDO Alignment: CANCELLED NOT NEEDED - 03/28/11 @ 3:00 pm
EDO Pre-brief: 05/12/11 @ 3:00 pm

06/02/11 (Rescheduled from 05/03/11)

(9:30 – 10:30)

Human Capital and EEO

EDO Alignment: 03/17/11 @ 1:00 pm

EDO Pre-brief: 05/04/11 @ 4:00 pm (Rescheduled from 04/26/11)

06/06/11

(10:00 – 12:00)

Potential Meeting w/ACRS

EDO Alignment: 03/29/11 @ 4:00 pm

EDO Pre-brief: 05/19/11 @ 3:00 pm

06/16/11

(9:30 – 11:30)

Task Force Review – 60 Day Quick Look Following the Events in Japan

EDO Alignment: 04/07/11 @ 4:00 pm

(Tentative – Joint meeting with 5/3 CM Alignment)

EDO Pre-brief: 06/02/11 @ 4:00 pm

06/16/11 (POSTPONED – New Date TBD)

(9:00 – 12:00)

International Activities or Potential Meeting w/ACRS

EDO Alignment: CANCELLED - 04/26/11 @ 1:00 pm

EDO Pre-brief: CANCELLED - 06/06/11 @ 3:00 pm

NOTE: Please be aware that this list is organized by the Commission meeting date. EDO Alignment meetings are generally scheduled approximately 60 days prior to the Commission meeting. EDO Pre-briefs are scheduled approximately 2 weeks prior to the Commission meeting. All meetings are scheduled based on the availability of the EDO/DEDOs calendars. All meetings are held in conference room O-17B4.

Lee, Richard

From: Farmer, Mitchell T. [farmer@anl.gov]
Sent: Wednesday, March 23, 2011 10:46 AM
To: Lee, Richard
Cc: Basu, Sudhamay; Salay, Michael
Subject: RE: MCCI Info for RST and NISA - Fukushima

Right now Richard I wish you really would so Farouk would really fire me so I could get out of this place!!! Or can you just do it instead??

From: Lee, Richard [mailto:Richard.Lee@nrc.gov]
Sent: Wednesday, March 23, 2011 9:45 AM
To: Farmer, Mitchell T.
Cc: Basu, Sudhamay; Salay, Michael
Subject: RE: MCCI Info for RST and NISA - Fukushima

Thanks, Mitch:
Won't report you to Farouk for the time being..
Richard

From: Farmer, Mitchell T. [mailto:farmer@anl.gov]
Sent: Wednesday, March 23, 2011 10:39 AM
To: Salay, Michael
Cc: Lee, Richard; Basu, Sudhamay
Subject: RE: MCCI Info for RST and NISA - Fukushima

Hi Mike,
I'm having the final versions uploaded to a temproray website right now so you can send on to Japan. (It's about 30 MB) - this is project final as well as MCCI final which I think you are most interested in.
Mitch

From: Salay, Michael [mailto:Michael.Salay@nrc.gov]
Sent: Wednesday, March 23, 2011 9:08 AM
To: Farmer, Mitchell T.
Cc: Lee, Richard; Basu, Sudhamay
Subject: MCCI Info for RST and NISA - Fukushima
Importance: High

Mitch,

The RST has requested documentation

Would you provide me with a copy of a report that provides an up to date summary of the status of knowledge on MCCI – e.g. conditions under which it occurs? Since Japan is a member country to the OECD MCCI project they should have access to the recent info. (I discussed with Sud Basu)

I thought of the mcci-2 final_7_draft (Nov 2010). After glancing over seems to be more experiment-centric. If you think that is the best summary I'll send with a notice of restrictions on access. If you have something that you think would be more useful, please send.

Thanks,
-Mike

Michael Salay
United States Nuclear Regulatory Commission
Washington, DC 20555
MS: C3-C07M
michael.salay@nrc.gov
tel: 301-251-7543
fax: 301-251-7436

Lee, Richard

From: Aissa, Mourad
Sent: Wednesday, March 23, 2011 11:11 AM
To: Lee, Richard
Cc: Algama, Don
Subject: FW: TASKING FROM BRIAN SHERON

Richard,

Please help me understand what are trying to solve. It is relatively simple to compute the increase in the time to boil off ("time this would buy us") by calculating the amount of water volume that would be gained by displacing the ~ 2400 fuel assemblies and getting a good estimate of what the decrease in evaporation rate would be now that we spread out the remaining ~600 hot assemblies in the less crowded pool.

Now, the evaporation rate following the cooling system unavailability is relatively slow and would be in the 1 to 2% per day (need a better estimate here). If we start with the pool water level being typically at ~ 16 feet above the fuel, it would take a FEW WEEKS before the fuel is uncovered. If we remove the old fuel (> 3years), this would obviously buy us more time. The question is: Why are we concerned about "buying time" when we have weeks to take action? If we can send plant personnel close enough to the pool to remove 2400 fuel assemblies (an effort that would take several days, if not weeks) then one can get a water hose and replace the evaporated water and ensure a safe pool water level. In another word, if the plant conditions allow for personnel to remove fuel from the pool, then they can maintain the water level, and the question about how much time we are buying to boil-off is a trivial one.

Please tell me what you think. Thanks.
Mourad

From: Sheron, Brian
Sent: Wednesday, March 23, 2011 9:52 AM
To: Gibson, Kathy; Uhle, Jennifer
Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin; Zigh, Ghani; Aissa, Mourad; Wagner, Katie
Subject: RE: TASKING FROM BRIAN SHERON

This is not new information. When I first discussed with Charlie, he estimated that 80% of the heat load on the pool came from the most recently discharged fuel.

However, you increase the volume of water in the pool when you remove assemblies. This increases the water available for boiloff in the event of loss of pool cooling. Thus, you buy time for restoring pool cooling before uncover. The question is, how much time does this buy you?

Also, if you remove all assemblies that can be air cooled in casks, that allows you to spread out the remaining assemblies that require water cooling. Spreading them out improves their ability to transfer heat, even when uncovered. Specifically, if they are not in close contact with another assembly, radiation and convective heat transfer away from an uncovered assembly can either slow down the heat up time to ignition, or perhaps even prevent heat up to the ignition temperature. The question is, how much time does this buy you? And what is the cumulative amount of time you can buy from both effects?

Brief me when you get answers to the two other items.

From: Gibson, Kathy
Sent: Wednesday, March 23, 2011 9:37 AM
To: Sheron, Brian; Uhle, Jennifer

Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin; Zigh, Ghani; Aissa, Mourad; Wagner, Katie

Subject: Re: TASKING FROM BRIAN SHERON

Let us know if you would like a briefing.

From: Aissa, Mourad

To: Gibson, Kathy

Cc: Lee, Richard; Santiago, Patricia; Coyne, Kevin; Zigh, Ghani

Sent: Wed Mar 23 09:31:18 2011

Subject: RE: TASKING FROM BRIAN SHERON

Request # 21 (Requestor: Brian Sheron, 3/21/2001): Evaluation of the risk benefit of pulling out spent fuel out of the SFP as soon as the specific assembly heat load permits.

Response:

Peach Bottom Unit 3 pool was used as illustrative example and the analysis results are based on spent pool inventory data from 2003 involving approximately 3000 fuel assemblies.

The analysis of the thermal heat load reduction achieved by removing fuel assemblies from the SFP is as follows (See attached graphs):

- **For assemblies cooled 5 years or longer, only:**
 - o Maximum heat reduction achievable is ~18%
 - o Number of removed assemblies: 2142
 - o Cask loading: 68 assemblies per cask
 - o Number of casks needed: 32
- **If assemblies cooled 3 year or longer are included:**
 - o Maximum heat reduction achievable is ~ 25%
 - o Number of removed assemblies: 2433
 - o Cask loading: 34 assemblies per cask for fuel 3-5 years old
 - o Number of casks needed: 41
- **The assemblies with cooling less than 3 years cannot be loaded in casks, regardless of cask loading reduction.**

Conclusion:

- Even when including the "3-year-or-older" assemblies, the remaining heat load is still elevated (only reduced by ~25%). The same is observed for pool activity (~30% reduction).

From: Lee, Richard

Sent: Wednesday, March 23, 2011 9:11 AM

To: Aissa, Mourad

Subject: FW: TASKING FROM BRIAN SHERON

Mourad:

Attached is the tasking from Brian.

Richard

From: Scott, Michael
Sent: Saturday, March 19, 2011 9:16 AM
To: Gibson, Kathy; Santiago, Patricia; Lee, Richard; Zigh, Ghani; Coyne, Kevin
Subject: TASKING FROM BRIAN SHERON

Brian advised me yesterday that he would like us to evaluate the risk benefit of pulling spent fuel out of the SFP as soon as the specific assembly heat load permits. The risk reduction could be in terms of time to boiling (I believe that would be small, since by definition fuel old enough to be put in dry storage would not contribute all that much to pool heatup), and with reduced source term in the SFP. He may have already spoken to Ghani about this. He does not want this work to interfere with crisis work, but does want the evaluation done.

Mike

Esmaili, Hossein

From: Tinkler, Charles
Sent: Wednesday, March 23, 2011 3:26 PM
To: Helton, Donald; Marksberry, Don; Salay, Michael; Schaperow, Jason; Esmaili, Hossein
Subject: RE: Questions from our Hallway Discussion

My thinking on venting was that we know they vented into the reactor building – asking them why seems not essential to our understanding and may make them defensive

I might place some priority on the Cs/Iodine ratio question.

From: Helton, Donald
Sent: Wednesday, March 23, 2011 3:06 PM
To: Tinkler, Charles; Marksberry, Don; Salay, Michael; Schaperow, Jason; Esmaili, Hossein
Subject: RE: Questions from our Hallway Discussion

All – An updated version based on input from Charlie.

Charlie – I included input from your markup and your email that was sent simultaneous to me sending out the earlier version. I did not understand why you deleted the venting question, so I left it in, but moved it further down the list

From: Helton, Donald
Sent: Wednesday, March 23, 2011 2:36 PM
To: Tinkler, Charles; Marksberry, Don; Salay, Michael; Schaperow, Jason; Esmaili, Hossein
Subject: Questions from our Hallway Discussion

All,

These are the questions that I compiled from our hallway discussion this morning...

Don

Don Helton
Senior Reliability & Risk Engineer
Division of Risk Analysis
NRC Office of Nuclear Regulatory Research
Physical address: 21 Church Street, CSB4-C9, Rockville, MD 20850
Postal address: US NRC / MS CSB4-C7M / Washington, DC 20555
Ph: 301 251-7594, Donald.Helton@nrc.gov

Lee, Richard

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 3:26 PM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: FW: SOARCA App A - Peach Bottom
Attachments: image001.gif

Pat – I am guessing the email from this morning got buried in your inbox. Can you confirm the item below is completed? – Thanks, Katie

33	3/22/2011	Eugene Dacus (CA) for a congressional staffer ! NEW	301-415-1697	Richard Chang (x7980)	SPB	Provide draft SOARCA analysis of Peach Bottom, if deemed suitable, to congressional staffer.	Provide draft SOARCA analysis of Peach Bottom, if deemed suitable.	Pending
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From: Wagner, Katie
Sent: Wednesday, March 23, 2011 9:59 AM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: RE: SOARCA App A - Peach Bottom

Pat – I got your voicemail message just now and was looking for the zip file, it looks like this is all figured out now. Can you confirm that this action (item #33, <http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>) is complete now? – Thanks, Katie

From: Santiago, Patricia
Sent: Wednesday, March 23, 2011 9:54 AM
To: Dacus, Eugene
Cc: Wagner, Katie
Subject: SOARCA App A - Peach Bottom

Eugene

This is the report that I sent you a password in an earlier email.

Thanks,

Pat

Patricia A. Santiago
Chief, Special Projects Branch
Division of Systems Analysis
Office of Nuclear Regulatory Research
Phone- 301-251-7982
Fax- 301-251-7426
Patricia.Santiago@nrc.gov

Lee, Richard

From: Santiago, Patricia
Sent: Wednesday, March 23, 2011 3:33 PM
To: Wagner, Katie
Cc: Lee, Richard
Subject: RE: SOARCA App A - Peach Bottom
Attachments: image001.gif

Completed..good write up

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 3:26 PM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: FW: SOARCA App A - Peach Bottom

Pat – I am guessing the email from this morning got buried in your inbox. Can you confirm the item below is completed? – Thanks, Katie

33	3/22/2011	Eugene Dacus (CA) for a congressional staffer ! NEW	301-415-1697	Richard Chang (x7980)	SPB	Provide draft SOARCA analysis of Peach Bottom, if deemed suitable, to congressional staffer.	Provide draft SOARCA analysis of Peach Bottom, if deemed suitable.	Pending
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From: Wagner, Katie
Sent: Wednesday, March 23, 2011 9:59 AM
To: Santiago, Patricia
Cc: Lee, Richard
Subject: RE: SOARCA App A - Peach Bottom

Pat – I got your voicemail message just now and was looking for the zip file, it looks like this is all figured out now. Can you confirm that this action (item #33, <http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>) is complete now? – Thanks, Katie

From: Santiago, Patricia
Sent: Wednesday, March 23, 2011 9:54 AM
To: Dacus, Eugene
Cc: Wagner, Katie
Subject: SOARCA App A - Peach Bottom

Eugene

This is the report that I sent you a password in an earlier email.

Thanks,

Pat

Patricia A. Santiago
Chief, Special Projects Branch
Division of Systems Analysis
Office of Nuclear Regulatory Research
Phone- 301-251-7982

Fax- 301-251-7426
Patricia.Santiago@nrc.gov

Esmaili, Hossein

From: Lee, Richard
Sent: Thursday, March 24, 2011 10:49 AM
To: Esmaili, Hossein
Subject: RE: EMUG 2011 and Fukushima

Ask Valery for the reactor info.

From: Esmaili, Hossein
Sent: Thursday, March 24, 2011 9:34 AM
To: Lee, Richard
Subject: FW: EMUG 2011 and Fukushima

FYI

From: Strizhov V. F [<mailto:vfs@ibrae.ac.ru>]
Sent: Thursday, March 24, 2011 2:26 AM
To: marco.sangiorgi@enea.it; dtortorella@tuev-nord.de; martin.turner@sercoassurance.com; Lubica.Kubisova@ujd.gov.sk; SSchefter@tuev-nord.de; weimin@kth.se; leticia.fernandez-moguel@psi.ch; Peter.Juris@vuje.sk; jancovic@vuje.sk; guillermo.urzua@areva.com; sonia.morandi@rse-web.it; kaliopa.mancheva@riskeng.bg; svetlin.philipov@riskeng.bg; dof@etd.com.ua; claudia.lopez@ciemat.es; phill@sandia.gov; llhumph@sandia.gov; dsp@ujv.cz; thomas.steinroetter@grs.de; vok@ujv.cz; jonathan.birchley@psi.ch; bernd.jaeckel@psi.ch; Esmaili, Hossein; Mosunova N.A.; patrick.isaksson@vattenfall.com; sandro.paci@ing.unipi.it; frank.kretzschmar@kit.edu; henrik.glanneskog@vattenfall.com; tobias.szabo@kit.edu; HorvathLG@nubiki.hu; alice.derosa@enea.it; Flavio.Parozzi@rse-web.it; salih.guentay@psi.ch
Subject: RE: EMUG 2011 and Fukushima

Dear colleagues,

We support the idea to spend some time for discussions of Fukushima-1 accident. We made simulations of core behavior for units 1,2 and 3, as well as SFP for unit 4. In the analysis we used Russian severe accident SOCRAT code, results of simulation can be presented in comparison with the timing of events during accident.

Best Regards,

Valery Strizhov,
Deputy Director
Nuclear Safety Institute of the Russian Academy of Sciences.
B.Tulskaya, 52
Moscow, Russia 115 191
Tel: +7 495 955-2218

From: Marco Sangiorgi [<mailto:marco.sangiorgi@enea.it>]
Sent: Wednesday, March 23, 2011 4:36 PM
To: dtortorella@tuev-nord.de; martin.turner@sercoassurance.com; Lubica.Kubisova@ujd.gov.sk; SSchefter@tuev-nord.de; weimin@kth.se; leticia.fernandez-moguel@psi.ch; Peter.Juris@vuje.sk; jancovic@vuje.sk; guillermo.urzua@areva.com; sonia.morandi@rse-web.it; kaliopa.mancheva@riskeng.bg; svetlin.philipov@riskeng.bg; dof@etd.com.ua; claudia.lopez@ciemat.es; jphill@sandia.gov; llhumph@sandia.gov; dsp@ujv.cz; thomas.steinroetter@grs.de; vok@ujv.cz; jonathan.birchley@psi.ch; bernd.jaeckel@psi.ch; Hossein.Esmaili@nrc.gov; Strizhov V. F; Mosunova N.A.; patrick.isaksson@vattenfall.com; sandro.paci@ing.unipi.it; frank.kretzschmar@kit.edu;

henrik.glanneskog@vattenfall.com; tobias.szabo@kit.edu; HorvathLG@nubiki.hu; felice.derosa@enea.it;
marco.sangiorgi@enea.it; Flavio.Parozzi@rse-web.it; salih.guentay@psi.ch

Subject: EMUG 2011 and Fukushima

Dear colleagues,

I guess that us all are more or less concerned and involved in the Japan disaster. While the accident is still in act, I was wondering if we should dedicate some EMUG meeting time to it, rather than just talking about Melcor itself. After all, most of what happened and is still in course is the reason why Melcor was developed. Please, let me know what you think about it.

Best Regards,

Ing. Marco Sangiorgi
Reactors Safety and Fuel Life-cycle Assessment
ENEA UTFISSM-SICIS
Via Martiri di Monte Sole, 4
40129 Bologna
tel.: +39 0516098901
fax: +39 0516098279
e-mail: marco.sangiorgi@enea.it

Lee, Richard

From: Gibson, Kathy
Sent: Wednesday, March 23, 2011 10:32 PM
To: Scott, Michael
Cc: Lee, Richard
Subject: Fw: Conference call with DOE 6:00-7:00pm

Mike,
See the email below. Can you see if you can find out what this is about? We will follow up here too but it seems to have some connection to what your predecessors are doing or have done over there.

Thanks,
K

From: Lee, Richard
To: Sheron, Brian
Cc: Gibson, Kathy; Elkins, Scott
Sent: Wed Mar 23 19:43:35 2011
Subject: Conference call with DOE 6:00-7:00pm

Brian:

A question was asked by Secretary Chu on making DOE information/advice available to TEPCO managing the accident in Japan. If I understood him correctly, he is taking issue with NRC team in Tokyo not conveying DOE provided information to the Japanese counterpart in Tokyo. He asked that whether this issue has been resolved. He said U.S. information provided to Japan are advices and TEPCO is free to take them or ignore them. He sounds upset.

I responded that I will conveyed to our management. I expect, he will ask again tomorrow at the conference call. Please advise me what NRC response is.

Dr. Holdren (Director of the White House Office of Science and Technology Policy) was also on the conference call.

Richard.

Lee, Richard

From: Sheron, Brian
Sent: Thursday, March 24, 2011 1:19 PM
To: ET05 Hoc; Lee, Richard
Cc: OST02 HOC; FOIA Response.hoc Resource
Subject: RE:

Got it, thanks.

From: ET05 Hoc
Sent: Thursday, March 24, 2011 11:49 AM
To: Sheron, Brian; Lee, Richard
Cc: OST02 HOC; FOIA Response.hoc Resource
Subject:

Please find attached the current version of the RST assessment. It is currently being updated. This is to support Brian Sheron's participation in 1500 Congressional Call and RES staff's participation in DOE call at 1700.

Lee, Richard

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 4:50 PM
To: Lee, Richard
Subject: RE: RST Requested Evaluations to be Performed by RES
Attachments: image001.gif

Richard - Is the item below "Completed" or still "Pending"? – Thanks, Katie

36	3/23/2011	Ops Center (RST) <small>NEW</small>	Email: RST01 Hoc	Richard Lee x7526	FSTB	To investigate the topics related to queries 1, 3, and 4 from the NRC Site Team located over in Japan. 1. Sea water injection continues to reactors 1-3. NISA is concerned about the radiolytic disassociation of H2 and O2. NISA would like NRC's perspective on the significance of this concern and how to treat this concern as they transition to freshwater injection. 3. NISA is conducting simulations to project the extent of damage to fuel in the reactors. Has NRC developed any views on the extent of fuel damage? 4. NISA is interested to obtain any reference material regarding core-concrete interaction (not because they think they have a current issue but against that eventuality) including the conditions under which that occurs and any associated data.	Respond with answers to the 3 questions raised.	Pending
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From: Lee, Richard
Sent: Wednesday, March 23, 2011 11:07 AM
To: RST01 Hoc
Cc: Wagner, Katie
Subject: RE: RST Requested Evaluations to be Performed by RES

This is the response to item 4. Please forward this to our team in Japan. If we get more information on this subject, we will send them later.

From: RST01 Hoc
Sent: Wednesday, March 23, 2011 5:39 AM
To: Lee, Richard
Cc: Gibson, Kathy; RST01 Hoc
Subject: FW: RST Requested Evaluations to be Performed by RES

From: Hoc, RST16
Sent: Wednesday, March 23, 2011 5:37 AM
To: RST01 Hoc
Subject: RST Requested Evaluations to be Performed by RES

RST Coordinator,

Please forward the e-mail text below to Richard Lee and cc: Kathy Gibson from RES.

Thank you,

RST Communicator

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Dear Mr. Lee,

The Reactor Safety Team (RST) in the Operations Center has been given your name as the lead Point of Contact (POC) for the Office of Research to manage all incoming requests from the RST.

As such, here is a request to investigate the topics related to queries 1, 3, and 4 from our Site Team located over in Japan. FYI, this request was entered into the WEB EOC Task Tracker software as Record # 2098 on 3/22/2011 @ 11:42 AM. Items 2 and 5 have been evaluated by our team and other sources and have been determined to be complete and require no further action.

Per Site Team e-mail, they would like RST to provide input on the following:

1. Sea water injection continues to reactors 1-3. NISA is concerned about the radiolytic disassociation of H₂ and O₂. NISA would like NRC's perspective on the significance of this concern and how to treat this concern as they transition to freshwater injection.
2. At what point does salt deposits become a problem for flow during pending freshwater injection?
3. NISA is conducting simulations to project the extent of damage to fuel in the reactors. Has NRC developed any views on the extent of fuel damage?
4. NISA is interested to obtain any reference material regarding core-concrete interaction (not because they think they have a current issue but against that eventuality) including the conditions under which that occurs and any associated data.
5. In addition to the H₂/O₂ disassociation in item 1 above, they are concerned that there may be residual H₂ in the containments and welcome NRC's thoughts on how to treat such a condition.

The RST requests an progress update via e-mail, at least once daily in order for us to be able to track your progress for each of the three issues.

Thank you for your time and consideration.

Bill Roggenbrodt
RST Communicator
301-816-5504

Lee, Richard

From: Aissa, Mourad
Sent: Wednesday, March 23, 2011 5:22 PM
To: Lee, Richard
Subject: FW: Follow up question on Peach Bottom.

Richard,
I just forwarded this to Ian for a quick sanity check.
Mourad

From: Aissa, Mourad
Sent: Wednesday, March 23, 2011 5:15 PM
To: 'Gauld, Ian C.'
Subject: Follow up question on Peach Bottom.

Ian,
Please review the statement below and provide any feedback. Following your transmittal associated with the Peach Bottom spent fuel pool unloading to casks, we were asked a follow up question on how much time to boil off would the water volume gained from unloading ~2400 fuel assemblies buy us? This of course assumes that the SFP cooling system is inoperable. My planned answer is below.
Thanks
Mourad

It is relatively simple to compute the increase in the time to boil off by calculating the amount of water volume that would be gained by displacing the ~ 2400 fuel assemblies and getting a good estimate of what the decrease in evaporation rate would be now that we spread out the remaining ~600 hot assemblies in the less crowded pool.

Now, the evaporation rate following the cooling system unavailability is relatively slow and would be in the 1 to 2% per day (need a better estimate here). If we start with the pool water level being typically at ~ 16 feet above the fuel, it would take several days (and even weeks) before the fuel is uncovered. If we remove the old fuel (> 3years), this would obviously buy us more time. However, the increased time to boil off is irrelevant because we already have ample time (weeks) to take action. Furthermore, if we can send plant personnel close enough to the pool to remove 2400 fuel assemblies (an effort that would take several days, if not weeks) then one can get a water hose and replace the evaporated water and ensure a safe pool water level. In another word, if the plant conditions allow for personnel to remove fuel from the pool, then they can maintain the water level, and the concern about boil-off – and how much time we are gaining – is not credible.

Lee, Richard

From: Basu, Sudhamay
Sent: Wednesday, March 23, 2011 5:47 PM
To: 'corradin@cae.wisc.edu'; Lee, Richard
Subject: RE: RE:

Some parametric variation will also help.

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

From: Michael Corradini [<mailto:corradini@engr.wisc.edu>]
Sent: Wednesday, March 23, 2011 5:29 PM
To: Lee, Richard
Cc: Basu, Sudhamay
Subject: RE: RE:

Aye - Aye - Capn!

--

Michael Corradini, Chair
Engineering Physics
University of Wisconsin
(608)263-1648 [Fax: 3-7451]
corradini@engr.wisc.edu
<http://www.engr.wisc.edu/ep>

Quoting "Lee, Richard" <Richard.Lee@nrc.gov>:

> Of course both.
> P.S. I am just kidding on done by 23:55
>
> -----Original Message-----
> **From:** Michael Corradini [<mailto:corradini@engr.wisc.edu>]
> **Sent:** Wednesday, March 23, 2011 5:24 PM
> **To:** Lee, Richard
> **Cc:** Basu, Sudhamay
> **Subject:** RE:
>
> Do you want a P(t) history from a mechanistic calculation?
>
> OR
>
> A bounding calculation?
>
>
> --

> Michael Corradini, Chair
> Engineering Physics
> University of Wisconsin
> (608)263-1648 [Fax: 3-7451]
> corradini@engr.wisc.edu

> <http://www.engr.wisc.edu/ep>
>
>
> Quoting "Lee, Richard" <Richard.Lee@nrc.gov>:
>
>> Need answer by 23:55, March 23, 20011.
>>
>> From: Basu, Sudhamay
>> Sent: Wednesday, March 23, 2011 4:14 PM
>> To: 'Michael Corradini'
>> Cc: Lee, Richard
>> Subject:
>>
>> Mike,
>>
>> Here is a report on Mark-I containment. See if it has information
>> you are looking for. Also, call Dana to see if he can provide any
>> dimensional information. In the meantime, I am looking for
>> information at my end. As soon as I find some, I will send your way.
>> Thanks.
>>
>> Sud
>>
>
>
>
>
>

Lee, Richard

From: Gibson, Kathy
Sent: Wednesday, March 23, 2011 7:47 PM
To: Lee, Richard; Sheron, Brian
Cc: Elkins, Scott
Subject: Re: Conference call with DOE 6:00-7:00pm

We can see if Mike Scott can get any info on this.

From: Lee, Richard
To: Sheron, Brian
Cc: Gibson, Kathy; Elkins, Scott
Sent: Wed Mar 23 19:43:35 2011
Subject: Conference call with DOE 6:00-7:00pm

Brian:

A question was asked by Secretary Chu on making DOE information/advice available to TEPCO managing the accident in Japan. If I understood him correctly, he is taking issue with NRC team in Tokyo not conveying DOE provided information to the Japanese counterpart in Tokyo. He asked that whether this issue has been resolved. He said U.S. information provided to Japan are advices and TEPCO is free to take them or ignore them. He sounds upset.

I responded that I will conveyed to our management. I expect, he will ask again tomorrow at the conference call. Please advise me what NRC response is.

Dr. Holdren (Director of the White House Office of Science and Technology Policy) was also on the conference call.

Richard.

Lee, Richard

From: Santiago, Patricia
Sent: Wednesday, March 23, 2011 4:27 PM
To: Gibson, Kathy; Elkins, Scott
Cc: Wagner, Katie; Lee, Richard; Ghosh, Tina; Navarro, Carlos
Subject: FW: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Kathy we evaluated and coordinated with NRR on the request that Brian received to send the SFP document to NEI. The following information supports the recommendation that we not provide the document.

NEI Is treated like the public (NRR, Quynh Nguyen). In addition, to redact the report to provide it to NEI will make the report useless. We can send a redacted version but it would likely take 1 month to redact and is a low priority.

Please let us know if Brian requests any additional information or if we can close this action as we don't recommend redaction.

Tina please notify NRR of any final response to NEI.

Thanks

From: Zigh, Ghani
Sent: Wednesday, March 23, 2011 3:44 PM
To: Santiago, Patricia; Navarro, Carlos; Ghosh, Tina
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

What you mention is true.
If the report is redacted, it will become useless.

From: Santiago, Patricia
Sent: Wednesday, March 23, 2011 3:41 PM
To: Navarro, Carlos; Zigh, Ghani; Ghosh, Tina
Subject: FW: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

I believe the answer to sending the report to NEI is:

NEI Is treated like the public (NRR, Quynh Nguyen). Thus to redact the report makes it useless. We can send a redacted version but it would take and is a low priority.

Please confirm and let Kathy/Scott Elkins know this is what we recommend and then let them tell Brian. Keep Katie/Richard Lee/NRR in the loop of any final response.

Thanks

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 3:35 PM
To: Santiago, Patricia
Subject: FW: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

This is part of what I have on this . . .

From: Zigh, Ghani
Sent: Tuesday, March 22, 2011 9:37 AM

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To: Santiago, Patricia; Navarro, Carlos
Cc: Lee, Richard; Wagner, Katie; Gibson, Kathy; Elkins, Scott
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Scott passed by my office and talked to me.
He said that he is going to talk to Brian and see if he wants those numbers in the report taken out.
If he does, then we will take out those numbers on the hard copy and hand it Brian.

From: Santiago, Patricia
Sent: Tuesday, March 22, 2011 9:04 AM
To: Zigh, Ghanil; Navarro, Carlos
Cc: Lee, Richard; Wagner, Katie; Gibson, Kathy; Elkins, Scott
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Once the redaction is done, can you provide it to Brian with copy to all.
Can you let Scott know when this will be done so he can let Brian know what to say to NEI.
Thanks Ghanil and Carlos!

From: Zigh, Ghanil
Sent: Tuesday, March 22, 2011 8:43 AM
To: Santiago, Patricia; Gibson, Kathy; Elkins, Scott
Cc: Navarro, Carlos; Lee, Richard
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

The document has information that need to be taken out.
That is how we agreed with the OECD partners for the PWR Zirc fire project.
These information include the power used to get zirc fire and the location of the zirc fire for both parts of the experiment.

From: Santiago, Patricia
Sent: Tuesday, March 22, 2011 8:39 AM
To: Gibson, Kathy; Elkins, Scott
Cc: Zigh, Ghanil; Navarro, Carlos; Lee, Richard
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Thanks
Via this email can I ask ---
Richard Lee -- I will ask you to find out from OGC if we can release OUO to NEI unless you already know.
Carlos/Ghanil -- let me know what you determine on release (Carlos an agreement?)
thanks

From: Gibson, Kathy
Sent: Tuesday, March 22, 2011 8:37 AM
To: Santiago, Patricia; Elkins, Scott
Cc: Zigh, Ghanil; Navarro, Carlos; Lee, Richard
Subject: RE: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Check with Richard. He has lead for document requests and has been in contact with OGC on this topic.

From: Santiago, Patricia
To: Elkins, Scott; Gibson, Kathy
Cc: Zigh, Ghani; Navarro, Carlos
Sent: Tue Mar 22 08:31:47 2011
Subject: FW: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

FYI I believe this is what Brian wants for NEI. It is OUO. I talked to Carlos and he was going to follow with Ghani. Carlos believes we have some agreement or will check to see if we can release OUO to NEI.
thanks

From: Santiago, Patricia
Sent: Friday, March 18, 2011 6:36 PM
To: Tadesse, Rebecca
Cc: Bubar, Patrice; Sheron, Brian; Rini, Brett; Uhle, Jennifer; Gibson, Kathy; Scott, Michael; Bowman, Gregory; Zigh, Ghani; Navarro, Carlos
Subject: NEW URGENT REQUEST -- SNL BWR tests - (OUO-Privileged Information)

Rebecca,

I believe the attached report is what you are requesting ---- Final BWR Sandia Fuel Project (SFP) Sandia Report.

We also have a time lapse video (OUO as well) that we can make a copy and provide Monday.

If you have additional questions, Ghani Zigh is the best person to assist.

Thanks
Pat

Lee, Richard

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 3:41 PM
To: Tinkler, Charles
Cc: Lee, Richard
Subject: Item completed?
Attachments: image001.gif

Good Afternoon Charlie,

Could you please let me know if this item is "Completed" or still "Pending"?

34	3/22/2011	Brian Sheron on behalf of Cathy Haney	NEW	301- 251- 7400	Charlie Tinkler x7496	DSA	Request that Charlie go with Cathy to the Rep. Hamilton briefing on the 28th on SFPs. If Charlie can accompany Cathy, he is requested to call Cathy and get the particulars regarding what the representative's issue are, what she wants to hear about, etc. Let B. Sheron know the outcome.	Request that Charlie go with Cathy to the Rep. Hamilton briefing on the 28th on SFPs. If Charlie can accompany Cathy, he is requested to call Cathy and get the particulars regarding what the representative's issue are, what she wants to hear about, etc. Let B. Sheron know the outcome.	Pending
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Thanks,

Katie Wagner
General Engineer
U.S. Nuclear Regulatory Commission
(301) 251.7917
Katie.Wagner@nrc.gov

Lee, Richard

From: Zigh, Ghani
Sent: Wednesday, March 23, 2011 3:36 PM
To: Wagner, Katie
Cc: Lee, Richard
Subject: RE: Items completed?
Attachments: image001.gif

Item 31 is completed but not item 30.

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 3:30 PM
To: Zigh, Ghani
Cc: Lee, Richard
Subject: Items completed?

Good Afternoon Ghani,

Could you please let me know if the following items are "Completed" or still "Pending"?

30	3/22/2011	Brian Sheron for NEI ! NEW	301-251-7400	Carlos Navarro x7485 Ghani Zigh x7505	SPB/DSA	Brian Sheron requests the BWR results from 2007 be sent to NEI. Report(s) may require redaction.	Send BWR report(s).	Pending
31	3/22/2011	S. Durbin for DOE/NE (Patrick Scwab) ! NEW	sdurbin@sandia.gov	Carlos Navarro x7485 Ghani Zigh x7505	SPB/DSA	A request was received from DOE/NE (Patrick Scwab) for two executive test videos and the BWR SFP Final report.	Transmit executive test videos and the BWR SFP Final report, if allowable and redact as necessary.	Pending

Thanks,
Katie

7/199

Lee, Richard

From: Zigh, Ghani
Sent: Wednesday, March 23, 2011 3:38 PM
To: Wagner, Katie
Cc: Lee, Richard
Subject: RE: Items completed?
Attachments: image001.gif

In Item#30, if Brian Sheron decide on "need to know basis" and tell me to send it to NEI, I will.

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 3:30 PM
To: Zigh, Ghani
Cc: Lee, Richard
Subject: Items completed?

Good Afternoon Ghani,

Could you please let me know if the following items are "Completed" or still "Pending"?

30	3/22/2011	Brian Sheron for NEI ! NEW	301-251-7400	Carlos Navarro x7485 Ghani Zigh x7505	SPB/DSA	Brian Sheron requests the BWR results from 2007 be sent to NEI. Report(s) may require redaction.	Send BWR report(s).	Pending
31	3/22/2011	S. Durbin for DOE/NE (Patrick Scwab) ! NEW	sdurbin@sandia.gov	Carlos Navarro x7485 Ghani Zigh x7505	SPB/DSA	A request was received from DOE/NE (Patrick Scwab) for two executive test videos and the BWR SFP Final report.	Transmit executive test videos and the BWR SFP Final report, if allowable and redact as necessary.	Pending

Thanks,
Katie

Lee, Richard

From: Ordaz, Vonna
Sent: Wednesday, March 23, 2011 3:13 PM
To: Richards, Stuart; Weaver, Doug; Mohseni, Aby; Davis, Jack
Cc: RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael; McConnell, Keith; Watson, Bruce; Camper, Larry; Deegan, George; Waters, Michael
Subject: RE: Decommissioning Type Information

Thanks, Stu. We'll get back to you.

Vonna

From: Richards, Stuart
Sent: Wednesday, March 23, 2011 2:32 PM
To: Weaver, Doug; Mohseni, Aby; Davis, Jack
Cc: RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael; McConnell, Keith; Watson, Bruce; Camper, Larry; Deegan, George; Ordaz, Vonna; Waters, Michael
Subject: RE: Decommissioning Type Information
Importance: High

Dan Dorman has asked the Ops Center to respond to a number of questions related to the Japanese event.

Can NMSS respond to the following?

8. What should they be considering with respect to criticality prevention and decay heat removal during the entombment period?

The goal is to provide the response to the Ops Center by 6 pm tonight.

I will forward you the original request, which may help.

Thanks
Stu

From: Deegan, George
Sent: Wednesday, March 23, 2011 2:05 PM
To: Richards, Stuart; Camper, Larry
Cc: RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael; McConnell, Keith; Watson, Bruce
Subject: RE: Decommissioning Type Information

Stu- As your email came in, Brett Rini and I were speaking with one another. I indicated that FSME will be working on #7 (licensing requirements) and #9 (whatever relevant info we can pull together from the TMI event), but that the best shop for criticality type issues (Question #8) is probably NMSS.

From: Richards, Stuart
Sent: Wednesday, March 23, 2011 1:51 PM
To: Camper, Larry
Cc: Deegan, George; RST01 Hoc; Bowman, Gregory; Hickman, John; Lee, Richard; Rini, Brett; Case, Michael
Subject: RE: Decommissioning Type Information

Larry

RES might be able to help you with Question #8. Richard Lee in DSA is our POC on this one.

We can provide you some thoughts on enclosures, but I agree that a good answer will take a lot of time and a lot more information on the status of the units.

Stu

From: Camper, Larry
Sent: Wednesday, March 23, 2011 12:49 PM
To: Dorman, Dan
Cc: Deegan, George; RST01 Hoc; Bowman, Gregory; Hickman, John
Subject: Decommissioning Type Information

Dan,
Greetings! Trust you are holding up well over there! Regarding your message of earlier today, we will be able to provide feedback on Question number 6 today by the 18:00 timeframe. Questions 6,8 and 9 will require a bit of review and interface with RES but we will start that process today. Standby for a better timeline on those. The staff did some work on the entombment issue via a couple of SECY's but the approach died out because it became clear that industry was not going to utilize it in the US. Of course, the situation in Japan is quite different etc. Regardless, our earlier work should be of some benefit but we just have to resurrect it and review etc. In thinking ahead just a bit, I suspect that we will need to put together some sort of Task Force or think tank type group to analyze possible paths forward for the overall decommissioning of the site and for the related waste management etc. Of course, we have some time to think about this issue but not too long etc.

Esmaili, Hossein

From: Helton, Donald
Sent: Wednesday, March 23, 2011 3:06 PM
To: Tinkler, Charles; Marksberry, Don; Salay, Michael; Schaperow, Jason; Esmaili, Hossein
Subject: RE: Questions from our Hallway Discussion
Attachments: Suggested Questions of Interest for the RST Severe Accident Analyst - 032311.docx

All – An updated version based on input from Charlie.

Charlie – I included input from your markup and your email that was sent simultaneous to me sending out the earlier version. I did not understand why you deleted the venting question, so I left it in, but moved it further down the list

From: Helton, Donald
Sent: Wednesday, March 23, 2011 2:36 PM
To: Tinkler, Charles; Marksberry, Don; Salay, Michael; Schaperow, Jason; Esmaili, Hossein
Subject: Questions from our Hallway Discussion

All,

These are the questions that I compiled from our hallway discussion this morning...

Don

Don Helton
Senior Reliability & Risk Engineer
Division of Risk Analysis
NRC Office of Nuclear Regulatory Research
Physical address: 21 Church Street, CSB4-C9, Rockville, MD 20850
Postal address: US NRC / MS CSB4-C7M / Washington, DC 20555
Ph: 301 251-7594, Donald.Helton@nrc.gov

7/202

Suggested Questions of Interest for the RST Severe Accident Analyst:

Reminder: The RST Severe Accident Analyst should touch base with the PMT RASCAL analyst at the beginning of each shift, and periodically throughout the shift (recall that the RST/PMT liaison positions are not being staffed).

Reactors:

- ❖ (Potential) primary containment failure:
 - What is the basis for reports that the Unit 3 primary containment may be failed? Reports had previously indicated that the Unit 3 primary containment was pressurized, well after the initiating events and the hydrogen deflagration/detonation in the reactor building.
 - What is the current estimate on containment integrity for Units 1 and 2?
- ❖ Hydrogen:
 - What particular concern do the Japanese have regarding hydrogen accumulation on Unit 2? Is this a concern about primary containment becoming de-interted in the long-term, or due to containment failure, or is it a concern regarding a deflagration/detonation in the reactor building?
- ❖ Water injection:
 - Various RPV water levels in Units 1-3 have been reported, many suggesting that the level is being maintained around core mid-plane. Is this the case, and if so, what is the rationale?
 - What is the status (and if possible timeline) regarding containment flooding, including current water level?
- ❖ Water spraying:
 - Is water spraying also intended to cool the outside of the containment (assuming the primary purpose is spent fuel pool makeup)?
- ❖ Venting:
 - What were the vent paths used for the primary containment venting: drywell versus suppression pool airspace?
- ❖ Data requests:
 - For each reactor, could we get a plot (or enough data points to make a plot) for each of the critical indications listed below? If not, could we at least get a current, verified reading for these?
 - Reactor vessel pressure
 - Reactor vessel water level
 - Primary containment pressure
 - Primary containment (drywell/wetwell) hydrogen concentration

Spent Fuel Pools:

- ❖ Coolant inventory:
 - How much water is in each of the spent fuel pools for units 1, 2, 3, and 4? Are there any reliable temperature measurements?

- Please provide any timeline information available regarding fuel uncover and makeup/spray injection.
- Did the concrete pump used to put water in the unit 4 spent fuel pool have a camera on it? If so, what did the video show?
 - Why was the pump stopped after delivering 150 tons of water? 150 tons is not enough to fill the spent fuel pool.

Other:

- ❖ Are any of the NRC in-country representatives stationed in the TEPCO or NISA Emergency Operations Facilities? If so, are they in a position to relay some of the measurements that are available (such as ones that would answer the above questions)?
- ❖ Has any assessment been done of the I-131/Cs-137 ratios that are being observed via field measurements, to determine if they originated from a reactor release versus a spent fuel pool release?
- ❖ What is the status of replacing spray/injection sources with potable water, rather than continuing to use seawater?
- ❖ Has water been observed draining from the loading bay door (or other areas) of any of the reactor buildings, coincident with the spraying operations?

Hogan, Rosemary

From: Richards, Stuart
Sent: Wednesday, March 23, 2011 5:02 PM
To: Boyce, Tom (RES); Csontos, Aladar; Gavrilas, Mirela; Hogan, Rosemary; Koshy, Thomas; Sydnor, Russell; Ali, Syed; Birla, Sushil; Murphy, Andrew; Santos, Daniel; Tregoning, Robert
Subject: FW: SRM - COMGBJ-11-0002 - NRC Actions Following the Events in Japan
Attachments: SRM-CmGBJ11-0002.docx

Fyi - Stu

From: Lewis, Antoinette
Sent: Wednesday, March 23, 2011 4:34 PM
To:
Subject: SRM - COMGBJ-11-0002 - NRC Actions Following the Events in Japan

(ML110820875)

In an effort to keep the NRC staff informed of Commission decisions in a timely manner, attached for your information are the Staff Requirements Memoranda (SRMs) signed by the Secretary on March 23, 2011. Please make additional distribution to interested staff members in your office.

If you have any questions, please give me a call on 415-1969.

T/203

March 23, 2011

MEMORANDUM TO: Chairman Jaczko

FROM: Annette Vietti-Cook, Secretary **/RA/**

SUBJECT: COMGBJ-11-0002 – NRC ACTIONS FOLLOWING THE EVENTS
IN JAPAN

This memorandum is to inform you that all Commissioners have concurred in your proposal regarding NRC actions following the events in Japan. The attached tasking memorandum provides staff direction on this issue.

This completes action on COMGBJ-11-0002.

Attachment:
As stated

cc: Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff
EDO
OGC
OPA
OCA

March 23, 2011

MEMORANDUM TO: R. W. Borchardt
Executive Director for Operations

FROM: Chairman Jaczko /RA/

SUBJECT: TASKING MEMORANDUM – COMGBJ-11-0002 – NRC
ACTIONS FOLLOWING THE EVENTS IN JAPAN

The staff should establish a senior level agency task force to conduct a methodical and systematic review of our processes and regulations to determine whether the agency should make additional improvements to our regulatory system and make recommendations to the Commission for its policy direction. The review should address the following near term and then longer term objectives.

Near Term Review

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

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

(EDO)

(SECY Suspense: 30, 60, & 90 days)

Longer Term Review

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

(EDO)

(SECY Suspense: 9 months, if needed)

cc: Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff
OGC
CFO
OCA
OPA
Office Directors, Regions, ACRS, ASLBP (via E-Mail)
PDR

From: Richards, Stuart
To: Case, Michael
Subject: RE: Impacts
Date: Wednesday, March 23, 2011 11:27:10 AM

Brian

Annie has been working full time on support to the event. Jon has also been called to support to a lesser degree. Other members of our seismic team have also contributed. Additionally, we can see a bow-wave of additionally seismic work rapidly approaching (congressional letters, GI-199 additional emphasis, etc).

Syed Ali is going to Japan tomorrow for two weeks. We canceled out his participation in the CSNI Working Group meetings as a result.

Mike Case, Tom Boyce, Sapna Hurd, and Rick Jervy have been part of the response team in the Ops Center. This has delayed some of their work on normal duties.

Our materials staff have been called on to support questions, such as the impact of salt on the primary piping. We anticipate that materials and structural type questions may increase in the future.

The issues related to the SBO and batteries will also likely impact us in the future, but not yet.

Mike

From: Sheron, Brian
Sent: Wednesday, March 23, 2011 10:04 AM
To: Rini, Brett; Case, Michael; Coe, Doug; Correia, Richard; Gibson, Kathy; Richards, Stuart; Scott, Michael; Uhle, Jennifer; Valentin, Andrea
Subject: Impacts

Bill Borchardt is having a meeting from 12:30 pm to 1:30 pm today with Office Directors and RAs to discuss how the Japanese event is impacting our work. So far, I am aware of the impact on SOARCA, and I am assuming there will be some impact on our seismic work.

1.) Mike, can I get a little more detail on what the impact is, if any, on our seismic work because of Annie's and Jon Ake's participation.

2.) Please let me know if there are other areas that are or will be impacted by the Japanese event. I need this by about 11:30 am today. Thanks.

7/2014

From: [Gray, Kathy](#)
To: [Case, Michael](#)
Cc: [Thorp, John](#)
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Date: Wednesday, March 23, 2011 4:01:17 PM

Mike,

I need to fill some more shifts, so I will also include the 4/6 day shift in an email I intend to send out to all. Thanks!

From: Case, Michael
Sent: Wednesday, March 23, 2011 7:27 AM
To: Gray, Kathy
Cc: Thorp, John
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

Thanks Kathy. I should be OK (although I think I'll need someone to do one day shift on 4/6 because I have an all day steering group meeting. I'll worry about that when we get a bit closer).

From: Gray, Kathy
Sent: Tuesday, March 22, 2011 3:06 PM
To: Case, Michael
Cc: Thorp, John
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

Thanks Mike. FYI – Dave has duty today from 3pm-11pm, so we may not hear back from him til tomorrow or Thursday.

Please note, if you do a complete swap of mids with Dave, you'll have duty March 30-April 2 (mids) and then day duty (7-3pm) starting April 6-9 – are you sure you're up for all those mids and days?

From: Case, Michael
Sent: Tuesday, March 22, 2011 2:54 PM
To: Skeen, David; Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

It looks like I'm very moveable since we're both on mids. Just propose which ones you want to do and I'll do the rest.

From: Skeen, David
Sent: Tuesday, March 22, 2011 2:48 PM
To: Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

All,

I will be unable to support the RST from April 1 – April 14, since I will be in Vienna for the

T/205

Convention on Nuclear Safety. I can swap with someone and take one of the shifts earlier in the week, if someone would care to swap (maybe Fred or Mike?).

Thanks!

From: Gray, Kathy

Sent: Tuesday, March 22, 2011 12:04 PM

To: Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael

Cc: Thorp, John; Thomas, Eric; Cunningham, Liza; Gray, Kathy

Subject: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

Importance: High

Please confirm that you are available to provide coverage in the Ops Center, as the RST Director, as follows:

Reactor Safety Team (RST) Director Schedule

March 26 – April 2, 2011

Shift	3/26 (Sat)	3/27 (Sun)	3/28 (Mon)	3/29 (Tues)	3/30 (Wed)	3/31 (Thur)	4/1 (Fri)	4/2 (Sat)
7am– 3pm	Pat Hiland	Pat Hiland	Pat Hiland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Brian Holian
3pm– 11pm	Bill Ruland	Fred Brown	Fred Brown	Fred Brown	Fred Brown	Bill Ruland	Bill Ruland	Bill Ruland
11pm– 7am	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen	Dave Skeen	Dave Skeen	Dave Skeen

Thanks very much.

Kathy A. Gray

Information Management Asst.

Operating Experience Branch, DIRS/NRR

Rm. O-7F04, Phone: 301-415-1166

Kathy.Gray@nrc.gov

From: Csontos, Aladar
To: Gavrilas, Mirela; Dunn, Darrell; Tregoning, Robert
Cc: Case, Michael; Richards, Stuart
Subject: RE: Feedback on Issues Related to Sea Water in a BWR Plant
Date: Wednesday, March 23, 2011 9:30:18 AM

Also, I was asked to keep the numbers low on the communications so this doesn't get out of hand. Darrell wasn't included, but, I thought he should be.

From: Gavrilas, Mirela
Sent: Wednesday, March 23, 2011 9:14 AM
To: Dunn, Darrell; Csontos, Aladar; Tregoning, Robert
Subject: Re: Feedback on Issues Related to Sea Water in a BWR Plant

Thanks, Darrell.

Please keep me on cc if CMB staff is involved or provides information that is distributed beyond division boundary. .

M.

From: Dunn, Darrell
To: Gavrilas, Mirela
Sent: Wed Mar 23 08:01:58 2011
Subject: FW: Feedback on Issues Related to Sea Water in a BWR Plant

From: Csontos, Aladar
Sent: Tuesday, March 22, 2011 9:53 PM
To: Klein, Paul; Mendiola, Anthony; Ward, Leonard; Taylor, Robert; Tregoning, Robert; Hardies, Robert; Makar, Gregory; Dunn, Darrell
Subject: RE: Feedback on Issues Related to Sea Water in a BWR Plant

Folks,

I looked over the CNWRA 92-021 report that Darrell Dunn suggested, particularly Figure 3-15 on page 3-36. The SCC crack growth rates are not on the order of 0.001"/year as suggested in the salt paper that we got this am. Looking at Figure 3-15 for 316 in a creviced condition, CGRs are on the order of 0.1 mm/hr at 80C and at 3% NaCl or 0.01 mm/hr at 0.03% NaCl at a stress intensity of 15 kgf/mm^{3/2}. I'll have to do the conversion to MPa m^{1/2} to get a real gauge of the K relationship. Also, 304 would probably have a faster CGR than 316 (not sure but a trend between the two alloys).

Darrell returns tomorrow and I'll discuss this with him in the morning. If you want, we can get some preliminary calcs for component integrity for some stainless steel piping similar to the BWRs in Japan. Let me know if you want that.

Al

T/206

From: Klein, Paul

Sent: Tuesday, March 22, 2011 1:32 PM

To: Mendiola, Anthony; Ward, Leonard; Taylor, Robert

Cc: Tregoning, Robert; Hardies, Robert; Makar, Gregory; Klein, Paul; Csontos, Aladar

Subject: Feedback on Issues Related to Sea Water in a BWR Plant

Tony,

Rob Taylor requested I send our comments (from the staff on cc distribution) on the subject paper to you. Please see the attached file.

Paul Klein

USNRC

301-415-4030

From: Skeen, David
To: Case, Michael; Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Holian, Brian
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Date: Wednesday, March 23, 2011 1:59:50 PM

Thanks for being flexible, Mike.

In that case, I'll take mid-shift on 3/26-3/29, and you can take it from 3/30-4/2.

From: Case, Michael
Sent: Tuesday, March 22, 2011 2:54 PM
To: Skeen, David; Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

It looks like I'm very moveable since we're both on mids. Just propose which ones you want to do and I'll do the rest.

From: Skeen, David
Sent: Tuesday, March 22, 2011 2:48 PM
To: Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

All,

I will be unable to support the RST from April 1 – April 14, since I will be in Vienna for the Convention on Nuclear Safety. I can swap with someone and take one of the shifts earlier in the week, if someone would care to swap (maybe Fred or Mike?).

Thanks!

From: Gray, Kathy
Sent: Tuesday, March 22, 2011 12:04 PM
To: Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza; Gray, Kathy
Subject: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Importance: High

Please confirm that you are available to provide coverage in the Ops Center, as the RST Director, as follows:

Reactor Safety Team (RST) Director Schedule

March 26 – April 2, 2011

	3/26	3/27	3/28	3/29	3/30	3/31	4/1	4/2
Shift	(Sat)	(Sun)	(Mon)	(Tues)	(Wed)	(Thur)	(Fri)	(Sat)

7/2007

7am– 3pm	Pat Hiland	Pat Hiland	Pat Hiland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Brian Holian
3pm– 11pm	Bill Ruland	Fred Brown	Fred Brown	Fred Brown	Fred Brown	Bill Ruland	Bill Ruland	Bill Ruland
11pm– 7am	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen	Dave Skeen	Dave Skeen	Dave Skeen

Thanks very much.

Kathy A. Gray

Information Management Asst.

Operating Experience Branch, DIRS/NRR

Rm. O-7F04, Phone: 301-415-1166

Kathy.Gray@nrc.gov

From: Fehst, Geraldine
To: Abrams, Charlotte; Smirolodo, Elizabeth; Stahl, Eric; Shepherd, Jill; Tobin, Jennifer
Subject: RE: OIP Ops Center Coverage: March 21-April 15
Date: Wednesday, March 23, 2011 1:43:54 PM

Charlotte –

Per discussions with Jill and Elizabeth and Jenny, I am now down as primary for

Tuesday, March 29 -- 3-11;
Saturday April 2 - 11pm-7am;
Tuesday April 5 – 11-7 a.m.;
Thursday April 7 11-7 a.m.;
Monday April 11 - 11-7 am; and
Wednesday April 13 11-7am.

I'll check to see if these dates remain the same when you rework the schedule.

Gerri

From: Abrams, Charlotte
Sent: Wednesday, March 23, 2011 1:22 PM
To: Smirolodo, Elizabeth; Fehst, Geraldine
Subject: Re: OIP Ops Center Coverage: March 21-April 15

We need to rework the sked due to a # of new considerations. I will do it this afternoon.

Sent from my nrc blackberry. Charlotte Abrams 3014152933

From: Smirolodo, Elizabeth
To: Fehst, Geraldine
Cc: Abrams, Charlotte
Sent: Wed Mar 23 12:59:59 2011
Subject: RE: OIP Ops Center Coverage: March 21-April 15

Sorry, Gerry,

I misunderstood. I didn't fully understand that "Staff #2" literally meant "The B Team." I thought I was still on for those nights and was planning on that. Cindy got in touch with me about her night and we confirmed that I would come in. But there are many other nights (not just nights where Gerry has been assigned) that I am on as Staff #2, and now it looks like I might not be on at all.

In any case, I am completely confused about what to do. Am I to assume that the "A team" people will come in, or is it now my responsibility to get in touch with everyone to ensure that they know they will indeed handle the shift?

7/208

Also, Charlotte, should I be concerned that I am considered "B team" material (for each and every shift!)? If I am not doing a good job in the ops center, please let me know!

Best,
Elizabeth

From: Fehst, Geraldine
Sent: Wednesday, March 23, 2011 12:43 PM
To: Smioldo, Elizabeth
Subject: RE: OIP Ops Center Coverage: March 21-April 15

So just to confirm, I will take the 11 pm to 7 a.m shifts on Saturday, April 2, and Monday the 11th and Wednesday the 13th.

That means you don't have to come in at all on any of those three dates for the overnight shift because according to Eric's latest e-mail, only one overnight person would be required, not two. I would just call you as backup if I were sick or events required additional help, etc.

Gerri

From: Smioldo, Elizabeth
Sent: Wednesday, March 23, 2011 9:59 AM
To: Fehst, Geraldine
Subject: RE: OIP Ops Center Coverage: March 21-April 15

Yes!

From: Fehst, Geraldine
Sent: Wednesday, March 23, 2011 9:12 AM
To: Smioldo, Elizabeth
Subject: RE: OIP Ops Center Coverage: March 21-April 15

Elizabeth –

I see you have three 11-7 am shifts in a row from April 11 through 13. I can be primary on the 11th and 13th, or at least the 11th. Does that work for you?

Gerri

From: Stahl, Eric
Sent: Tuesday, March 22, 2011 10:41 PM
To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smioldo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis; Fehst, Geraldine
Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Smith, Wilkins; Mamish, Nader; Dembek, Stephen; Kreuter, Jane; Armstrong, Janine; Floyd, Daphene; LIA02 Hoc; LIA03 Hoc; OST02 HOC; Ramsey, Jack;

Shaffer, Mark

Subject: RE: OIP Ops Center Coverage: March 21-April 15

Please find an update coverage schedule for the Ops Center attached. As a reminder, the 11pm-7am shift will only need to be covered by one person (it is up to the two people scheduled to determine who will staff the Ops Center and who will serve as a back-up).

Thank you all for your help with staffing and for volunteering to take extra shifts!

Eric

From: Stahl, Eric

Sent: Tuesday, March 22, 2011 7:21 AM

To: Stahl, Eric; Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smiroldo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis

Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Mamish, Nader; Dembek, Stephen

Subject: RE: OIP Ops Center Coverage: March 21-April 15

Based on the decreased level-of-work during the **11pm-7am** shift in recent days, only one staff member will need to cover the international liaison desk during that shift from now on.

On the coverage sheet, two people will still be listed as responsible for the shift's coverage. Now, only one of you will be expected to staff the Ops Center, while the other will be expected to serve as their back-up (in case you need to be called in due to heavy workload, illness, etc.). It is up to the two staff members designated to work the shift to determine who is responsible for being in the office. One person can cover all three days, you can rotate days, you can flip a coin for each day - the choice is yours and yours alone.

At this point, all other shifts will require two staff members covering the international liaison desks. If you all believe that two staff members is superfluous at any other times, please let me know.

I have attached the coverage document to this email for your awareness. If you have any other questions, please let me know.

Thanks again,

Eric

From: Stahl, Eric

Sent: Monday, March 21, 2011 10:39 PM

To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smiroldo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis

Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Mamish, Nader;

Dembek, Stephen

Subject: RE: OIP Ops Center Coverage: March 21-April 15

Is everyone having fun yet?

Please find a slightly revised copy of the OIP Ops Center coverage sheet through April 15. This document should include all changes made through Monday (that I was notified about). If you have any other changes, please let me know. If you have already told me you cannot work a shift, it is highlighted in yellow. If you would like to volunteer for one of the yellow shifts, please let me know. In addition, if you cannot work a shift that you have been designated to cover and have been unable to find a replacement yet, please let me know and I will update the sheet and try to find volunteers. Lastly, if you see any inaccuracies, please let me know.

As a reminder, please respond only to me and not the whole email distribution.

Thanks,
Eric

From: Stahl, Eric

Sent: Thursday, March 17, 2011 11:44 AM

To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian

Cc: Doane, Margaret; Young, Francis; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Jones, Andrea; Mamish, Nader; Dembek, Stephen

Subject: OIP Ops Center Coverage: March 21-April 15

Team OIP –

First of all, thank you for providing input on such short notice concerning OIP's coverage of the international liaison desks in the Ops Center. Attached you will find the coverage sheet from March 21 through April 15. Most of you will work for three days on, followed by six days off. The reason for this is that management believed it was important to maintain staff consistency in the Ops Center, while not overburdening specific people.

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- In addition to the people who have already been working in the Ops Center or will start shifts there soon, feel free to reach out to Gerri, Wilkins, Andrea, Kirk and Brooke when

they return to the office. We have 20+ people in the office who are available and eager to help, so it should not be too difficult to find a replacement when needed.

- At this point, we are under the assumption that we will need two people manning the international liaison desk through April 15. If this changes, we will let you know.

Once again, please look at the coverage spreadsheet closely. Your name may only appear a few times or it may appear 10+ times. In some cases you may have been substituted for people who are away on travel in what may appear to be random fashion. It is your responsibility to show up during your designated shift or to find a replacement for it. If you have any questions or concerns, please reply directly to me **only**.

Please note: coverage through this Sunday (March 20) has already been finalized. The document with this information is also attached.

Once again, thank you all for your contributions. Everyone understands this has been an overwhelming and challenging time for OIP, but I think everyone's eagerness to help and flexibility have been clearly demonstrated.

Lee, Richard

From: Gibson, Kathy
Sent: Wednesday, March 23, 2011 11:22 AM
To: Lee, Richard
Subject: Fw: DSA Japan's Impact BC's inputs
Attachments: image001.gif

Richard,

I am sure your work is being impacted by your staff working in Ops Center and you and katie supporting Japan work?

What is being impacted or will be impacted?

From: Ramirez, Annie
To: Gibson, Kathy
Cc: Armstrong, Kenneth
Sent: Wed Mar 23 11:15:04 2011
Subject: DSA Japan's Impact BC's inputs

Kathy, here are the inputs from DSA's BC's;

As Brian stated there is a current impact on SOARCA .

HEB inputs (Stephanie):

- FSME Part 20 User need is on hold at the time.
- The Briefing to Marty Virgilio on CRPPH is not getting the required attention it need but, the due date still the same.
- The expert group on occupational exposure is delay.

There were no impact on the other branches(RSAB, CDN, NARB,FSTB). There was no additional feedback from SPB but, they already have SOARCA.



Annie Ramirez, EIT

U. S. Nuclear Regulatory Commission

Chemical Engineer

Email: annie.ramirez@nrc.gov

Phone: (301)-251-7537

Office: CSB-3C10

RES/DSA/RSAB

T/209

From: Gray, Kathy
To: Skeen, David; Case, Michael; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Holian, Brian
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Date: Wednesday, March 23, 2011 3:11:23 PM

Thanks very much. I will note this change and send out once I receive all confirmations.
Thanks!

From: Skeen, David
Sent: Wednesday, March 23, 2011 1:59 PM
To: Case, Michael; Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Holian, Brian
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

Thanks for being flexible, Mike.

In that case, I'll take mid-shift on 3/26-3/29, and you can take it from 3/30-4/2.

From: Case, Michael
Sent: Tuesday, March 22, 2011 2:54 PM
To: Skeen, David; Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

It looks like I'm very moveable since we're both on mids. Just propose which ones you want to do and I'll do the rest.

From: Skeen, David
Sent: Tuesday, March 22, 2011 2:48 PM
To: Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

All,

I will be unable to support the RST from April 1 – April 14, since I will be in Vienna for the Convention on Nuclear Safety. I can swap with someone and take one of the shifts earlier in the week, if someone would care to swap (maybe Fred or Mike?).

Thanks!

From: Gray, Kathy
Sent: Tuesday, March 22, 2011 12:04 PM
To: Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza; Gray, Kathy
Subject: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Importance: High

7/210

Please confirm that you are available to provide coverage in the Ops Center, as the RST Director, as follows:

Reactor Safety Team (RST) Director Schedule

March 26 – April 2, 2011

Shift	3/26 (Sat)	3/27 (Sun)	3/28 (Mon)	3/29 (Tues)	3/30 (Wed)	3/31 (Thur)	4/1 (Fri)	4/2 (Sat)
7am– 3pm	Pat Hiland	Pat Hiland	Pat Hiland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Brian Holian
3pm– 11pm	Bill Ruland	Fred Brown	Fred Brown	Fred Brown	Fred Brown	Bill Ruland	Bill Ruland	Bill Ruland
11pm– 7am	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen	Dave Skeen	Dave Skeen	Dave Skeen

Thanks very much.

Kathy A. Gray

Information Management Asst.

Operating Experience Branch, DIRS/NRR

Rm. O-7F04, Phone: 301-415-1166

Kathy.Gray@nrc.gov

Valentine, Nicholee

From: Bowman, Eric / NRC
Sent: Wednesday, March 23, 2011 6:30 AM
To: Tom Gurdziel
Cc: Cartwright, William; Batkin, Joshua
Subject: RE: NRC Information Notice 2011-05

Good Morning Mr. Gurtziel,

The fact sheet on the NEI can be located on their web site by searching for its title, then following one of the two results that show up this morning to the link. It was at <http://resources.nei.org/documents/japan/Industry Taking Action to Ensure Continued Safety Fact Sheet.pdf> when I checked this morning.

Thank you for your input on the Information Notice.

Regards,

Eric Bowman

From: Tom Gurdziel [tgurdziel@twcny.rr.com]
Sent: Tuesday, March 22, 2011 9:17 PM
To: Bowman, Eric
Cc: Cartwright, William; Batkin, Joshua; hillsc@INPO.org; ESTRONSKI@aol.com
Subject: NRC Information Notice 2011-05

Good morning,

I just tried to find "Industry Taking Action to Ensure Continued Safety at U.S. Nuclear Energy Plants" at the supplied NEI link, then the page that has Fact Sheets. I can't find it. Do you know when or where it will be available?

Also, I read through the Information Notice. Can you read through pages 3 and 4 and understand anything there? Can management people presently employed in the industry understand those pages?

Thank you,

Tom Gurdziel

From: Patel, Pravin
Sent: Wednesday, March 23, 2011 5:29 AM
To: RST01 Hoc
Subject: FW: Spent fuel pool filled with sand Unit 4 Japan

From: Patel, Pravin
Sent: Friday, March 18, 2011 1:16 PM
To: RST01 Hoc
Cc: Patel, Pravin; Ma, John; Tegeler, Bret; Shams, Mohamed; Williams, Joseph
Subject: FW: Spent fuel pool filled with sand Unit 4 Japan

Jim,

I am resending information that was previously sent. Please read below for the SFP loading and attached file for recommendation of sand use option.

pravin

From: Patel, Pravin
Sent: Thursday, March 17, 2011 10:56 AM
To: RST01 Hoc; RST01 Hoc
Cc: Shams, Mohamed; Patel, Pravin; Tegeler, Bret; Ma, John; Shea, James
Subject: Spent fuel pool filled with sand Unit 4 Japan

Jim,

I have calculated spent fuel pool weight difference using san/gravel mix(wet) filled in the pool instead of water.

Assumption:

- 1) Quad City pool is same as Japan Unit 4
- 2) Unit 4 pool has 600 assemblies

Current volume at Quad city pool = $44,471 \text{ ft}^3$

Assume sand filled to the top of the pool (minus assembly volume) = 50216 ft^3

T/2/2

From: Wittick, Brian
To: Stahl, Eric; Schwartzman, Jennifer; Abrams, Charlotte; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis; Fehst, Geraldine
Cc: Smith, Wilkins; Dembek, Stephen; Kreuter, Jane; Emche, Danielle
Subject: RE: OIP Ops Center Coverage: March 21-April 15
Date: Thursday, March 24, 2011 10:34:58 AM

Eric,

Since you are going down to one person on the mid-watches you might consider revising the watchbill to use the second person on each of those shifts

Brian Wittick
Executive Technical Assistant for Reactors
Office of the Executive Director for Operations
U.S. Nuclear Regulatory Commission
301-415-2496 (w); 301-263-4107 (c)

From: Stahl, Eric
Sent: Thursday, March 24, 2011 10:13 AM
To: Schwartzman, Jennifer; Abrams, Charlotte; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis; Fehst, Geraldine
Cc: Smith, Wilkins; Dembek, Stephen; Kreuter, Jane; Emche, Danielle
Subject: RE: OIP Ops Center Coverage: March 21-April 15

Good Morning –

As most of you may know, Danielle (Saturday) and I (Monday) are heading to Japan to relieve Kirk and Brooke. As such, we are now seeking volunteers to take our Ops Center shifts over the next three weeks. Please see the attached document and if you can take any of our shifts (which are highlighted), please respond to me and Jane Kreuter. Jane will be “managing” the coverage sheet once I leave, so please work with her on any future changes. First come, first served, so if you’ve been aching for some more time sitting in front of LIA02 or LIA03, here’s your chance!

Thanks in advance!
Eric

From: Stahl, Eric
Sent: Tuesday, March 22, 2011 10:41 PM
To: Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis; Fehst, Geraldine
Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Smith, Wilkins; Mamish, Nader; Dembek, Stephen; Kreuter, Jane; Armstrong, Janine; Floyd, Daphene; LIA02 Hoc; LIA03 Hoc; OST02 HOC; Ramsey, Jack; Shaffer, Mark
Subject: RE: OIP Ops Center Coverage: March 21-April 15

7/213

Please find an update coverage schedule for the Ops Center attached. As a reminder, the 11pm-7am shift will only need to be covered by one person (it is up to the two people scheduled to determine who will staff the Ops Center and who will serve as a back-up).

Thank you all for your help with staffing and for volunteering to take extra shifts!

Eric

From: Stahl, Eric

Sent: Tuesday, March 22, 2011 7:21 AM

To: Stahl, Eric; Schwartzman, Jennifer; Abrams, Charlotte; Emche, Danielle; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis

Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Mamish, Nader; Dembek, Stephen

Subject: RE: OIP Ops Center Coverage: March 21-April 15

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At this point, all other shifts will require two staff members covering the international liaison desks. If you all believe that two staff members is superfluous at any other times, please let me know.

I have attached the coverage document to this email for your awareness. If you have any other questions, please let me know.

Thanks again,
Eric

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Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Mamish, Nader; Dembek, Stephen

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Cc: Doane, Margaret; Young, Francis; Foggie, Kirk; Smith, Brooke; Fehst, Geraldine; Smith, Wilkins; Jones, Andrea; Mamish, Nader; Dembek, Stephen
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Once again, thank you all for your contributions. Everyone understands this has been an overwhelming and challenging time for OIP, but I think everyone's eagerness to help and flexibility have been clearly demonstrated.

From: [Sheron, Brian](#)
To: [Kammerer, Annie](#)
Cc: [Case, Michael](#); [Richards, Stuart](#); [Hogan, Rosemary](#); [Uhle, Jennifer](#)
Subject: Question
Date: Thursday, March 24, 2011 8:27:45 AM

I am seeing a spectrum of tsunami wave heights that reportedly hit the Fukushima plant. I saw in one of your briefing packages that was a USGS calculation that showed the peak wave height at about 30 feet. I saw some slides from TEPCO yesterday that said the tsunami wave height at the plant was "more than 10 meters". In today's "Nucleonics Week" on page 11 it says "Tepco discovered by checking the walls of Fukushima 1and the nearby Fukushima 2March 21 that the tsunamis had reached higher than 14 meters (about 46 feet) above sea level...." It then said the design basis for Fukushima 1 &2 was 5.7 and 5.2 meters respectively.

Without any accurate measurements, are we limited to educated guesses and expert judgment?

I think one question we will be asked is how well can we predict a tsunami wave height? I seem to recall you said the USGS calculations (wave height versus time at various locations) were probably pretty good because they had a well validated model. However, it would now appear they significantly under-predicted the wave height.

Am I missing something?

From: Case, Michael
To: Coyne, Kevin; Correia, Richard; Gibson, Kathy; Richards, Stuart; Case, Michael
Cc: Rini, Brett; Sheron, Brian; Uhle, Jennifer
Subject: Nominees for 3rd Team to Japan
Date: Thursday, March 24, 2011 1:46:40 PM
Attachments: Background 3rd team to Japan .docx

The Agency is trying to put together another team to go to Japan leaving on or about April 2nd and returning April 16th. They are seeking individuals willing to go with skills in the following areas:

Severe Accident Management Knowledge
B.5.b Knowledge
Accident Recovery Knowledge
Political Savvy

Additional background info is on the attached sheet. **Please forward your nominees to Brian/Jennifer/Brett by 0800 Monday** (due at noon to Michele Evans). DSA currently has one nominee that will be forwarded shortly. Background info on nominated candidates should include the person's skills in relation to those identified areas above, any OD endorsement, and passport status.

T/2/15

March 24, 2011

Background Information for Third Team to Japan

Overall:

We are planning to replace the current site team with a six person team that would include four members with a collective, good understanding of severe accident management, B5b and accident recovery, and two members with the management and political savvy to deal with the ambassador and Japanese regulators, military and cabinet. (One of these will be an Executive SES level to replace Dan Dorman)

Next phase would be to replace that 6 person team with a two person team. (Composition TBD)

Specific Request of OD/RAs:

1. Identify staff with all or some of following skill sets who are willing to travel to Japan on or about April 2. The staff would return on about April 16.
 - a. Severe Accident management knowledge
 - b. B5b knowledge
 - c. Accident Recovery knowledge
 - d. Political Savvy

Please provide nominees to Michele Evans **by noon on Monday, March 28**. Brief summary of staff's background as it applies to the above skill sets and any endorsement by OD/RA will be greatly appreciated.

2. Not immediately needed would be nominees for the 4th team of two who may depart USA on or before April 13. Composition is TBD.

Please Note: Identification of the Next Executive to send to replace Dan Dorman, is being made by DEDOs, and is not part of this request.

From: Smiroldo, Elizabeth
To: Fehst, Geraldine; Stahl, Eric; Schwartzman, Jennifer; Abrams, Charlotte; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis
Cc: Smith, Wilkins; Dembek, Stephen; Kreuter, Jane; Emche, Danielle
Subject: RE: OIP Ops Center Coverage: March 21-April 15
Date: Thursday, March 24, 2011 11:43:28 AM

I could take any of the 11 pm-7 am shifts on April 8, 9, or 10 (maybe Lauren could take some and I could take some...or perhaps there are other graveyard enthusiasts out there?).

From: Fehst, Geraldine
Sent: Thursday, March 24, 2011 10:17 AM
To: Stahl, Eric; Schwartzman, Jennifer; Abrams, Charlotte; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis
Cc: Smith, Wilkins; Dembek, Stephen; Kreuter, Jane; Emche, Danielle
Subject: RE: OIP Ops Center Coverage: March 21-April 15

I can take 3 to 11 on March 31 and April 1 and 7 to 3 on Sunday April 10.
Gerri

From: Stahl, Eric
Sent: Thursday, March 24, 2011 10:13 AM
To: Schwartzman, Jennifer; Abrams, Charlotte; Mayros, Lauren; Afshar-Tous, Mugeh; Bloom, Steven; English, Lance; Owens, Janice; Tobin, Jennifer; Smirolodo, Elizabeth; Shepherd, Jill; Henderson, Karen; Fragoyannis, Nancy; Baker, Stephen; Wittick, Brian; Rosales-Cooper, Cindy; Jones, Andrea; Young, Francis; Fehst, Geraldine
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Cc: Doane, Margaret; Foggie, Kirk; Smith, Brooke; Smith, Wilkins; Mamish, Nader; Dembek, Stephen;

7/216

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Sent: Tuesday, March 22, 2011 7:21 AM

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- I did my best to incorporate feedback concerning you leave, CWS and travel into the document, this did not always work.
- If you are scheduled to work a shift that you cannot work (whether because you have leave, have other obligations, are on CWS, etc.), it is your responsibility to find a replacement. I will maintain the master copy, so if there is a change, please email it to me. I will plan on sending out updates to the sheet as necessary every few days.
- In addition to the people who have already been working in the Ops Center or will start shifts there soon, feel free to reach out to Gerri, Wilkins, Andrea, Kirk and Brooke when they return to the office. We have 20+ people in the office who are available and eager to help, so it should not be too difficult to find a replacement when needed.
- At this point, we are under the assumption that we will need two people manning the international liaison desk through April 15. If this changes, we will let you know.

Once again, please look at the coverage spreadsheet closely. Your name may only appear a few times or it may appear 10+ times. In some cases you may have been substituted for people who are away on travel in what may appear to be random fashion. It is your responsibility to show up during your designated shift or to find a replacement for it. If you have any questions or concerns, please reply directly to me only.

Please note: coverage through this Sunday (March 20) has already been finalized. The document with this information is also attached.

Once again, thank you all for your contributions. Everyone understands this has been an overwhelming and challenging time for OIP, but I think everyone's eagerness to help and flexibility have been clearly demonstrated.

From: Gray, Kathy
To: Case, Michael; Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Holian, Brian
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011
Date: Wednesday, March 23, 2011 4:01:37 PM

Yes, I will. Thanks!

From: Case, Michael
Sent: Wednesday, March 23, 2011 2:28 PM
To: Skeen, David; Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Holian, Brian
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

Sounds great. Kathy can you make that change?

From: Skeen, David
Sent: Wednesday, March 23, 2011 1:59 PM
To: Case, Michael; Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Holian, Brian
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

Thanks for being flexible, Mike.

In that case, I'll take mid-shift on 3/26-3/29, and you can take it from 3/30-4/2.

From: Case, Michael
Sent: Tuesday, March 22, 2011 2:54 PM
To: Skeen, David; Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

It looks like I'm very moveable since we're both on mids. Just propose which ones you want to do and I'll do the rest.

From: Skeen, David
Sent: Tuesday, March 22, 2011 2:48 PM
To: Gray, Kathy; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael
Cc: Thorp, John; Thomas, Eric; Cunningham, Liza
Subject: RE: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

All,

I will be unable to support the RST from April 1 – April 14, since I will be in Vienna for the Convention on Nuclear Safety. I can swap with someone and take one of the shifts earlier in the week, if someone would care to swap (maybe Fred or Mike?).

Thanks!

T/217

From: Gray, Kathy

Sent: Tuesday, March 22, 2011 12:04 PM

To: Skeen, David; Uhle, Jennifer; Brown, Frederick; Ruland, William; Hiland, Patrick; Case, Michael

Cc: Thorp, John; Thomas, Eric; Cunningham, Liza; Gray, Kathy

Subject: ACTION: Confirmation requested for RST Director Schedule - 3/26-4/2/2011

Importance: High

Please confirm that you are available to provide coverage in the Ops Center, as the RST Director, as follows:

Reactor Safety Team (RST) Director Schedule

March 26 – April 2, 2011

Shift	3/26 (Sat)	3/27 (Sun)	3/28 (Mon)	3/29 (Tues)	3/30 (Wed)	3/31 (Thur)	4/1 (Fri)	4/2 (Sat)
7am– 3pm	Pat Hiland	Pat Hiland	Pat Hiland	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Jennifer Uhle	Brian Holian
3pm– 11pm	Bill Ruland	Fred Brown	Fred Brown	Fred Brown	Fred Brown	Bill Ruland	Bill Ruland	Bill Ruland
11pm– 7am	Mike Case	Mike Case	Mike Case	Mike Case	Dave Skeen	Dave Skeen	Dave Skeen	Dave Skeen

Thanks very much.

Kathy A. Gray

Information Management Asst.

Operating Experience Branch, DIRS/NRR

Rm. O-7F04, Phone: 301-415-1166

Kathy.Gray@nrc.gov

From: Patel, Pravin
Sent: Wednesday, March 23, 2011 5:29 AM
To: RST01 Hoc
Subject: FW: Spent fuel pool filled with sand Unit 4 Japan

From: Patel, Pravin
Sent: Friday, March 18, 2011 1:16 PM
To: RST01 Hoc
Cc: Patel, Pravin; Ma, John; Tegeler, Bret; Shams, Mohamed; Williams, Joseph
Subject: FW: Spent fuel pool filled with sand Unit 4 Japan

Jim,

I am resending information that was previously sent. Please read below for the SFP loading and attached file for recommendation of sand use option.

pravin

From: Patel, Pravin
Sent: Thursday, March 17, 2011 10:56 AM
To: RST01 Hoc; RST01 Hoc
Cc: Shams, Mohamed; Patel, Pravin; Tegeler, Bret; Ma, John; Shea, James
Subject: Spent fuel pool filled with sand Unit 4 Japan

Jim,

I have calculated spent fuel pool weight difference using san/gravel mix(wet) filled in the pool instead of water.

Assumption:

- 1) Quad City pool is same as Japan Unit 4
- 2) Unit 4 pool has 600 assemblies

Current volume at Quad city pool = $44,471 \text{ ft}^3$

Assume sand filled to the top of the pool (minus assembly volume) = 50216 ft^3

T/218

Weight of water = 50216 cu ft x 62.4 #/cu ft = 3,133,478 lbs

Weight of wet sand/gravel mix = 118 x 50216 = 5,925,488 lbs

Spent fuel floor area 1683 sq ft

Therefore,

Weight increase on floor = $(5925488 - 3133478) / 1683 = 1659$ #/sq ft this is significant load change on the floor. I am not sure what is the condition of SF pool floor at Japan's Units?

Note: We cannot determine impact loading of sand if it dumped from air. If SFP pool is intact (not Damaged) then we believe that the SFP can handle additional loads without impact loading(i.e. sand is pumped).

Secondly, we don't have actual configuration of the SFP of each unit of Fukushima Nuclear Power Plant. The additional load expected for the sand option is 1659 lbs/ft².

Pravin

RES/DE staff recommends the use of SAND for the initial entombment of the spent fuel pool.

SAND IS RECOMMENDED over concrete because sand 1) fills in voids in the damaged structure, 2) able to release any remaining or generated hydrogen to the atmosphere instead of trapping it, thus reducing further explosion risks, 3) sand is lighter than wet concrete which would reduce structural integrity risks with a damaged building, and 4) sand can be mixed with borax to reduce neutrons.

Note: first emplacement of dry sand may cause a radioactive dust cloud to form, so spray water and/or use wet sand in the initial drop.

Concrete is NOT recommended because it 1) may lead to void formations in the structure where no shielding is provided, 2) local criticality risks and hydrogen generation with water contacting hot spent fuel could lead to potential explosion risks, 3) wet concrete is heavier than sand, thus initially potentially causing additional structural integrity concerns until it dries.

	Thermal Properties	Specific Heat	Thermal Conductivity	Feasibility of use	Emplacement Method	Local Availability	Shielding Capability	Structural Capability of Floor Slab
Sand	1500-1700°C	Specific heat of water is about 5 times that of sand	Thermal conductivity of dry sand is about half of water and wet/saturated sand is about 4-8 times	Yes, dust may result at 1st placing so use wet sand or wet building before emplacement, fills up voids and allows water to circulate with borax later	Helicopter or crane	yes, naturally available (beach nearby)	? Shield now with mix of borax and sand or Shield later with radiation shielding aggregate if available	Floor slab 5-6 ft thick, 30 ft of sand = 3300psf, but, structural integrity of facility is unknown due to explosions, heat, etc. Results in about 1.5 times
Concrete	1300-1400°C	Not known	Not known (depends on aggregate type, 1000° C reported	possible chemical reactions, criticality, cracking issues from differential drying of concrete (shrinkage), leading to potential hydrogen evolution with water in	as above	not naturally available bring in ingredients and mix it	provides gamma dose & neutron flux sheilding (member thickness plays a role)	heavier than sand for structural integrity concerns (more loads)

Hogan, Rosemary

From: Hogan, Rosemary
Sent: Thursday, March 24, 2011 9:11 AM
To: Ake, Jon
Subject: RE: Seismic Risk Assessments at 27 Reactors

I agree that this message, and the supposed quotes from Public Affairs, are totally bungled. I believe this is a result of NRC staff not sticking to the message, i.e., the exact words in the Q & A and press releases and having the same review process for all new responses, press releases, briefings, etc. Lack of coordination of "message" is a classic problem in incident response. My understanding is that Meena Khanna (NRR) has the lead now (I think I saw that somewhere) so I hope this will get on track soon.

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

From: Ake, Jon
Sent: Wednesday, March 23, 2011 6:18 PM
To: Hogan, Rosemary
Subject: FW: Seismic Risk Assessments at 27 Reactors

I saw your response to the congressional response. I disagree. The following totally bugled sound bite for NUclear News Flashes is why blurbs deviod of content result in things in the media that are totally inaccurate.

From: Ake, Jon
Sent: Wednesday, March 23, 2011 6:17 PM
To: Li, Yong; Chokshi, Nilesh; Bagchi, Goutam; Karas, Rebecca; Cook, Christopher; Manoly, Kamal; Graizer, Vladimir
Cc: Murphy, Andrew; Stutzke, Martin; Flanders, Scott
Subject: RE: Seismic Risk Assessments at 27 Reactors

Yong and everyone else-

the statements cited below are quite different than what I understood the path forward for this issue. My understanding was that any analyses conducted (either by us or the licensees) would use updated site amplification functions and the CEUS-SSC model. We have already done the task with the 2008 USGS model and generic site amps. Like wise additional information on plant or SSC-level fragility would need to be factored in.

I don't know where this came from, perhaps I am out of the loop. As quoted it makes no sense.

jon

From: Li, Yong
Sent: Wednesday, March 23, 2011 8:29 AM
To: Chokshi, Nilesh; Bagchi, Goutam; Karas, Rebecca; Cook, Christopher; Manoly, Kamal; Graizer, Vladimir
Cc: Ake, Jon; Murphy, Andrew; Stutzke, Martin; Flanders, Scott
Subject: RE: Seismic Risk Assessments at 27 Reactors

I copied the following sentence from the Goutam's email.

"NRC is reviewing based on 2008 revised US Geological Survey data on seismic activity in central and eastern US, NRC spokesman Scott Burnell said in a March 22 interview."

Does the "USGS data" here mean the USGS input data or USGS hazard model? From what I understood, the GI 199 did use UGSS hazard model directly. However, in the COL and ESP review practice, we include the

USGS input data, not the USGS hazard model to evaluate site specific seismic hazard. Does this mean a policy change?

Yong

From: Chokshi, Nilesh
Sent: Wednesday, March 23, 2011 8:11 AM
To: Bagchi, Goutam; Karas, Rebecca; Cook, Christopher; Manoly, Kamal; Li, Yong; Graizer, Vladimir
Cc: Ake, Jon; Murphy, Andrew; Stutzke, Martin; Flanders, Scott
Subject: RE: Seismic Risk Assessments at 27 Reactors

Yesterday, I heard 96 reactors. Why are we talking about only 27 reactors? If nothing has changed, Kamal – you or somebody from NRR need to inform the OPA.

From: Bagchi, Goutam
Sent: Wednesday, March 23, 2011 7:49 AM
To: Chokshi, Nilesh; Karas, Rebecca; Cook, Christopher; Manoly, Kamal; Li, Yong; Graizer, Vladimir
Cc: Ake, Jon; Murphy, Andrew; Stutzke, Martin
Subject: Seismic Risk Assessments at 27 Reactors

FYI from Nuclear Newsflash

NRC to conduct seismic risk assessments at 27 power reactors in 2012

The NRC will conduct a seismic risk assessment of Entergy's Indian Point plant next year, the first of 27 such reviews of nuclear power units at 17 plants, agency spokeswoman Beth Hayden said March 22.

The units to receive a seismic review next year, the NRC said, are Indian Point-2 and -3; Limerick-1 and -2; Peach Bottom-2 and -3; Seabrook; Crystal River-3; Farley-1 and -2; North Anna-1 and -2; Oconee-1, 2, and -3; St. Lucie-1 and -2; Sequoyah-1 and -2; Summer; Watts Bar 1; Dresden-2 and -3; Duane Arnold; Perry-1; River Bend; and Wolf Creek. The earthquake risk review is part of a new assessment, a generic issue known as GI-199, that NRC is reviewing based on 2008 revised US Geological Survey data on seismic activity in central and eastern US, NRC spokesman Scott Burnell said in a March 22 interview. The review pre-dates the earthquake and tsunami that struck the Fukushima I nuclear plant in Japan this month. The NRC is planning to send letters to plant operators late this year directing them to incorporate the USGS data to revise their units' operating plans. "The expectation is this analysis would show where plants could improve what already is an acceptable response to seismic events," Burnell said. The 27 units selected for review showed the largest increases in seismic risk from risks estimated for those plants in a USGS study conducted in the 1980s, he said.

Thank you,
Goutam

Lee, Richard

From: Gauntt, Randall O [rogaunt@sandia.gov]
Sent: Thursday, March 24, 2011 7:25 PM
To: Lee, Richard
Subject: RE: DOE-NRC Brain Trust

doesn't matter

From: Lee, Richard [Richard.Lee@nrc.gov]
Sent: Thursday, March 24, 2011 5:22 PM
To: Gauntt, Randall O
Subject: RE: DOE-NRC Brain Trust

You do not need to waste more of your precious time on this. I will pass the VGs to you. If absolutely we need to waste your time, I will let you know.

Sort out the SFP Unit 4 with your contact at GE.

From: Gauntt, Randall O [mailto:rogaunt@sandia.gov]
Sent: Thursday, March 24, 2011 7:17 PM
To: Lee, Richard
Subject: DOE-NRC Brain Trust

Oh, so I am being disinvited!
Did I say something unwelcomed?

Of course Sandia is doing core melt progression, FP release and SFP analyses - we are just starting late for obvious reasons.

SFP analyses are underway now - by the way, we do not understand 5 MW for SFP4 - based on the loading diagram we got yesterday, looks like 2.5 MW or less than we thought before based on GE information. Lots of fuel is fresh. Lots of fuel is very old.

From: Lee, Richard [Richard.Lee@nrc.gov]
Sent: Thursday, March 24, 2011 5:09 PM
To: Gauntt, Randall O
Subject: RE: super!!!

Thanks for participating. You do not need to participate in this further.
On VGs 3, it shows different labs doing work. For SNL, melt progression and SFP, are they your work?

From: Gauntt, Randall O [mailto:rogaunt@sandia.gov]
Sent: Thursday, March 24, 2011 6:29 PM
To: Lee, Richard
Subject: super!!!

glad brian is on-line

Sounds like SRV' are open on unit 1 - that's good if melt is in lower head because there is no added delta P to fail head.

T/2220

Likely the stuff is cooled or else it's already failed.

Unit 2 data is probably bad

From: Lee, Richard [Richard.Lee@nrc.gov]
Sent: Thursday, March 24, 2011 4:26 PM
To: Gauntt, Randall O
Subject: RE: are you getting slides from doe?

I have none.

From: Gauntt, Randall O [<mailto:rogaunt@sandia.gov>]
Sent: Thursday, March 24, 2011 6:26 PM
To: Lee, Richard
Subject: are you getting slides from doe?

From: Elkins, Scott
To: Case, Michael
Subject: 77" foot tsunami peak article
Date: Thursday, March 24, 2011 2:15:20 PM

Mike, based on the discussion at the standup meeting this morning I thought you might find this interesting:

http://www.npr.org/blogs/thetwo-way/2011/03/23/134793643/tsunami-was-more-than-77-feet-high-at-its-peak?ft=1&f=1001&sc=tw&utm_source=twitterfeed&utm_medium=twitter

T/221

From: Rini, Brett
To: Case, Michael
Cc: Richards, Stuart; Boyce, Tom (RES); Carpenter, Robert
Subject: RE: An early version of the 29th CSS Agenda.... and my proposed Green Ticket
Date: Thursday, March 24, 2011 2:28:16 PM

I think it's new. We did a review on a similar Nuclear Energy Objectives document related to reactors. We got this one on Fuel Cycle Objectives, because it's NUSC responsibility. We will probably need to outsource the review though.

From: Case, Michael
Sent: Thursday, March 24, 2011 2:11 PM
To: Rini, Brett
Cc: Richards, Stuart; Boyce, Tom (RES); Carpenter, Robert
Subject: RE: An early version of the 29th CSS Agenda.... and my proposed Green Ticket

Hey Brett. What do you think of agenda item 5.8 being assigned to us. I never remember seeing that thing. Is it something new that we need to do an initial review?

From: Rini, Brett
Sent: Tuesday, March 22, 2011 5:30 PM
To: Case, Michael
Cc: Richards, Stuart
Subject: FW: An early version of the 29th CSS Agenda.... and my proposed Green Ticket

Mike,

The time has come to make a decision. Should the NUSC stuff stay with the TA or go to RGDB?

Brett

From: Williams, Shawn
Sent: Tuesday, March 22, 2011 3:55 PM
To: Abu-Eid, Bobby; Astwood, Heather; Brach, Bill; Camper, Larry; Case, Michael; Cook, John; Cool, Donald; Diec, David; Holahan, Vincent; Lewis, Robert; Quinones, Lauren; Rini, Brett; Sampson, Michele; Schwartzman, Jennifer; Virgilio, Martin; Weaver, Doug; Williams, Shawn; Rosales-Cooper, Cindy
Cc: Andersen, James
Subject: An early version of the 29th CSS Agenda.... and my proposed Green Ticket

All,

I received an early version of the 29th CSS Agenda. As you can read in the second e-mail, a new agenda item will be added dedicated to the events in Japan and the implications for the safety standards.

In an effort to give you as much time as possible to prepare the requested documents, I created a draft Green Ticket (attached) that will be revised and issued after I get the official provisional 29th CSS Agenda. Some of the CSS documents (including the BSS) are already available and thus you can get an early start on some of the requested items.

<http://www-ns.iaea.org/committees/csscomments/default.asp>

Heath

- We are requested to provide two papers:

Agenda Item 6.1, "Topical discussion on the Use of Safety Standards." This is a broad topic that covers how each MS utilizes Safety Standards in their domestic program. I propose for this CSS, we focus this paper on the information in the U.S. IRRS Report, Section 2.2, "Harmonization of U.S. Regulations to International Standards." If you agree, I'll volunteer to write this paper.

Agenda Item 6.2, "Regulatory Issues in the Member States – National events and current regulatory issues ." I propose we only include one item titled, "NRC's Short and Long Term Actions in Response to the Japanese Nuclear Crisis." I am thinking that we could simply provide the information from COMGBJ-11-0002: NRC Actions Following the Events in Japan. If you agree, I could write this paper as well.

- Note the agenda item 5.5 on the Nature of Safety Guides. I am proposing, after nearly 2 + years of trying to revise the nature of Safety Guides, we finally acquiesce to keep the current definition. See attached e-mail that includes Bill Brach's and my reasoning.

Comments are welcome on the Green Ticket.

Shawn Williams
Executive Technical Assistant
Office of the Executive Director for Operations
301-415-1009

From: Rini, Brett
To: Rini, Brett; Case, Michael
Cc: Richards, Stuart; Boyce, Tom (RES); Carpenter, Robert; Dehn, Jeff
Subject: RE: ACTION: Input on NEA and IAEA activities
Date: Thursday, March 24, 2011 2:44:59 PM

I forgot to mention that I changed the staff resource estimates from 2-4 weeks to 15 weeks. It's hard to estimate because we use the "Support to IAEA" TAC (Q00096), but there may be other staff using that TAC for different efforts. There were 840 hours charged to that TAC in FY10. In addition, NRR opens a new TAC for each DSG review, and they estimated 187 hours in FY10 just for their reviews. I could be convinced to increase the estimate to 20 staff weeks a year, which would be 800 hours.

Brett

From: Rini, Brett
Sent: Thursday, March 24, 2011 2:41 PM
To: Case, Michael
Cc: Richards, Stuart; Boyce, Tom (RES); Carpenter, Robert; Dehn, Jeff
Subject: FW: ACTION: Input on NEA and IAEA activities

Mike,

Jeff asked for comments on the attached Word document, specifically relating to NUSC activities (starting on page 9). I made a few changes that should be shown in purple. Please let me know if you have any additional comments on that section.

I'm working swing shift today and tomorrow, so please reply all.

Thanks,

Brett

From: Dehn, Jeff
Sent: Wednesday, March 16, 2011 7:03 PM
To: Rini, Brett; Bush-Goddard, Stephanie; Tregoning, Robert; Barnes, Valerie; Siu, Nathan; Coyne, Kevin; Bajorek, Stephen; Voglewede, John
Cc: Armstrong, Kenneth; Hudson, Daniel; Scott, Michael
Subject: ACTION: Input on NEA and IAEA activities

All,

We're looking for your annual input/update on our IAEA/NEA activities. I'm trying to satisfy 3 tasks with one request from you. I'm hoping for input by **COB 3/24**.

These are mostly internal deadlines, so I can ask for a moderate extension if needed given current events. I've attached both last year's IAEA/NEA Activities submission (redlined) and a simpler presentation on the CSNI & WGs. Mark up whichever you would like, or just call me if that is easier.

T/223

This will be used for **1)** the NEA/IAEA annual paper to the Commission (due 3/28); **2)** the NEA Steering Committee meeting input (due 4/7); **3)** for Brian Sheron's 3/28 presentation to the DEDO's on NRC's internal coordination on NEA activities; and **4)** information posted on the RES SharePoint page (periodic update).

Basics for your input:

- Trip report from latest committee/WG meeting
- Most recent accomplishment(s) (papers published/workshops convened/etc)
- Current/future work focus (most important few items)
- Most significant challenges
- Specific items you feel need to be discussed at the NEA Steering Committee meeting

1. **IAEA/NUSSC** – Brett Rini (see draft input attached, let me know if you have additional input)
2. **CRPPH** – Stephanie Bush-Goddard
3. **LOFC Project** – (draft input below - DSA/Michael Scott add to it if you would like)
 - a. NRC/RES has declared intent to join and sign agreement ~ April 2011.
 - b. NRC/RES also anticipates receiving a request to play a leadership role in the project's management board.
 - c. Draft agreement to be included.
 - d. The project involves experiments at the Japanese High-Temperature Engineering Test Reactor (HTTR) owned and operated by the Japan Atomic Energy Agency (JAEA). The experiments carried out at the HTTR facility will provide well-validated data sets for safety assessments performed with the use of computer codes capable of multi-dimensional simulation. They will provide insights on design-base accident scenarios that are highly relevant for the safety analyses and accident management of advanced high-temperature reactors such as the Next-Generation Nuclear Plant (NGNP). The LOFC tests will investigate safety issues and specifically the anticipated transient without scram (ATWS) with occurrence of reactor re-criticality. The program is intended to provide information to support code validation related to reactor kinetics, core physics and thermal hydraulics.
4. **WIAGE** – Rob Tregoning
5. **WGHOF** – Val Barnes
6. **WGRISK** – Nathan Siu/Kevin Coyne
7. **WGAMA** – Steve Bajorek
8. **WGFS** – John Voglewede
9. **PRG** (if any, I'll request from Jennifer during FO review)

Thank you,
Jeff

Jeff Dehn

International Relations Specialist
Office of Nuclear Regulatory Research (RES)
US Nuclear Regulatory Commission
jeff.dehn@nrc.gov
301-251-7672
C-6D22

From: Flory, Shirley
To: Rini, Brett; Ramirez, Annie; Ibarra, Jose; Rivera-Lugo, Richard; Armstrong, Kenneth; Case, Michael; Coe, Doug; Coyne, Kevin; Gibson, Kathy; Richards, Stuart; Sangimino, Donna-Marie; Scott, Michael; Sheron, Brian; Uhle, Jennifer; Valentin, Andrea
Subject: FW: EDO Alignment/Prebriefs for Commission Meetings
Date: Thursday, March 24, 2011 12:03:22 PM
Attachments: EDO Alignment, Prebriefs for CM Meetings.doc

From: Taylor, Renee
Sent: Thursday, March 24, 2011 12:00 PM
To: Andersen, James; Ash, Darren; Blount, Tom; Boger, Bruce; Borchardt, Bill; Bowman, Adriane; Boyce, Thomas (OIS); Boyd, Lena; Buckley, Patricia; Cannady, Ashley; Carpenter, Cynthia; Casby, Marcia; Casto, Chuck; Cianci, Sandra; Cohen, Miriam; Collins, Elmo; Collins, Jay; Cooper, LaToya; Corley, Cherrie; Damiano, Debra; Dapas, Marc; Dean, Bill; Dubose, Sheila; EDO_ETAs; Evans, Michele; Flory, Shirley; Garland, Stephanie; Givvines, Mary; Greene, LaTosha; Grobe, Jack; Haney, Catherine; Hasan, Nasreen; Higginbotham, Tina; Holahan, Gary; Howard, Patrick; Johnson, Michael; Kelley, Corenthis; Landau, Mindy; Lee, Pamela; Leeds, Eric; Lockhart, Denise; Lubinski, John; Mamish, Nader; Matakas, Gina; Mayberry, Theresa; McClain, Nicole; McCrary, Cheryl; McCree, Victor; McGinty, Tim; Miles, Patricia; Miller, Charles; Mitchell, Matthew; Muessle, Mary; ODaniell, Cynthia; Owen, Lucy; Pederson, Cynthia; Penny, Melissa; Plisco, Loren; Quesenberry, Jeannette; Riddick, Nicole; Ronewicz, Lynn; Ross, Brenda; Salus, Amy; Satorius, Mark; Scarbrough, Thomas; Schaeffer, James; Schumann, Stacy; Schwarz, Sherry; Sheron, Brian; Sprogeris, Patricia; Tannenbaum, Anita; Taylor, Renee; Terry, Leslie; Thomas, Loretta; Tomczak, Tammy; Uhle, Jennifer; Veltri, Debra; Virgilio, Martin; Walker, Dwight; Weber, Michael; Wiggins, Jim; Williams, Barbara; Zimmerman, Roy
Subject: EDO Alignment/Prebriefs for Commission Meetings

Please reference the attached updated list and ensure that your calendar reflects the changes as needed.

Thank you,
Renee

T/224

EDO ALIGNMENT/PRE-BRIEFS FOR COMMISSION MEETINGS

Updated: 03/24/11

03/24/11 (POSTPONED – New Date TBD)

(9:00 – 12:30)

Part 50.46a Rulemaking Risk-Informed ECCS Rule

EDO Alignment: 01/31/11 @ 4:00 pm

EDO Pre-brief: 03/14/11 @ 4:00 pm

03/29/11

(9:00 – 12:00)

Small Modular Reactors

EDO Alignment: 01/27/11 @ 1:30 pm

EDO Pre-brief: 03/17/11 @ 3:00 pm

03/31/11 (Closed)

(2:30 – 3:30)

Discussion of Management Issues

EDO Alignment: CANCELLED NOT NEEDED - 02/01/11 @ 3:00 pm

EDO Pre-brief: CANCELLED NOT NEEDED - 03/21/11 @ 3:00 pm

04/14/11

(9:00 – 12:00)

Japanese Earthquake Status – Focus on Health Effects of Radiation

EDO Alignment: 03/28/11 @ 3:00 pm (Joint meeting with 4/28 CM Alignment)

EDO Pre-brief: 04/06/11 @ 4:00 pm

04/19/11

(9:00 – 12:00)

Part 37 Rulemaking – Physical Protection & Byproduct Material

EDO Alignment: 02/10/11 @ 1:00 pm

EDO Pre-brief: 03/31/11 @ 10:00 am

04/28/11

(9:00 – 12:00)

Japanese Earthquake Status – Focus on Station Black-Out

EDO Alignment: 03/28/11 @ 3:00 pm (Joint meeting with 4/14 CM Alignment)
EDO Pre-brief: 04/14/11 @ 1:00 pm (Rescheduled from 10:00am)

04/28/11 (POSTPONED – New Date TBD)

(9:00 – 12:15)

ITAAC Related Activities

EDO Alignment: CANCELLED - 02/28/11 @ 3:30 pm
EDO Pre-brief: CANCELLED - 04/18/11 @ 4:00 pm

05/03/11

(9:30 – 11:30)

Task Force Review – 30 Day Quick Look Following the Events in Japan

EDO Alignment: 04/07/11 @ 4:00 pm
(Tentative – Joint meeting with 6/16 CM Alignment)
EDO Pre-brief: 04/18/11 @ 4:00 pm

05/12/11 (Rescheduled from 06/02/11)

(9:00 – 12:00)

Information Briefing on Emergency Preparedness

EDO Alignment: 04/07/11 @ 1:00 pm (Rescheduled from 04/06/11)
EDO Pre-brief: 05/02/11 @ 3:00 pm (Rescheduled from 05/17/11)

05/12/11 (POSTPONED – New Date TBD)

(9:00 – 12:00)

Cumulative Effects of Reactor Regulation

EDO Alignment: CANCELLED - 03/22/11 @ 9:00 am
EDO Pre-brief: CANCELLED - 05/02/11 @ 3:00 pm

05/27/11

(9:00 – 12:00)

Briefing on Results of AARM

EDO Alignment: CANCELLED NOT NEEDED - 03/28/11 @ 3:00 pm
EDO Pre-brief: 05/12/11 @ 3:00 pm

06/02/11 (Rescheduled from 05/03/11)

(9:30 – 10:30)

Human Capital and EEO

EDO Alignment: 03/17/11 @ 1:00 pm
EDO Pre-brief: 05/04/11 @ 4:00 pm (Rescheduled from 04/26/11)

06/06/11

(10:00 – 12:00)

Potential Meeting w/ACRS

EDO Alignment: CANCELLED NOT NEEDED - 03/29/11 @ 4:00 pm
EDO Pre-brief: CANCELLED NOT NEEDED - 05/19/11 @ 3:00 pm

06/16/11

(9:30 – 11:30)

Task Force Review – 60 Day Quick Look Following the Events in Japan

EDO Alignment: 04/07/11 @ 4:00 pm
(Tentative – Joint meeting with 5/3 CM Alignment)
EDO Pre-brief: 06/02/11 @ 4:00 pm

06/16/11 (POSTPONED – New Date TBD)

(9:00 – 12:00)

International Activities or Potential Meeting w/ACRS

EDO Alignment: CANCELLED - 04/26/11 @ 1:00 pm
EDO Pre-brief: CANCELLED - 06/06/11 @ 3:00 pm

NOTE: Please be aware that this list is organized by the Commission meeting date. EDO Alignment meetings are generally scheduled approximately 60 days prior to the Commission meeting. EDO Pre-briefs are scheduled approximately 2 weeks prior to the Commission meeting. All meetings are scheduled based on the availability of the EDO/DEDOs calendars. All meetings are held in conference room O-17B4.

From: Boyce, Tom (RES)
To: Correia, Richard
Cc: Case, Michael; Richards, Stuart
Subject: FW: Daily: 4 New Items from Thursday, March 17, 2011
Date: Thursday, March 24, 2011 8:14:07 AM

Rich,

I've done some homework with HR regarding the idea of opening up the GG-15 position in RES/DE/Reg. Guide Development Branch to people who are non-908s. It would require redoing the Position Description, having it reclassified by HR, and reposting the position as well as the SOI.

I'm reluctant to do that because it will delay the process by at least a month, and even if I redo it I might lose the authority to repost. The vacancy announcement closed Tuesday and there were 19 applicants, who may or may not be willing to reapply for a second vacancy. There will be an additional group that is applying to the SOI which closes on 3/31. From the numbers, I think I'll have a good set of candidates to select from.

Perhaps we can think more broadly for the next position.

Tom

From: Boyce, Tom (RES)
Sent: Monday, March 21, 2011 4:07 PM
To: Correia, Richard; Case, Michael
Cc: Richards, Stuart
Subject: RE: Daily: 4 New Items from Thursday, March 17, 2011

I'd agree with Mike that the position could be opened up to non-801s.

A bit more effort, but worthwhile if the people are good.

Let me check with HR on what this entails and I'll get back to you.

Tom

From: Correia, Richard
Sent: Monday, March 21, 2011 7:56 AM
To: Case, Michael
Cc: Boyce, Tom (RES); Richards, Stuart
Subject: RE: Daily: 4 New Items from Thursday, March 17, 2011

Thx very much Mike. Appreciate your flexibility

From: Case, Michael
Sent: Monday, March 21, 2011 7:40 AM
To: Correia, Richard
Cc: Boyce, Tom (RES); Richards, Stuart
Subject: RE: Daily: 4 New Items from Thursday, March 17, 2011

I'm pretty flexible on that issue. It's Tom Boyce's posting so I'll check with him...

7/22/11

From: Correia, Richard
Sent: Friday, March 18, 2011 12:21 PM
To: Case, Michael
Subject: FW: Daily: 4 New Items from Thursday, March 17, 2011

Mike,

There are a couple of folks here in NSIR that are interested in doing some non-security type work. We think PM work might be a good place for them to rotate into. Your posting below requires an 801 person (engineer). How flexible is RES on allowing non 801s to apply for this position? If RES would accept non 801s, the opportunity would have to be reposted I'm sure.

Thx

From: NRC Announcement [mailto:nrc.announcement@nrc.gov]
Sent: Thursday, March 17, 2011 10:00 PM
To: NRC Announcement
Subject: Daily: 4 New Items from Thursday, March 17, 2011

NRC Daily Announcements

Highlighted Information and Messages



Thursday March 17, 2011 -- Headquarters Edition

General Interest: White Flint Complex Daily Parking

General Interest: Financial Seminars Planned

Employee Resources: Solicitation of Interest - RES/DE/RGDB, Sr. Program Manager, GG-15

General Interest: Relocation of the Supply Store

General Interest: White Flint Complex Daily Parking

Effective Monday, March 21, 2011, the Office of Administration (ADM) will be suspending the issuance of daily parking passes at the White Flint Complex (WFC) garage to provide parking for the increased staff required to support the Operations Center 24/7 in response to the tragic events in Japan. During this time, staff are reminded that daily parking is available at the White Flint Metro for \$8.50 per day.

ADM has issued temporary emergency parking permits for staff supporting the Operations Center who do not currently possess a permanent WFC parking permit.

A subsequent announcement will be posted specifying the date when ADM will resume issuing daily parking permits. Thank you in advance for your patience and understanding.

Contact: Administrative Services Center, 301-415-4272



(2011-03-17 00:00:00.0)

[View item in a new window](#)

General Interest: Financial Seminars Planned

The Employees Welfare and Recreation Association is sponsoring two sessions of a noontime financial seminar. Brian Thoms, a certified financial planner from Ameriprise Financial, will present a seminar: Investment Planning. During this seminar, you will learn ways to:

- Evaluate your investing progress.
- Keep emotions from affecting your financial decisions.
- Make smart, value-based decisions with your money.
- Manage risk to help optimize your portfolio.
- Understand how to coordinate various investment strategies to help support your investment goals.

Two sessions will be offered from 12 noon to 1 p.m. ET:

March 30, O-4 B-6

April 5, T-10 A-1

To ensure adequate seating, please make reservations by contacting [Crystal Rivers](#) at 240-314-4363.



(2011-03-17 00:00:00.0)

[View item in a new window](#)

Employee Resources: Solicitation of Interest - RES/DE/RGDB, Sr. Program Manager, GG-15

The **Office of Nuclear Regulatory Research** is soliciting interest from **GG-15** employees for a lateral reassignment opportunity in the **Division of Engineering** as a **Sr. Program Manager** for the **Regulatory Guide Development Branch**.

Detailed information is available on the [NRC internal Web page](#).

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



(2011-03-17 00:00:00.0)

[View item in a new window](#)

General Interest: Relocation of the Supply Store

On Monday, March 14, 2011, the Office of Administration (ADM) opened its new supply store, which has been relocated to O-P1 C12, adjacent to the loading dock guard station. The new supply store has improved lighting and better shelving to allow easier access to supplies. Operating hours remain Monday through Friday, 8:00

a.m. to 4:30 p.m. ADM looks forward to seeing you soon.

Contact: JoAnne Thweatt, 301-415-0187



(2011-03-17 00:00:00.0)

[View item in a new window](#)

The latest Announcements are always on the [NRC@WORK Home Page](#).

[Announcements by Date](#) | [Announcements by Category](#)

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[Frequently Asked Questions About the NRC Daily Announcements Email](#)

Lee, Richard

From: Santiago, Patricia
Sent: Thursday, March 24, 2011 1:51 PM
To: Gibson, Kathy; Elkins, Scott; Lee, Richard; Ghosh, Tina; Schaperow, Jason
Cc: Navarro, Carlos; Zigh, Ghani; Tinkler, Charles; Chang, Richard
Subject: RE: BWR Zirc Fire Experiment Final Report

Hi Kathy,

I told SNL, Susan as well as Yvonne, that any work needs to be directed by the PM or their identified back-up. Yvonne works mainly with Richard and Tina is his back up. SNL is aware if other staff call and direct work that SNL needs to confirm with the PM.

Susan thought that an audit will occur so we are being very careful to ensure that only PMs direct work on their contracts.

That said, reminders are good and I will ask Richard to make sure Carlos discusses that with his contractor and identify a back up PM on his contract.

Thanks again

From: Gibson, Kathy
Sent: Thursday, March 24, 2011 1:35 PM
To: Elkins, Scott; Lee, Richard; Santiago, Patricia
Cc: Navarro, Carlos; Zigh, Ghani; Tinkler, Charles
Subject: RE: BWR Zirc Fire Experiment Final Report

NEI will be paying for anything they do with Sandia, correct? Richard, Pat, please advise your PMs to communicate with and watch closely that we are getting billed only for the work that we request the labs to do – and that ALL work requests go through the PMs before the lab starts work.

Thanks

[cid:image001.jpg@01CBEA28.662010C0]

From: Elkins, Scott
Sent: Thursday, March 24, 2011 1:27 PM
To: Gibson, Kathy
Cc: Sheron, Brian
Subject: FW: BWR Zirc Fire Experiment Final Report

Kathy,
NEI has the BWR Zirc fire final report now.
Scott

From: Zigh, Ghani
Sent: Thursday, March 24, 2011 1:24 PM
To: mrn@nei.org
Cc: Lee, Richard; Elkins, Scott; Navarro, Carlos; Santiago, Patricia; Lindgren, Eric; sdurbin@sandia.gov
Subject: BWR Zirc Fire Experiment Final Report

Dear Marcus,
I attached with this e-mail the BWR Zirc fire final report as you requested from the USNRC.

Also, Sam Durbin (sdurbin@sandia.gov<mailto:sdurbin@sandia.gov>) and Eric Lindgren (erlindg@sandia.gov<mailto:erlindg@sandia.gov>) from Sandia lab will be the ideal persons to contact regarding this work.

Thanks

Ghani Zigh

Lee, Richard

From: Sheron, Brian
Sent: Thursday, March 24, 2011 5:17 PM
To: Lee, Richard
Subject: Call today

Richard, Kathy was questioning why Randy was going to come here to be on the 6 pm conference call. Here main concern was that we should be paying him to be on the call. I am still here and can call in at 6pm today.

T/0227

Lee, Richard

From: Richard L Garwin [rlg2@us.ibm.com]
Sent: Thursday, March 24, 2011 4:09 PM
To: Kelly, John E (NE)
Cc: Brinkman, Bill; Hurlbut, Brandon; Sheron, Brian; Poneman, Daniel; McFarlane, Harold; Adams, Ian; John Holdren; Kelly, John E (NE); Grossenbacher, John (INL); Owens, Missy; Miller, Neile; NITSolutions; Peterson, Per; Lyons, Peter; Finck, Phillip; Garwin, Dick (EOP); Lee, Richard; Budnitz, Bob; Szilard, Ronalo; SCHU; Steve Fetter; Aoki, Steven; Koonin, Steven; Binkley, Steve; DAgostino, Thomas; Mustin, Tracy
Subject: Sky hook?

Please consider also a "tri-tethered balloon" This would involve inflating a balloon on a tether, with two other tethers attached so that after the balloon winch allows it to achieve 100 m altitude or so, the two other tethers can be attached to winches to position the balloon flexibly over the reactor building.

If the balloon carries a pulley, various payloads can be winched up to it and dangled into the roof.

A construction crane seems to be more robust and conventional, though.

Dick Garwin

1-1028

Hogan, Rosemary

From: Lane, John
Sent: Friday, March 25, 2011 2:57 PM
To: Hogan, Rosemary
Cc: Beasley, Benjamin
Subject: Seismic Review Table NUREG/CR-1429

Rosemary,

I have a copy of a NUREG/CR from 1980 that I was involved with that might be interest. It is titled, "Seismic Review Table," NUREG/CR-1429. It contains an FSAR-grade summary of the earthquake design criteria and structural design criteria for all containments docketed as of 1980. For instance, it lists the OBE and SSE horizontal and vertical acceleration levels and the earthquake time-history profile, e.g., 1940 El Centro, the plants were designed to.

It is being scanned into ADAMS; then we'll have an electronic record of it. Once it's there we can decide if it's either too dated to be of any current use or if it's worth adding to our internal and/or external webpages.

Thanks

jcl

T/229

From: [Coyne, Kevin](#)
To: [Rini, Brett](#)
Cc: [Gibson, Kathy](#); [Richards, Stuart](#); [Case, Michael](#); [Coe, Doug](#)
Subject: RES Volunteers to support IRC
Date: Friday, March 25, 2011 1:11:26 PM
Attachments: [RES input IRCvolunteers.xlsx.msg](#)

Brett –

Here's what we've collected today on ops center support (some of this may duplicate what you already have – I've attached Jeanne Doin's earlier spreadsheet). Could you please update the RES support spreadsheet, and, in addition to providing the names to the normal Ops Center email contact, please also cc Jerry Dozier and Mike Cheek (to close the loop on their earlier request).

Thanks!

Kevin

Communicator

Liliana Ramadan

RST Coordinator

Tom Boyce

Jeanne Dion

Severe Accidents

Stu Rubin

Mourad Aissa

Hossein Esmaili

Mike Salay

Ray Skarda

Jason Schaperow

Alan Notafrancesco

Mirela Gavrilas

BWRs and Nuclear Systems

Stu Rubin

Steve Frankl

Scott Krepel

Peter Yarsky

Carl Thurston

Joe Staudenmeier

Shawn Marshall

Ben Beasley

Larry Criscione

Jose Ibarra

James Chang

7/230

PRA

Tina Gosh
John Lane
Jeff Wood

Miscellaneous Support

Leroy Hardin
Thom Herrity
Raj Iyengar
Howard Rathbun
Tom Koshy
Darrell Murdock
Dan Hudson

Attachment RES_input_IRCvolunteers.xlsx_1.msg (2560 Bytes) cannot be converted to PDF format.

Lee, Richard

From: Wagner, Katie
Sent: Friday, March 25, 2011 4:30 PM
To: Tinkler, Charles
Cc: Lee, Richard
Subject: Sharepoint
Attachments: image001.gif

Charlie,

Is this item "completed" or still "pending"? Also, I can post an update on what is happening with this if you would like.

45	3/24/2011	Jason Petti of Sandia for IAEA ! NEW	jppetti@sandia.gov	Richard Lee x7526 Charlie Tinkler x7496	FSTB/DSA	Request for Sandia staff help with questions relating to containment integrity and using sea water to cool systems.	Determine if Sandia should help answer IAEA's questions.	Pending
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Thanks,
Katie

T/231

Ader, Charles

From: Dube, Donald
Sent: Friday, March 25, 2011 4:50 PM
To: Fuller, Edward
Cc: Ader, Charles; Holahan, Gary
Subject: drywell head leakage at Fukushima?
Attachments: cr6920.pdf

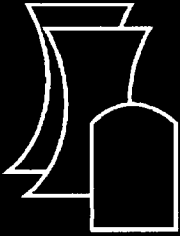
Categories: Yellow Category

Dominant leak path in Mark I, see Fig 4.17;

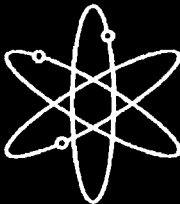
Some have hypothesized that the source of hydrogen in the reactor buildings for units 1-3 at Fukushima could have been from the drywell head gasket leakage, with or without a hardened wetwell vent; and the Sandia study tends to support this.

Don

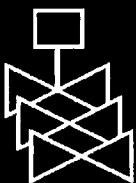
T/232



Risk-Informed Assessment of Degraded Containment Vessels



Sandia National Laboratories



**U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Washington, DC 20555-0001**



From: [Coyne, Kevin](#)
To: [Rini, Brett](#)
Cc: [Gibson, Kathy](#); [Richards, Stuart](#); [Case, Michael](#); [Coe, Doug](#)
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Mirela Gavrilas

BWRs and Nuclear Systems

Stu Rubin

Steve Frankl

Scott Krepel

Peter Yarsky

Carl Thurston

Joe Staudenmeier

Shawn Marshall

Ben Beasley

Larry Criscione

Jose Ibarra

James Chang

T/233

PRA

Tina Gosh

John Lane

Jeff Wood

Miscellaneous Support

Leroy Hardin

Thom Herrity

Raj Iyengar

Howard Rathbun

Tom Koshy

Darrell Murdock

Dan Hudson

Attachment RES_input_IRCvolunteers.xlsx_1.msg (2560 Bytes) cannot be converted to PDF format.

From: [Brown, Frederick](#)
To: [RST01 Hoc](#)
Cc: [Ruland, William](#); [Skeen, David](#); [Hiland, Patrick](#); [Case, Michael](#); [Dudes, Laura](#); [Uhle, Jennifer](#); [Holian, Brian](#); [Hoc, PMT12](#)
Subject: Presentation from Japan Nuclear Technology Institute to NRR today
Date: Friday, March 25, 2011 5:12:57 PM
Attachments: [川先生寄稿\(電 開 英 \).doc](#)
[Accident at Fukushima Daiichi \(その1\) rev.2 2011.3.24.ppt](#)
[Accident at Fukushima Daiichi \(その2\) rev.2 2011.3.24.ppt](#)

RST coordinator – please have these files added to the RST chronology for preservation. PMT may be interested in the second power point presentation.

There are some movies that are too large to e-mail, I'll try to figure out how to transfer them (currently on NRR G: drive in folder "Temp").

They note a large U-3 PV/RCS pressure spike on 3/13 and a primary containment pressure spike on 3/14.

They said that U-1 (none of the units) had a concrete roof – our understanding of the rubble on U-1 is apparently incorrect.

They said that TEPCO does not normally use a checkerboard fuel arrangement for the hot fuel in the pool.

U-1 thru 4 EDGs and switch gear located in ocean side of turbine building in rooms below grade. Totally flooded. The Unit 6 EDG that continued to operate is an air cooled unit. They do not know if the Rx Buildings had any actual flooding.

My impression is that they relied on elevation for flood control (no discussion of water-tight boundaries).

The SW pumps were apparently exposed (tsunami was estimated at 14 meters, with a design basis of 10)

U-1 did have an isolation condenser and no RCIC, the other units did have RCIC. Batteries for RCIC lasted 10 hours.

They believe U-4 explosion from H2, and they have a heat-up "plot" for the SFP showing saturation temperature in less than 2 days from loss of power. They also believe that some reflood would have occurred to refueling gate damage. That said, with this heat-up curve, that water would not have lasted long either? They believe that picture 2-17 shows a flooded pool after the explosion.

They were equivocal on the containment vent path used and the "hardened" nature of the vent. The stack is where the venting should have occurred, but they understand that something does not make sense.

They had B5b-like connections that they used for the temporary fire pump tie-in to the primary systems.

T/234

Published on Mar.18.2011 : The Denki shinbun(The Electric Daily News)

Dr. Michio Ishikawa
Chief Adviser (Former President & CEO)
Japan Nuclear Technology Institute(JANTI)

Estimation of "Status of reactor cores at Fukushima"

This is my emergency estimation about what could be happening at reactor cores at Fukushima, what could happen next and what actions can be taken, based on the facts and developments at the time of the Three Mile Island nuclear accident.

Please bear in mind that I live in the quake-affected city of Hitachinaka. Three whole days of power blackouts up until March 14 left me incommunicado with the outside world. The only source of information was radio broadcast. I had no idea what was happening in the world until the television came on finally in the evening of March 14. Hence, I am a little short on facts and figures. This article describes a scenario that I have put together based on limited facts. Please excuse me for any minor mistakes.

First of all, the state of reactor cores. Knowledge from the TMI accident indicates that reactor cores behave very differently depending on whether they are under or above the water level. This is a relevant point for Fukushima, so let me go into more detail.

The submerged part of the fuel rods is cooled with water, and can maintain a sound state. There is no argument on this point.

On the other hand, the exposed part of the fuel rods is surrounded by steam, and in a poor condition for heat removal. With the temperature increasing gradually with decay heat, the fuel rods begin reacting with steam at around 900 degrees Celsius, oxidizing claddings. This reaction generates strong heat, causing a localized increase of temperature in the immediate area. At around 1300 degrees Celsius, the reaction becomes more active, and the temperature rise on the claddings becomes unstoppable. The claddings become coated with thin oxide film (zirconium dioxide) on the outside, as well as on the inside due to oxygen removal from fuel pellets (uranium dioxide).

In other words, thin oxide film coats the claddings, made of zircaloy, both inside and out. It should be noted that the oxide film has a higher fusing point than the

cladding material, zircaloy, whose fusing point is approx. 1800 degrees Celsius. When zircaloy melts, it drips down between the films to form a puddle. The oxide films on both sides become fused together and pressed onto fuel pellets with the pressure of the reactor. At this stage, a fuel rod can be likened to fuel pellets wrapped in cling wrap. Oxide film is resilient at high temperature, and seals in radiation even with some disfigurement to the fuel rods, keeping them upright in water. This is why no radiation was released from exposed fuel rods at Fukushima. It was no case of measurement error.

This condition changes at the moment when water is added to the core. Oxide film becomes weaker as the temperature drops, and shrinks when cooled down. Fuel rods disintegrate into individual fuel pellets and collapse (not melting), scattering in the reactor water as if a toy box is tipped over. They can stay scattered in water because the submerged part of fuel rods is still sound. This is what happened at the reactor core in the TMI accident.

Collapsed fuel rods are cooled as long as they are submerged in water, thanks to the cooling effect of water flowing through the debris (communication path). Consequently, fuel pellets stay in the state of debris without melting.

Summing up, the exposed top part of fuel rods generated hydrogen and collapsed, but the debris was kept cool, retaining the pellets' radiation containing effect.

The problem lied with the submerged part of the fuel. Water turns into steam as it cools fuel rods. However, in this case, the flow of steam was blocked with the debris, and could not escape, forming a steam zone immediately below the debris. This created a condition similar to the exposed fuel above water. Under water, heat dissipation performance was substantially worse. Heat from cladding oxidization built up and melted fuel rods, initiating meltdown. However, the meltdown temperature was believed to be around 2300 degrees Celsius, which was the fusing point of the ternary alloy of uranium, zirconium and oxygen, rather than the uranium dioxide's fusing point of 2800 degrees Celsius. This meltdown temperature was not high enough to melt concrete, and therefore could not cause a "China Syndrome" scenario.

Since the underside of the meltdown was touching cooling water, it turned into a hard crust state, much like cast iron. Yet, immediately above that, melted fuel flowed in the side direction, came in contact with the core shroud, made of thin stainless steel, and put holes through it. Fuel that dripped from the holes formed balls measuring 15–20 centimeters in diameter, which were later found at the

bottom of the reactor core.

This is how the core meltdown occurred at TMI. The Fukushima plants are showing similar core behaviors. One of the similarities is the fact that the top 2 meters of fuel rods have become exposed above the reactor water for an extended period of time. Cesium and other fission products were released as a result of fuel rods disintegrating upon the injection of seawater. The formation of hydrogen led to explosions, as has widely been reported. The reactor core at TMI was cooled and stabilized after one week. Fukushima will also be successfully brought under control.

The difference between TMI and Fukushima is the existence of a steam-water separator at the top part of the reactor core, because Fukushima uses the BWR system. This structure serves as resistance to releasing steam from the core to the top part of the pressure vessel. It therefore keeps steam in the core, undermining the injection of seawater. Compared to the example of TMI, BWR has a design that may make it difficult to cool the molten core.

Another difference is the use of channel box in nuclear fuel. This could turn out to be a positive or a negative. Yet, it is not a deciding factor, considering that the core has a similar meltdown behavior. In this article, I assume that the positive offsets the negative.

One more major difference is the fact that TMI's reactor core was stabilized with the use of the primary coolant pump (equivalent to the recirculation pump at Fukushima). With PWR, the primary cooling system is clearly separated and insulated from the turbine system. A turbine condenser, which has a high cooling capacity, would never suffer radiation contamination with the activation of a primary coolant pump. This powerful cooling ability successfully halted the meltdown and stabilized the core.

However, with BWR, simply activating a recirculation pump would do no more than agitating the reactor water unless a condenser is also used. The pump alone does not contribute to lowering the core temperature. However, using the condenser runs the risk of sending highly contaminated reactor cooling water to the turbine building, which has only limited shielding facilities. Whether the authorities can make this decision marks a turning point in the on-going efforts to bring the reactors to stability.

The three functions of nuclear safety are to "shut down", "cool down" and "contain". This also represents the order of importance in these safety actions. At Fukushima, all reactors shut down. The next step is to cool them down. For this

purpose, motor power to send water is needed more than anything else. The installation of temporary power source is the task of utmost urgency.

Let me move on to the issue of hydrogen explosions. Such an explosion also rocked the TMI accident. A massive explosion occurred in the containment vessel some ten hours after the accident started. The amount of hydrogen involved in the explosion, according to the post-accident calculation, was equivalent to the amount generated if about half of the fuel claddings became oxidized. This corresponds to the case at Fukushima Daiichi Unit-1 and Unit-3, where fuel rod exposure was reported to be about 50%. In the case of TMI, there was no damage to the containment vessel. In Fukushima, explosions occurred outside the containment vessels, destroying reactor buildings.

In the TMI accident, approx. 1,000 area residents became exposed to radiation at the rate of up to 100 mrem (1 mSv), and 1 mrem (0.01 mSv) on average. The level of radiation when the ventilation operation was conducted to depressurize the containment vessel, was reported to be approx. 1.2 rem (12 mSv) in the skies above the station site, which is similar to the level recorded at the time of ventilation at Fukushima. The radiation dose recorded in the skies above Fukushima Daiichi Unit-4, is said to be 400 mSv. This is because of the loss of water in the spent fuel storage pool, and is set to decrease once the water level is restored. It is still not impossible to keep radiation leak to a minimum in Fukushima, just as in the case with TMI.

Slightly off the topic, there are some people who call the Fukushima case as another Chernobyl. It is unclear what their arguments are. As far as radiation emergency is concerned, there is no possibility that the Fukushima case could cause contamination of the international scale experienced at Chernobyl. This is because of the absence of a graphite fire, which sent radiation high into the air to reach the jet stream. In addition, the low temperature of cooling water means only the radioactive materials with a low boiling point, such as noble gas and iodine, could be released into the atmosphere. The situation is nothing like what happened at Chernobyl.

This summarizes my estimation of the state of accident at Fukushima Daiichi Nuclear Power Station's Units-1-3. I have nothing but respect for all the personnel who continue to fight the desperate fight to bring the plant under control and alleviate the extent of the emergency under the current condition with all power sources swept away in the Tsunami. It is regrettable that the situation has escalated to explosions and damage of reactor buildings. Another task still

remains to stabilize the reactors. I wish to send my support for those people on the frontline. Situations change in emergencies like this every minute. I am prepared to provide as much cooperation as possible despite my old age.

(wrote on Mar.15.2011)

Attachment Accident at Fukushima Daiichi (..1) rev.2 2011.ppt (9298944 Bytes) cannot be converted to PDF format.

Attachment Accident at Fukushima Daiichi (..2) rev.2 2011.ppt (1439744 Bytes) cannot be converted to PDF format.

From: Alter, Peter
To: OST02 HOC; Brown, Frederick; Hasselberg, Rick; Circle, Jeff; Alter, Peter; Thorp, John; Ruland, William; Rini, Brett; Laur, Steven; Norton, Charles; Hart, Ken; Holian, Brian; Boyce, Tom (RES); Helton, Donald; Brown, Eva; Roggenbrodt, William; Hiland, Patrick; Thomas, Eric; Arndt, Steven; Summers, Raymond; Williams, Donna; Solorio, Dave; Collins, Frank; Reeves, Rosemary; Brown, Michael; Orr, Mark; Dozier, Jerry; Gardocki, Stanley; Skeen, David; Skarda, Raymond; McGovern, Denise; Howe, Andrew; Padovan, Mark; Mitman, Jeffrey; Gilmer, James; Ward, Leonard; Jervy, Richard; Morlang, Gary; Harrison, Donnie; Shea, James; Horn, Brian; Uhle, Jennifer; Esmaili, Hossein; Schoenebeck, Greg; Fuller, Edward; Kugler, Andrew; Bloom, Steven; Case, Michael; Chung, Donald; Bukharin, Oleg; Dudes, Laura; RST02 Hoc; RST03 Hoc; RST04 Hoc; RST05 Hoc; RST06 Hoc; RST07 Hoc; RST08 Hoc; RST09 Hoc; RST10 Hoc; RST11 Hoc; RST12 Hoc; RST13 Hoc; RST14 Hoc; RST15 Hoc
Cc: Hasselberg, Rick; Alter, Peter
Subject: RE: Japanese Earthquake ERO Staffing March 20-26, 2011 (Pay Period 7, Week 2)
Date: Friday, March 25, 2011 1:44:28 PM

If you are in the RST, ALL CHANGES AND ADDITIONS ARE TO GO THROUGH THE RST FIRST.

Rick & Peter

From: OST02 HOC
Sent: Friday, March 25, 2011 12:31 PM
Subject: Japanese Earthquake ERO Staffing March 20-26, 2011 (Pay Period 7, Week 2)

Good Afternoon,

Attached is the OPS Center revised watchbill for March 20-26. The watchbill for the week of March 27-April 2 will be sent by Saturday, March 27.

If you need to change the schedule, please send an email to OST02 HOC and your Teams Coordinator.

EST Admin Support
NRC Operations Center
eMail: OST02.HOC@nrc.gov
301-816-5100 x5600

T/235

Dentel, Glenn

From: Powell, Raymond
Sent: Monday, March 28, 2011 8:26 PM
To: Rogge, John; Baker, Pamela; Clifford, James; Collins, Daniel; Dean, Bill; Ferdas, Marc; Hinson, Felicia; Lew, David; Lorson, Raymond; McKinley, Raymond; McNamara, Nancy; Roberts, Darrell; Screnci, Diane; Sheehan, Neil; Tifft, Doug; Weerakkody, Sunil; Wilson, Peter; Bellamy, Ronald; Burritt, Arthur; Dentel, Glenn; Gray, Mel; Jackson, Donald; Krohn, Paul; Cahill, Christopher; Conte, Richard; Cook, William; Doerflein, Lawrence; Hansell, Samuel; Henderson, Pamela; Kennedy, Silas; Schmidt, Wayne
Subject: 2000 Mar 28 Commissioners Assistants Briefing

Roy Zimmerman led brief. Not a lot of new information.

Please do not forward.

Status of Fukushima Daiichi Units:

Unit 1-

Fresh water injection in progress (not a change)

Unit 2-

Fresh water injection in progress (not a change)

Unit 3-

Fresh water injection in progress (not a change)

Unit 4-

No Change

Units 5 & 6

No Change

Common Spent Fuel Pool –

No Change

General Items of Interest

Dose Rates at main gate now 13 mRem/hr (no change from previous report)

The PMT received comments on recommended guidance for short term re-entry of US citizens to evacuated areas from DOS (Dept of State), via EPA. Comments were addressed and EPA concurred on the guidance.

Chairman in Japan, Magwood is in charge of Commission, EDO has emergency powers. Chairman meeting with Cabinet. Discussions at high level. Visit "went well." Back in US tomorrow. Testifying to congress on wednesday.

The source term used from RASCAL was questioned by the White House; the PMT has re-evaluated and determined that RASCAL results are accurate based on scenario assumptions. The question involved why Unit 3 projections are low, which we are verifying that a 24 hour holdup delay assumption.

Current forecast meteorological data appears to indicate that winds are primarily from the west (headed offshore) and should generally continue offshore through Wednesday, March 30, 2011.

Discussion of PA press release as potential source of confusion on I-131. I'll follow-up with SLOs tomorrow.

A/G

Trapp, James

From: LIA02 Hoc
Sent: Tuesday, March 29, 2011 7:36 PM
To: Liaison Japan
Cc: LIA01 Hoc
Subject: FW: Heads up for Site Team

FYI

From: LIA01 Hoc
Sent: Tuesday, March 29, 2011 6:07 PM
To: LIA02 Hoc
Subject: Heads up for Site Team

Could you please share this with the Site Team and let them know this information will be repeated within the Matrix attached to the Consortium Notes, but we wanted them to have the heads-up....thanks!

PNNL has been asked by the Japanese Prime Minister's Office for advice and counsel.
They will be sending over "waves" of technical people.
PNNL is NOT doing this under NRC contract.
The first wave of three will leave at 11:00 EST today.
NRC employees and employees from various national labs might be requested in the future.

Key points of contact:
Tom Michener
PNNL – DOE Laboratories in WA
509-375-2162

Wayne Johnson, Division Director
PNNL – DOE Laboratories in WA
509-372-4791

7/237

A32

From: [Ainsley, Christopher](#)
To: [Janbergs, Holly](#)
Subject: RE: BWR Picture
Date: Tuesday, March 29, 2011 12:17:37 PM

Dear Bethany,

That is very kind of you. Thanks again for your help and the speed with which you responded. We are very grateful.

Best wishes,

Chris

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

From: Janbergs, Holly [<mailto:Holly.Janbergs@nrc.gov>]
Sent: Tue 3/29/2011 9:01 AM
To: Ainsley, Christopher
Subject: RE: BWR Picture

Dr. Ainsley,

Please find attached the high-resolution version of the requested figure.

Thank you,
Bethany

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

From: Ainsley, Christopher [<mailto:Christopher.Ainsley@uphs.upenn.edu>]
Sent: Tuesday, March 29, 2011 8:56 AM
To: Janbergs, Holly
Subject: RE: BWR Picture

Dear Bethany,

Thanks for your response; it is much appreciated. We would certainly be more than happy to cite the NRC. Would it be possible for you to send me a higher resolution version of the figure (the lower of the two on the web-page), which would be more suitable for publication in a journal?

Thanks very much for your help.

Best wishes,

Chris

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

From: Janbergs, Holly [<mailto:Holly.Janbergs@nrc.gov>]
Sent: Tue 3/29/2011 8:48 AM
To: Ainsley, Christopher
Subject: Re: BWR Picture

Dr. Ainsley,

All photos and graphics on our public website are not copyrighted, unless specifically indicated. The BWR graphic to which you refer may be used in your publication; we simply ask that you cite the agency as the source. Something simple such as "Graphic Courtesy: U.S. Nuclear Regulatory

T/238

Commission" will suffice.

Thank you,
Bethany

Beth Janbergs
Public Affairs Assistant
301-415-8211

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From: Janbergs, Holly on behalf of OPA Resource
To: Bonaccorso, Amy
Subject: FW: From the NRC Allegation Inbox
Date: Wednesday, March 30, 2011 1:05:00 PM
Attachments: Yellow Rain In Phoenix Arizona - March 22 2011 .msg

We've gone over this with Allegations and they decided it didn't meet their criteria. Video is shots of "yellow rain" (pollen) with a music soundtrack. Video description is as follows:

On March 22, 2011 I noticed many yellow puddles on my driveway during the rain. I took these pictures and also collected a sample. I have noticed in many news articles that people have been reporting yellow rain in Japan, Oregon, and elsewhere following the disaster at Fukushima Daiichi nuclear power complex. This has been officially attributed to pollen, not radioactive fallout. I found this explanation questionable, so I just wanted to upload these pictures to let everyone know that this also happened in Phoenix, Arizona during the rain we were having.

Comments suggest he's trying to find someone to analyze the substance for him.

From: Hernandez, Pete
Sent: Wednesday, March 30, 2011 11:21 AM
To: OPA Resource
Subject: From the NRC Allegation Inbox

Good morning OPA,

While no nuclear safety concern was detailed in the body of the attached email, I am unable to determine if there is an allegation present. Are you able to view the attached youtube link? If so, please let me know the details if it seems to be an allegation.

Thank you,

Pete Hernandez

T/239

Attachment Yellow Rain In Phoenix Arizona - March 22 2011_1.msg (2560 Bytes) cannot be converted to PDF format.

Franovich, Mike

From: Franovich, Mike
Sent: Monday, April 04, 2011 11:21 AM
To: Ostendorff, William
Cc: Nieh, Ho; Kock, Andrea; Zorn, Jason
Subject: UPDATE from 10:00 Telecon on Fukushima Daiichi Events
Attachments: Japan_Earthquake_Response_04042011_0600.ppt; fukushima-areva.pdf; 2017 Japan Hypothetical Models.pdf

Wiggins led the call

- ☐ No change in status of Unit 1, 2, or 3 or the SFPs. Fresh water motor driven pumps now being powered by external offsite power (taken of diesel powered generators).
- ☐ RST priority still focused on Unit 1 containment venting. Noted that nitrogen purge capability may be feasible before the previously reported April 9 timeframe.
- ☐ Japanese disagree with NRC recommendation to flood the primary containments.
- ☐ DOE contractors with severe accident analysis backgrounds showed up at US Embassy in Japan. These folks were not asked for by the NRC or the US Embassy so Casto had to intercede and define roles. DOE contractors now under NRC in-country team direction.
- ☐ CDC person to report today to NRC. NRC did not request but is receptive to host CDC representative.
- ☐ Stated that NRC's role continuing as coordinating logistics request but still looking for some other organization to take this role.

Other items outside of telecon:

- ☐ Attached is a DOE Status Report (reactor TAs are beginning to receive these regularly, good source of info)
- ☐ Attached is an AREVA analysis (now public domain). AREVA is the fuel vendor for Fukushima so they have done safety analysis for the plant. Good presentation but erroneous in several respects regarding water levels, plant design features, Tsunami height, so be careful with this info.

- A set of slides on hypothetical scenarios are attached. These are the one the White House has reviewed based on NRC/DOE(NARAC). I received the slides courtesy of another Commission office.

Worker Doses

- Reported in the media, As of April 3, Tepco have said that some 370 people are at work at the Fukushima Daiichi site, 51 of whom are contractors.
- At the fully stabilized Daini site, which remains under emergency status, there are 626 workers, of which 64 are contractors.
- To date, 21 workers have received radiation doses of more than 10 R, while none have reached the level of 20 R. The Japanese regulatory limit for this specific emergency situation is 25 R (normally it is 10 R).
- Reports on shortage of dosimeters and that some dosimeters have an upper dose rate limit of 1R/hr.

From: [Harrington, Holly](#)
To: [Bonaccorso, Amy](#)
Subject: RE: From the NRC allegation inbox
Date: Monday, April 04, 2011 1:23:24 PM

OK. thanks

From: Bonaccorso, Amy
Sent: Monday, April 04, 2011 1:22 PM
To: Harrington, Holly
Subject: FW: From the NRC allegation inbox

Here is the original bundle.

From: Janbergs, Holly
Sent: Monday, April 04, 2011 11:46 AM
To: Bonaccorso, Amy
Subject: FW: From the NRC allegation inbox

From: Janbergs, Holly **On Behalf Of** OPA Resource
Sent: Monday, April 04, 2011 8:33 AM
To: Janbergs, Holly
Subject: FW: From the NRC allegation inbox

From: Hernandez, Pete
Sent: Monday, April 04, 2011 7:50 AM
To: OPA Resource
Subject: From the NRC allegation inbox

Good morning OPA,

The attached emails do not meet the NRC definition of an allegation please process them as public inquiries/suggestions.

Thank you,

Pete

7/24/11

From: [Bonaccorso, Amy](#)
To: [Harrington, Holly](#)
Subject: FW: From the NRC allegation inbox
Date: Monday, April 04, 2011 1:22:00 PM
Attachments: [Website issue.msg](#)
[CBS TV interview with someone from Diablo Canyon NPP.msg](#)
[Emergency Power..msg](#)
[Fw EMERGENCY REVIEW FOR JAPAN NUCLEAR POWER PLANT CRISIS --- Deep Sea Water Temperatures for Cooling Rods Spent or Used. Special HYDRAULIC CEMENT to seal leak after Salt Water removed from container..msg](#)
[NEW EMERGENCY REVIEW FOR JAPAN NUCLEAR POWER PLANT CRISIS --- Deep Sea Water Temperatures for Cooling Rods Spent or Used. Special HYDRAULIC CEMENT to seal leak after Salt Water removed from container THEN DAMAGE CONTROL TECHNIQUE FOLLOWED SEALING THEmsg](#)
[ADDITIONAL INFORMATION Re NEW EMERGENCY REVIEW FOR JAPAN NUCLEAR POWER PLANT CRISIS --- Deep Sea Water Temperatures for Cooling Rods Spent or Used. Special HYDRAULIC CEMENT to seal leak after Salt Water removed from container THEN DAMAGE CONTROL TECH....msg](#)
[Fw ADDITIONAL INFORMATION Re NEW EMERGENCY REVIEW FOR JAPAN NUCLEAR POWER PLANT CRISIS --- Deep Sea Water Temperatures for Cooling Rods Spent or Used. Special HYDRAULIC CEMENT to seal leak after Salt Water removed from container THEN DAMAGE CONTROLmsg](#)
[Suggestion for cooling the damaged Japanese reactor and waste storage pools.msg](#)

Here is the original bundle.

From: Janbergs, Holly
Sent: Monday, April 04, 2011 11:46 AM
To: Bonaccorso, Amy
Subject: FW: From the NRC allegation inbox

From: Janbergs, Holly **On Behalf Of** OPA Resource
Sent: Monday, April 04, 2011 8:33 AM
To: Janbergs, Holly
Subject: FW: From the NRC allegation inbox

From: Hernandez, Pete
Sent: Monday, April 04, 2011 7:50 AM
To: OPA Resource
Subject: From the NRC allegation inbox

Good morning OPA,

The attached emails do not meet the NRC definition of an allegation please process them as public inquiries/suggestions.

Thank you,

Pete

fel

From: Ruth DeLaMater Bundy or Ralph Charles Whitley, Sr.
To: Bonaccorso, Amy
Subject: Something NO ONE TOLD YOU PERHAPS....
Date: Monday, April 04, 2011 11:10:54 AM
Attachments: SENDER_EMAILbackflow@@prevention@verizon@@net.png
Importance: High



Amy Bonascorso at NRC:

Water pressure flowing through a crack in the cement wall of that container will CUT A LARGER HOLE QUICKLY like an oxygen-acetylene torch cutting through metal.

Imperative to stop the leak before massive rupture as the crack will really explode the section into an uncontrollable flow. Super important Amy to determine which reactor is involved that was why we recommended different colors placed inside reactor water areas PLUS overlapping 12 inches on all sides of crack which has been just noticed and is increasing from a pinhole to what you saw on video.

A FOUR FOOT HOLE WILL ALLOW HOW MUCH WATER TO ESCAPE AT WHAT UNCONTROLLABLE PRESSURE AND HOW MANY FEET OF RODS WILL SUDDENLY BE EXPOSED WITH NO RELIEF POSSIBLE WITHOUT SUPER PUMPS AND SOME MEANS OF SEALING THE GIANT HOLE ?

The only PLUS is one would see the water disappear from one reactor tank of water then you can identify instantly what to run from.

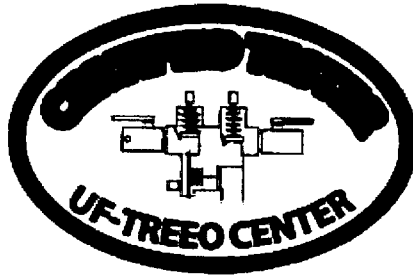
I know the FOOD COLORING GALLONS DUMPED IN REACTOR PLUS SPENT ROD AREAS idea will work and it must be done super fast !

Just a thought to tell you why we are rushing to get information to Japan.

Will stop direct communications unless needed for SKYPE calls.

Ralph

T/242



Ralph Charles Whitley, Sr. CFC032631
Backflow Prevention, Inc.
4532 W. Kennedy Blvd. PMB-276
Tampa, Florida 33609-2042 USA
Phone: 813-286-2333

SCRIBID ID: ralphwhitleysr
SKYPE ID: ralphwhitleysr

SCRIBD WEB PAGE: <http://www.scribd.com/ralphwhitleysr>
backflow.prevention@verizon.net



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Rel

From: Ruth DeLaMater Bundy or Ralph Charles Whitley, Sr.
To: Bonaccorso, Amy
Subject: Someone is reading posts and acting.....
Date: Monday, April 04, 2011 1:11:23 PM
Attachments: SENDER_EMAILbackflow@@prevention@verizon@@net.png
040411at1026amBBC News - Japan nuclear plant releases radioactive water into sea.pdf



Amy:

They USED DYE and found Reactor 2 involved. Leak must be sealed [8 inches estimated] before it splits further up or down or even hatters the wall.

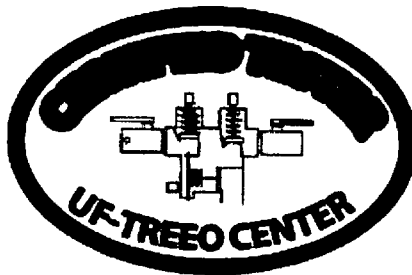
Shatter means one reactor core will go down to NO WATER AND YOU CANNOT KEEP PUMPING WATER PERHAPS WITHOUT SUPER RADIATION.

I still think the tankers can fill up and dump water deep at sea which will make particles sink.

SALT WATER SHOULD BE STOPPED and only fresh water used from tanker trucks after leak is stopped.

Pray.

Ralph



Ralph Charles Whitley, Sr. CFC032631
Backflow Prevention, Inc.
4532 W. Kennedy Blvd. PMB-276
Tampa, Florida 33609-2042 USA
Phone: 813-286-2333

SCRIBID ID: ralphwhitleysr
SKYPE ID: ralphwhitleysr

SCRIBD WEB PAGE: <http://www.scribd.com/ralphwhitleysr>

backflow.prevention@verizon.net

7/24/3



FREE Animations for your email - by IncrediMail!

Click Here!

From: Mail Delivery System
To: operations@asapinteriores.com
Subject: Undeliverable: NRC Response to Email Dated March 17, 2011
Date: Monday, April 04, 2011 11:34:14 AM
Attachments: [NRC Response to Email Dated March 17 2011.msg](#)

Delivery has failed to these recipients or distribution lists:

HYPERLINK "<mailto:operations@asapinteriores.com>"operations@asapinteriores.com

An error occurred while trying to deliver this message to the recipient's e-mail address. Microsoft Exchange will not try to redeliver this message for you. Please try resending this message, or provide the following diagnostic text to your system administrator.

Diagnostic information for administrators:

Generating server: mail2.nrc.gov

operations@asapinteriores.com

#< #5.0.0 smtp; 5.1.2 - Bad destination host 'DNS Hard Error looking up asapinteriores.com (MX): NXDomain' (delivery attempts: 0)>

#SMTP#

Original message headers:

Received: from owms01.nrc.gov ([148.184.100.43]) by mail2-private.nrc.gov
with ESMTP; 04 Apr 2011 11:34:13 -0400

X-IronPort-AV: E=Sophos;i="4.63,298,1299474000";

d="scan'208,217";a="37405428"

Received: from HQCLSTR01.nrc.gov ([148.184.44.79]) by OWMS01.nrc.gov
([148.184.100.43]) with mapi; Mon, 4 Apr 2011 11:34:13 -0400

From: "Bonaccorso, Amy" <amy.Bonaccorso@nrc.gov>

To: "operations@asapinteriores.com" <operations@asapinteriores.com>

Date: Mon, 4 Apr 2011 11:34:13 -0400

Subject: NRC Response to Email Dated March 17, 2011

Thread-Topic: NRC Response to Email Dated March 17, 2011

Thread-Index: Acvy3b/xLh5LvIDeR5CNI4n/Q3FfDw==

Message-ID: <9B0F2FAB6002B64EAABF7FE5FA27BC6C3B09FC1425@HQCLSTR01.nrc.gov>

Accept-Language: en-US

Content-Language: en-US

X-MS-Has-Attach:

X-MS-TNEF-Correlator:

acceptlanguage: en-US

Content-Type: multipart/alternative;

boundary="_000_9B0F2FAB6002B64EAABF7FE5FA27BC6C3B09FC1425HQCLSTR01nrcg_"

MIME-Version: 1.0

T/244

Hogan, Rosemary

Subject: ACRS subcommittee briefing on HTGR R&D Plan
Location: ACRS
Start: Tue 4/5/2011 10:00 AM
End: Tue 4/5/2011 5:00 PM
Recurrence: (none)
Organizer: Hogan, Rosemary

7/24/5

Lee, Richard

From: Lee, Richard
Sent: Tuesday, April 05, 2011 1:11 PM
To: Wagner, Katie
Cc: Greenwood, Carol
Subject: RE: Severe Accident Procedures Request
Attachments: image001.jpg

Katie:

Please ask him to contact Ed Fuller of NRO. Ed came from EPRI and knows severe accident management guidelines.

Richard

From: Wagner, Katie
Sent: Tuesday, April 05, 2011 12:42 PM
To: Lee, Richard
Cc: Greenwood, Carol
Subject: FW: Severe Accident Procedures Request

Richard,

Who would you recommend to respond to Mr. Golla?

Thanks,
Katie

From: Greenwood, Carol
Sent: Tuesday, April 05, 2011 12:32 PM
To: Wagner, Katie
Subject: Severe Accident Procedures Request

Katie,

Joe Golla of NRR was asking if anyone in RES can answer some questions on Severe Accident Procedures.

His number is 415-1002.

Regards

Carol Greenwood

Lead Administrative Assistant

RES/DSA

U.S. Nuclear Regulatory Commission

Phone: 301-251-7499



Franovich, Mike

From: Franovich, Mike
Sent: Wednesday, April 06, 2011 5:49 PM
To: Ostendorff, William
Cc: Nieh, Ho; Kock, Andrea; Zorn, Jason
Subject: UPDATE from 10:00 Telecon on Fukushima Daiichi Events
Attachments: Letter - Summary of reactor unit status at 6-April 0300 UTC.PDF; permanent reentry guidance rev 1.docx; SITREP_APR6 0600.docx; Japan_Earthquake_Response_04062011_0600.pdf

Wiggins led the call:

- ☐ No change in status of Unit 1, 2, or 3 or the SFPs.
- ☐ RST priority still focused on Unit 1 containment inerting/venting. Tepco has equipment aligned to support containment venting/purging.
- ☐ Unit 2 trench leakage to sea is now plugged.
- ☐ NYT times article "U.S. Sees Array of New Threats at Japan's Nuclear Plant" mentioned during the call. The article refers to an NRC assessment. Staff believes this is an old revision of an OUO SAMG document that is not reflective of current plant conditions.
- ☐ The accident management guidance for SFP issues is now a draft white paper and no longer a plan to incorporate into the SAMGs. I asked for a copy of the paper when it is in good enough shape to share.
- ☐ ET indicated that the permanent reentry criteria for US citizens entry within 50 miles of the plant was sent to Commission offices yesterday. This turned out not to be the case as the Mike Weber was conducting an additional review before releasing it to Commission offices.
- ☐ Elmo Collins is asking for ET for stability criteria for the plant (same question I asked a week ago).
- ☐ Numerous FOIA requests (no specific one) discussed that there is a need for collecting info systematically and efficiently to minimize duplication.

Other items outside of telecon:

- ☐ Attached is the DOE Status Report including, DOE Situation Report, and a very detailed IAEA report that is quite useful (provide by OIP), and draft reentry criteria/guidance for US citizens.

• •

King, Mark

From: Gray, Kathy *NR*
Sent: Wednesday, April 06, 2011 10:39 AM
To: NRR_DIRS_IOEB Distribution
Subject: FW: IN 2011-08 (ML110830824)
Attachments: ML110830824.pdf

FYI – for fuel cycle facilities!

From: Cathy Hawes [mailto:cmh2@nrc.gov] *NR*
Sent: Wednesday, April 06, 2011 10:47 AM
To: Gray, Kathy
Subject: IN 2011-08 (ML110830824)

Attached is an PDF version Information Notice 2011-08, Tohoku-Taiheiyou-Oki Earthquake Effects On Japanese Nuclear Power Plants – For Fuel Cycle Facilities, dated March 31, 2011, (ML110830824), that has been posted to the NRR GCC Web, along with the URL for Web access to generic communications files on the NRC Homepage: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/2011/>.

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

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

thanks
Cathy

Trapp, James

From: Bower, Fred
Sent: Wednesday, April 06, 2011 7:50 AM
To: Lafferty, Nathan; Trapp, James
Cc: Krohn, Paul
Subject: RE: PB Hardened Pipe drawing
Attachments: pict55.jpg

Great work by Nathan.

I took a second look and from this picture from the cryptome.org site, it appears that units 2, 3, and 4 had vent pipes on the rear of the reactor building, but unit 1 did not. From this view, it is hard to tell what is running up the front (side facing the turbine building) of the reactor building, but it seems too small a diameter to be a hardened vent.

Fred Bower
Senior Resident Inspector
Peach Bottom Atomic Power Station

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

From: Lafferty, Nathan
Sent: Tuesday, April 05, 2011 5:15 PM
To: Trapp, James
Cc: Bower, Fred; Krohn, Paul
Subject: RE: PB Hardened Pipe drawing

The "ventpipe_internet" pic was found on <http://cryptome.org/eyeball/npp/62npp-eyeball.htm> under peach bottom.

I took "VentPipeClose1 & 2" at PB.

It is hard to tell what these pipes are at Fukushima based on the pictures. In "fukushima_2pipes" it appears there could be 2 vent pipes. If the pipe at Fukushima were coming out of the ground it could be more discernable. Better photographs are needed.

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

From: Trapp, James
Sent: Tuesday, April 05, 2011 4:20 PM
To: Lafferty, Nathan
Subject: RE: PB Hardened Pipe drawing

You are right on the mark. Do you have or can you get a picture of the vent at PB?

Also, do you think this is the hardened vent at Fukushima?

Thanks again!

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

From: Lafferty, Nathan
Sent: Tuesday, April 05, 2011 4:17 PM

7/24/11

To: Trapp, James
Cc: Krohn, Paul; Bower, Fred
Subject: RE: PB Hardened Pipe drawing

Upon first inspection it looks similar to the hardened pipe at PB. At PB, the hardened pipe rises vertically out of the ground next to the Rx Bldg, kinks through a rad monitor, then follows the Rx Bldg until it extends above the top. It looks like a tall, 16" Inner Diameter, green pipe bracketed onto the outside of the Rx Bldg.

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

From: Trapp, James
Sent: Tuesday, April 05, 2011 3:51 PM
To: Lafferty, Nathan; Krohn, Paul; Bower, Fred
Subject: RE: PB Hardened Pipe drawing

Nathan - this is great. By chance do you have any photos or describe what the vent looks like after it exits secondary containment.

I am going to send you some photos of Fukushima. I was wondering if a vent line going up the side of the building looks like the hardened vent.

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

From: Lafferty, Nathan
Sent: Tuesday, April 05, 2011 2:57 PM
To: Trapp, James; Krohn, Paul; Bower, Fred
Subject: PB Hardened Pipe drawing

Drawing is attached. The hardened pipe vent path is highlighted. The pipe penetrates primary containment at N-219. Contact me with any questions.

Nathan Lafferty

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

From: R1Scan [<mailto:R1Scan@nrc.gov>]
Sent: Tuesday, April 05, 2011 2:52 PM
To: Lafferty, Nathan
Subject: Scan from Peach Bottom HP5035

Please open the attached document. This document was digitally sent to you using an HP Digital Sending device.



47



Trapp, James

From: Franovich, Mike
Sent: Thursday, April 07, 2011 9:17 AM
To: Trapp, James
Subject: RE: Link: Fukushima Daiichi Nuclear Plant Hi-Res Photos

Those are good shots. These look to be now publicly available. Wonder if the firm who took these photos also took the ones posted on the NRR share point site. We had a few hundred photos sent to NRC and I asked the Chairman's office to have the ops center post them so the Commissioner offices could review. Those photos are at the following link:

<http://portal.nrc.gov/edo/nrr/NRR%20TA/FAQ%20Related%20to%20Events%20Occuring%20in%20Japan/Forms/AllItems.aspx?View=%7b282DC699%2dFA97%2d430B%2dA1F9%2d6008558261C5%7d&RootFolder=%2fedo%2fnrr%2fNRR%20TA%2fFAQ%20Related%20to%20Events%20Occuring%20in%20Japan%2fFukushima%20Daiichi%20Aerial%20Photos>

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

From: Trapp, James
Sent: Thursday, April 07, 2011 8:27 AM
To: Franovich, Mike
Subject: FW: Link: Fukushima Daiichi Nuclear Plant Hi-Res Photos

You might also have seen these - best pictures to date.

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

From: Ulses, Anthony
Sent: Monday, April 04, 2011 2:00 PM
To: Trapp, James; 'moralesra@state.gov'; 'russ@earthmobi.com'
Subject: FW: Link: Fukushima Daiichi Nuclear Plant Hi-Res Photos

Some good shots from earlier.

Tony

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

From: Rutz, Wayne
Sent: Monday, April 04, 2011 1:03 PM
To: Stapleton, Bernard; Mangefrida, Michael; Parsons, Darryl
Cc: Melendez, Israel; Ulses, Anthony
Subject: FW: Link: Fukushima Daiichi Nuclear Plant Hi-Res Photos

An additional link to some photos of the plants in Japan.

Wayne

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

From: aaronad@nctc.gov [mailto:aaronad@nctc.gov]
Sent: Monday, April 04, 2011 12:28 PM
To: Rutz, Wayne; English, Lance; Whitney, James; Warren, Roberta
Subject: Link: Fukushima Daiichi Nuclear Plant Hi-Res Photos

This is better than commercial imagery, and in color.

Fukushima Daiichi Nuclear Plant Hi-Res Photos

<http://cryptome.org/eyeball/daiichi-npp/daiichi-photos.htm>

A 50

Bonaccorso, Amy

From: Bonaccorso, Amy
Sent: Thursday, April 07, 2011 2:15 PM
To: Harrington, Holly
Subject: SOP/Qs & As
Attachments: Japan Inquiries.docx

Hey Holly:

I have not done a formal SOP in some time, so if you have a particular format, let me know. This is what I came up with. Most of it is Qs and As.

Thanks,

Amy

1/25/11

Japan Inquiries
Standard Operating Procedure
Q&A Sheet

General Guidelines

Paper Mail

Unless a snail mail inquiry includes an email address for a quick electronic response, we are not responding. Nevertheless, all of the mail should be reviewed. A sticky note should be placed on each piece of mail with a note to indicate that it was reviewed and no response is needed. The letters should be saved in a folder.

Emails from OPA.Resource

Emails should be responded to using the Q&A sheet. Usually, a quick copy and paste will be sufficient, although some of it can be customized to be more responsive if appropriate.

Phone Calls

We are no longer forwarding people with suggestions or solutions for the crisis in Japan to a live person. We are not taking messages for a phone call back. We are only taking email addresses. People who give an email address will get the standard response that people get if they email OPA.Resource directly, and in fact, they can be encouraged to simply send an email to OPA.Resource if they want their concern to be on the record.

These phrases may be helpful if someone insists on talking to someone or a technical expert to offer their solution:

- We are unable to provide you with someone to talk with at this time.
- While we are assisting Japan, the Japanese have not asked the U.S. to solve the problem for them.

Questions & Answers – Standard Email Verbiage

I have a suggestion or solution for the crisis in Japan.

Thank you for contacting us about your idea. We appreciate suggestions that work toward resolving the situation in Japan; it's reassuring to see how helpful and dedicated private citizens have been in light of this disaster. Unfortunately, we are currently unable to consider suggestions that come in.

Please understand that the NRC has some of the most expert people in the world available to assist the Japanese authorities in whatever way they request. We are fully staffed in all our response teams at this time and working 24-hours a day.

For more information about the NRC's response to the crisis in Japan, visit:

<http://www.nrc.gov/japan/japan-info.html>.

But, I have a company that specializes in this type of work and have extensive professional experience and expertise in this area.

The Institute for Nuclear Power Operations (INPO) is taking suggestions and solutions from qualified professionals. They can be reached at inpoercassistance@inpo.org or 770-644-8118.

For more information about the NRC's response to the crisis in Japan, visit:

<http://www.nrc.gov/japan/japan-info.html>.

I am in the U.S., but does the incident in Japan mean that I am being exposed to high levels of radiation?

The U.S. Nuclear Regulatory Commission (NRC) continues to monitor information regarding wind patterns near the Japanese nuclear power plants. Given the distance between Japan and the U.S., we are not expected to experience any harmful levels of radioactivity.

The Environmental Protection Agency (EPA) agrees with the NRC's assessment and is continuously monitoring radiation in the nation's air, water, milk, and precipitation. If you would like to learn more about their monitoring system, visit:

<http://www.epa.gov/japan2011/rert/radnet-data.html>.

For more information about the NRC's response to the crisis in Japan, visit:

<http://www.nrc.gov/japan/japan-info.html>.

I feel sick and I think it is the radiation. I am monitoring it very closely and there has been a rise.

The radiation is not at a level that should adversely impact your health, but please call the Center for Disease Control at 1-800-CDC-INFO [1-800-232-4636] if you have health-related concerns.

The U.S. Nuclear Regulatory Commission (NRC) continues to monitor information regarding wind patterns near the Japanese nuclear power plants. Given the distance between Japan and the U.S., we are not expected to experience any harmful levels of radioactivity.

The Environmental Protection Agency (EPA) agrees with the NRC's assessment and is continuously monitoring radiation in the nation's air, water, milk, and precipitation. If you would like to learn more about their monitoring system, visit:

<http://www.epa.gov/japan2011/rert/radnet-data.html>.

For more information about the NRC's response to the crisis in Japan, visit:
<http://www.nrc.gov/japan/japan-info.html>.

I am supposed to go to Tokyo in a week. Is it still safe to go?

The U.S. Nuclear Regulatory Commission is unable to advise people on their travel plans. We recommend that you ask the airlines for travel restrictions and advisories, and also the State Department. The State Department's number for U.S. travelers is 1-888-407-4747 and the website is: www.travel.state.gov.

For more information about the NRC's response to the crisis in Japan, visit:
<http://www.nrc.gov/japan/japan-info.html>.

I am in Japan [sometimes they say how many miles they are from the reactor] and want to know if it is safe to drink the water? Bathe my baby in the water?

The U.S. Nuclear Regulatory Commission's primary focus is regulating domestic reactors and conditions within the U.S. If you are concerned about conditions in Japan and how you should respond to them, we recommend contacting the appropriate Japanese national or local authorities.

If you are a U.S. citizen, please contact the U.S. Embassy in Japan or the State Department. The State Department's number for U.S. travelers is 1-888-407-4747 and the website is: www.travel.state.gov. You can also use this email address: JapanemergencyUSC@state.gov.

I have a family member in Japan and am worried about them. Is it safe for them to drink the water?

The U.S. Nuclear Regulatory Commission's primary focus is regulating domestic reactors and conditions within the U.S. If a loved one in Japan is concerned about conditions there and how they should respond to them, we recommend that they contact the appropriate Japanese national or local authorities.

If they are a U.S. citizen, they can also contact the U.S. Embassy in Japan or the State Department. The State Department's number for U.S. travelers is 1-888-407-4747 and the website is: www.travel.state.gov. This email address can also be used: JapanemergencyUSC@state.gov.

I am really upset about the situation in Japan. Why can't we intervene? Can't you do something?

The U.S. Nuclear Regulatory Commission is charged with regulating nuclear power in the U.S. While we have made our experts available to the Japanese and are willing to help, Japan has not asked us to solve their problem for them.

We recommend that you direct your concerns to your Congressional representatives and the State Department.

For more information about the NRC's response to the crisis in Japan, visit:

<http://www.nrc.gov/japan/japan-info.html>.

The crisis in Japan should teach us a lesson. Nuclear power is not safe and we should not have nuclear power in the U.S.

The U.S. Nuclear Regulatory Commission regulates nuclear power in the U.S. The agency does not set the nation's energy agenda. If you want to have your voice heard, we recommend that you direct your concerns to your Congressional representatives.

For more information about the NRC's response to the crisis in Japan, visit:

<http://www.nrc.gov/japan/japan-info.html>

[If they have already gone to Congress and are very angry, you can encourage them to also email the Chairman and Commission. They can click on each person and a page with an email address will appear: <http://www.nrc.gov/about-nrc/organization/commfuncdesc.html>]

What is the NRC doing to make sure U.S plants are safe in light of this crisis in Japan?

The U.S. Nuclear Regulatory Commission just put together a Task Force to examine the events in Japan, identify lessons learned, and also recommend any improvements to our system here in the U.S.

The press release is available here:

<http://pbadupws.nrc.gov/docs/ML1109/ML110910479.pdf>

If you are interested, a public meeting is scheduled in May to review the progress of the Task Force and that meeting is open to the public.

Week of May 9, 2011 - Tentative

05/12/11 9:30 A.M. Briefing on the Progress of the Task Force Review of NRC Processes and Regulations Following the Events in Japan
(PUBLIC MEETING)
(Contact: Nathan Sanfilippo, 301-415-3951)
Webcast

This information is located on this page: <http://www.nrc.gov/public-involve/public-meetings/schedule.html>

In addition, we have a website dedicated to news involving Japan and the NRC's follow-up actions:

<http://www.nrc.gov/japan/japan-info.html>

If someone inquires with a list of technical questions related to nuclear energy or safety and the crisis in Japan:

We're sorry we don't have more time to research your specific questions, but hope this information will be helpful to you. Our website at www.nrc.gov has a lot of information and you may find some answers there. In particular, the fact sheets were written for the public: <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/>

For more information about the NRC's response to the crisis in Japan, visit: <http://www.nrc.gov/japan/japan-info.html>

Should I be taking potassium iodide?

The U.S. Nuclear Regulatory Commission does not believe protective measures are necessary in the United States. In the event circumstances change, U.S. residents should listen to the protective action decisions of their states and counties.

Dentel, Glenn

From: Dentel, Glenn
Sent: Thursday, April 07, 2011 2:30 PM
To: Patel, Amar
Subject: FW: Press Release: Nuclear Regulatory Commission Directs Staff on Continuing Agency Response to Japan Events; Adjusts Commission Schedule
Attachments: 11-055.docx

From: Barkley, Richard
Sent: Wednesday, March 23, 2011 5:57 PM
To: Burritt, Arthur; Krohn, Paul; Powell, Raymond; Dentel, Glenn; Jackson, Donald; Bellamy, Ronald; Gray, Mel
Subject: FW: Press Release: Nuclear Regulatory Commission Directs Staff on Continuing Agency Response to Japan Events; Adjusts Commission Schedule

Looks like the Commission SRM was finalized this afternoon. I'll circulate it around as soon as I see it.

From: OPA Resource
Sent: Wednesday, March 23, 2011 5:23 PM
To: Ash, Darren; Barkley, Richard; Batkin, Joshua; Bell, Hubert; Belmore, Nancy; Bergman, Thomas; Bollwerk, Paul; Bonaccorso, Amy; Borchardt, Bill; Bozin, Sunny; Brenner, Eliot; Brock, Terry; Brown, Boris; Bubar, Patrice; Burnell, Scott; Burns, Stephen; Carpenter, Cynthia; Chandrathil, Prema; Clark, Theresa; Collins, Elmo; Couret, Ivonne; Crawford, Carrie; Cutler, Iris; Dacus, Eugene; Dapas, Marc; Davis, Roger; Dean, Bill; Decker, David; Dricks, Victor; Droggitis, Spiros; Flory, Shirley; Franovich, Mike; Gibbs, Catina; Haney, Catherine; Hannah, Roger; Harbuck, Craig; Harrington, Holly; Hasan, Nasreen; Hayden, Elizabeth; Holahan, Gary; Holahan, Patricia; Holian, Brian; Jacobssen, Patricia; Jaczko, Gregory; Jasinski, Robert; Jenkins, Verlyn; Johnson, Michael; Jones, Andrea; Kock, Andrea; Kotzalas, Margie; Ledford, Joey; Lee, Samson; Leeds, Eric; Lepre, Janet; Lew, David; Lewis, Antoinette; Loyd, Susan; Magwood, William; McCrary, Cheryl; McGrady-Finneran, Patricia; McIntyre, David; Mensah, Tanya; Mitlyng, Viktoria; Monninger, John; Montes, David; Nieh, Ho; Ordaz, Vonna; Ostendorff, William; Owen, Lucy; Powell, Amy; Quesenberry, Jeannette; Reddick, Darani; Regan, Christopher; Reyes, Luis; Riddick, Nicole; RidsSecyMailCenter Resource; Riley (OCA), Timothy; Rohrer, Shirley; Samuel, Olive; Satorius, Mark; Schaaf, Robert; Schmidt, Rebecca; Scott, Catherine; Screnci, Diane; Shaffer, Vered; Shane, Raeann; Sharkey, Jeffry; Sheehan, Neil; Sheron, Brian; Siurano-Perez, Osiris; Steger (Tucci), Christine; Svinicki, Kristine; Tabatabai, Omid; Tannenbaum, Anita; Taylor, Renee; Temp, WDM; Thomas, Ann; Uhle, Jennifer; Uselding, Lara; Vietti-Cook, Annette; Virgilio, Martin; Virgilio, Rosetta; Walker-Smith, Antoinette; Weaver, Doug; Weber, Michael; Weil, Jenny; Werner, Greg; Wiggins, Jim; Williams, Evelyn; Zimmerman, Roy; Zorn, Jason
Subject: Press Release: Nuclear Regulatory Commission Directs Staff on Continuing Agency Response to Japan Events; Adjusts Commission Schedule

To be issued in 15 minutes.

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



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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. 11-055

March 23, 2011

NUCLEAR REGULATORY COMMISSION DIRECTS STAFF ON CONTINUING AGENCY RESPONSE TO JAPAN EVENTS; ADJUSTS COMMISSION SCHEDULE

The Nuclear Regulatory Commission has voted to launch a two-pronged review of U.S. nuclear power plant safety in the aftermath of the March 11 earthquake and tsunami and the resulting crisis at a Japanese nuclear power plant.

The Commission supported the establishment of an agency task force, made up of current senior managers and former NRC experts with relevant experience. The task force will conduct both short- and long-term analysis of the lessons that can be learned from the situation in Japan, and the results of their work will be made public.

"Our focus is always on ensuring the health and safety of the American people through our licensing and oversight of plants and radioactive materials in this country," Chairman Jaczko said. "Examining all the available information from Japan is essential to understanding the event's implications for the United States. We will perform a systematic and methodical review to see if there are changes that should be made to our programs and regulations to ensure protection of public health and safety."

The Commission set an aggressive schedule for the task force to provide formal updates on the short-term effort in 30, 60 and 90 days. NRC senior technical staff provided the Commission a 90-minute briefing on Monday, as a first step. The staff reiterated their conclusions that the United States and its territories will avoid any harmful radiation levels as a result of the ongoing events at the Fukushima Daiichi plant damaged by the quake and subsequent tsunami.

NRC inspectors who are posted at every U.S. nuclear power plant will also support the task force's short-term effort, supplemented as necessary by experts from the agency's regional and headquarters offices.

"This work will help determine if any additional NRC responses, such as Orders requiring immediate action by U.S. plants, are called for, prior to completing an in-depth investigation of the information from events in Japan," said NRC Executive Director for Operations Bill Borchardt.

The longer-term review will inform any permanent NRC regulation changes determined to be necessary. The Commission said it hopes the task force can begin the long-term evaluation in no later than 90 days, and added that the task force should provide a report with recommended actions within six months of the beginning of that effort.

The Commission also decided to revise its schedule for meetings and briefings to allow ample focus on the agency's response to events in Japan. Open Commission meetings on the status of the NRC response to the Japan earthquake are scheduled for April 14 and 28, a meeting on the staff's 30-day response is planned for May 3 and a meeting on the staff's 60-day response is planned for June 16. A revised Commission meeting schedule will be posted shortly on the NRC website.

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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.

A52

Lee, Richard

From: Wagner, Katie
Sent: Thursday, April 07, 2011 4:48 PM
To: Lee, Richard
Subject: RE: Casto Briefing Sheet -4249 1043 4-07.doc
Attachments: image001.gif

Richard – Who is the staff contact on this? I thought it looked like Jason. – Thanks, Katie

87	4/7/2011	Ops Center (RST) NEW	Email: RST09 Hoc	Jason Schaperow (x7452)	SPB	Provide input on the sheet to be used by Casto to brief the U.S. Ambassador to ensure consistency with the discussions on 3/18.	Provide input on the sheet to be used by Casto to brief the U.S. Ambassador to ensure consistency with the discussions on 3/18.	Pending
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From: Santiago, Patricia
Sent: Thursday, April 07, 2011 1:47 PM
To: Lee, Richard; Schaperow, Jason
Cc: Wagner, Katie; Gibson, Kathy; Tinkler, Charles
Subject: RE: Casto Briefing Sheet -4249 1043 4-07.doc

Richard

Jason is coming to see you since Charlie is out.

Kathy wanted to add a bullet on how fuel is arranged in the pool based on B5b but it likely is for something else. She did call and said she may have given me a comment but was thinking of something else.

Please work with Jason.

thanks

From: Lee, Richard
Sent: Thursday, April 07, 2011 1:12 PM
To: Gibson, Kathy
Cc: Santiago, Patricia; Wagner, Katie
Subject: FW: Casto Briefing Sheet -4249 1043 4-07.doc

Kathy:

Kathy:

Charlie needs to weigh in on this one. Casto needs it to brief the U.S. Ambassador.

Thanks, Richard

From: RST09 Hoc
Sent: Thursday, April 07, 2011 12:40 PM
To: Lee, Richard; Tinkler, Charles
Subject: Casto Briefing Sheet -4249 1043 4-07.doc

Richard/Charlie,

Can you please give a quick look to the attached document to see if it is consistent with the discussions on 3/18? If you could send it back to RST09 before 2:00 p.m. with your comments and suggestions, I'd greatly appreciate it. If you cannot review it by 2:00, please let me know so I can include it in the turn-over.

Thanks,
Mirela

Lee, Richard

From: Lee, Richard
Sent: Thursday, April 07, 2011 5:46 PM
To: Sheron, Brian
Subject: RE: Science Expert Meeting Slides
Attachments: image001.jpg

I did many times. I am having problem for this whole week of not getting them.

From: Sheron, Brian
Sent: Thursday, April 07, 2011 5:39 PM
To: Lee, Richard
Subject: RE: Science Expert Meeting Slides

E-mail Alex and tell him to put you on distribution for the daily briefing slides.

From: Lee, Richard
Sent: Thursday, April 07, 2011 5:37 PM
To: Sheron, Brian
Subject: RE: Science Expert Meeting Slides

Thx. Brian:

From: Sheron, Brian
Sent: Thursday, April 07, 2011 5:37 PM
To: Lee, Richard
Subject: FW: Science Expert Meeting Slides

From: Larzelere, Alex [<mailto:alex.larzelere@nuclear.energy.gov>]
Sent: Thursday, April 07, 2011 4:31 PM
To: DL-NITsolutions; Lee, Richard
Cc: Busby, Jeremy T.; Douglas.Burns@inl.gov; Schneider, Steve
Subject: Science Expert Meeting Slides

Everyone,

Attached are the slides for today's call. It will occur at 5pm EDT and the call in number is:

202-58-2535

BTW – when you open the file, if you see a message about updating links, please just hit cancel.

Regards,

Alex

Alex R. Larzelere
Director, Advanced Modeling and Simulation Office
Office of Nuclear Energy (NE-71)
U.S. Department of Energy
202-586-1906
Alex.Larzelere@nuclear.energy.gov

Lee, Richard

From: Lee, Richard
Sent: Thursday, April 07, 2011 5:38 PM
To: Powers, Dana; 'dapower@sandia.gov'
Subject: FW: Science Expert Meeting Slides
Attachments: image001.jpg; 0407 S-1 Briefing rev 1.ppt

fyi

From: Sheron, Brian
Sent: Thursday, April 07, 2011 5:37 PM
To: Lee, Richard
Subject: FW: Science Expert Meeting Slides

From: Larzelere, Alex [<mailto:alex.larzelere@nuclear.energy.gov>]
Sent: Thursday, April 07, 2011 4:31 PM
To: DL-NITSolutions; Lee, Richard
Cc: Busby, Jeremy T.; Douglas.Burns@inl.gov; Schneider, Steve
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Regards,

Alex

Alex R. Larzelere
Director, Advanced Modeling and Simulation Office
Office of Nuclear Energy (NE-71)
U.S. Department of Energy
202-586-1906
Alex.Larzelere@nuclear.energy.gov

 **AMSO**
ADVANCED MODELING & SIMULATION OFFICE

T/255

From: Muessle, Mary
To: Taylor, Renee; Ellmers, Glenn; Ash, Darren; Boger, Bruce; Boyce, Thomas (OIS); Brenner, Eliot; Brown, Milton; Burns, Stephen; Carpenter, Cynthia; Casto, Chuck; Cohen, Miriam; Collins, Elmo; Dapas, Marc; Dean, Bill; Doane, Margaret; Droggitis, Spiros; Dyer, Jim; Greene, Kathryn; Grobe, Jack; Hackett, Edwin; Haney, Catherine; Hayden, Elizabeth; Holahan, Gary; Howard, Patrick; Johnson, Michael; Kelley, Corentis; Leeds, Eric; Mamish, Nader; Lewis, Robert; McCrary, Cheryl; McCree, Victor; Miller, Charles; Moore, Scott; Pederson, Cynthia; Plisco, Loren; Poole, Brooke; Powell, Amy; Reyes, Luis; Satorius, Mark; Schaeffer, James; Schmidt, Rebecca; Sheron, Brian; Stewart, Sharon; Uhle, Jennifer; Virgilio, Martin; Weber, Michael; Wiggins, Jim; Williams, Barbara; Zimmerman, Roy; Campbell, Andy; Holahan, Patricia; Dorman, Dan; Wert, Leonard; Tracy, Glenn; Krupnick, David; Evans, Michele; Mitchell, Reggie; Flanders, Scott; Evans, Michele
Cc: Akstulewicz, Brenda; Andersen, James; Bellosi, Susan; Belmore, Nancy; Boyd, Lena; Buckley, Patricia; Casby, Marcia; Cianci, Sandra; Crawford, Carrie; Flory, Shirley; Garland, Stephanie; Higginbotham, Tina; Hudson, Sharon; Landau, Mindy; Matakas, Gina; Miles, Patricia; Pulley, Deborah; Rihm, Roger; Riner, Janet; Ronewicz, Lynn; Ross, Robin; Salus, Amy; Tannenbaum, Anita; Thomas, Loretta; Walker, Dwight; Warner, MaryAnn; Wright, Darlene; Wyatt, Melissa; Cannady, Ashley; Lockhart, Denise; Perez-Ortiz, Aracelis; Riddick, Nicole; King, Shannon; Penny, Melissa; Sprogeris, Patricia; Banks, Eleasah; Nagel, Cheri; Hasan, Nasreen; Call, Michel; Thaggard, Mark; Young, Gary; Moore, Mary; Daniels, Stanley; Kreuter, Jane; Schumann, Stacy; Rihm, Roger; Schwarz, Sherry; Boyer, Rachel
Subject: Follow-up : Planned Travel through April 18th
Date: Friday, April 08, 2011 1:27:20 PM
Attachments: FW Report.msg

Attached find planned travel per OCFO

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

From: Taylor, Renee
Sent: Friday, April 08, 2011 8:53 AM
To: Ellmers, Glenn; Ash, Darren; Boger, Bruce; Boyce, Thomas (OIS); Brenner, Eliot; Brown, Milton; Burns, Stephen; Carpenter, Cynthia; Casto, Chuck; Cohen, Miriam; Collins, Elmo; Dapas, Marc; Dean, Bill; Doane, Margaret; Droggitis, Spiros; Dyer, Jim; Greene, Kathryn; Grobe, Jack; Hackett, Edwin; Haney, Catherine; Hayden, Elizabeth; Holahan, Gary; Howard, Patrick; Johnson, Michael; Kelley, Corentis; Leeds, Eric; Mamish, Nader; McCrary, Cheryl; McCree, Victor; Miller, Charles; Moore, Scott; Pederson, Cynthia; Plisco, Loren; Poole, Brooke; Powell, Amy; Reyes, Luis; Satorius, Mark; Schaeffer, James; Schmidt, Rebecca; Sheron, Brian; Stewart, Sharon; Uhle, Jennifer; Virgilio, Martin; Weber, Michael; Wiggins, Jim; Williams, Barbara; Zimmerman, Roy; Campbell, Andy; Holahan, Patricia; Dorman, Dan; Muessle, Mary; Wert, Leonard; Tracy, Glenn; Taylor, Renee; Krupnick, David; Evans, Michele
Cc: Akstulewicz, Brenda; Andersen, James; Bellosi, Susan; Belmore, Nancy; Boyd, Lena; Buckley, Patricia; Casby, Marcia; Cianci, Sandra; Crawford, Carrie; Flory, Shirley; Garland, Stephanie; Higginbotham, Tina; Hudson, Sharon; Landau, Mindy; Matakas, Gina; Miles, Patricia; Pulley, Deborah; Rihm, Roger; Riner, Janet; Ronewicz, Lynn; Ross, Robin; Salus, Amy; Tannenbaum, Anita; Taylor, Renee; Thomas, Loretta; Walker, Dwight; Warner, MaryAnn; Wright, Darlene; Wyatt, Melissa; Cannady, Ashley; Lockhart, Denise; Perez-Ortiz, Aracelis; Riddick, Nicole; King, Shannon; Penny, Melissa; Sprogeris, Patricia; Banks, Eleasah; Nagel, Cheri; Hasan, Nasreen; Call, Michel; Thaggard, Mark; Young, Gary; Moore, Mary; Daniels, Stanley; Kreuter, Jane; Schumann, Stacy; Rihm, Roger; Schwarz, Sherry; Boyer, Rachel
Subject: Additional Information on a Lapse of Appropriation

For OD's and RA's

Since the Congress has not yet reached alignment on FY 2011 funding, we need to continue to take

7/20/10

actions towards a lapse in appropriation. As you have heard from the Chairman and the EDO, the NRC will utilize carryover to continue to run at full staff for at least the next week. OCFO will monitor funds usage daily, and we will let you know (likely within a few days) if and when it will become necessary to furlough non-excepted staff.

In order to maximize the time of full NRC staffing, we ask that you cancel immediately all conference and travel related training for next week. (All TTC classes will be cancelled until FY 2011 funding is restored. Regional classes and PDC will continue but people should not travel to attend them.) We also ask that you cancel all non-critical travel (including rotations) and limit attendance at events where we are not mandated or it is not critical for us to attend. For your convenience, I have attached planned international travel from OIP and OCFO will send out general travel as well today. If the travel begins later next week or the following week, the office and traveler can wait to cancel until they would incur a hotel penalty which will vary based on the entity. We will also be sending an EDO announcement to staff with this information.

We also ask that you only use overtime during a lapse in funding for mission critical work, and that with the exception of exceptional needs that you not obligate any additional funds on purchase cards, lab agreements after Friday, April 8th until FY 2011 funding is restored.

In the event of a lapse in appropriations, we will be sending you your office "mark" for excepted staff on Monday. This will be in addition to excepted staff that for operations center shift work, Japan site work, and the Japan Task force work which will be provided separately. (Operations center work will move to dedicated shifts as of April 18th.) We will likely need your lists by Tuesday. One thing to remember is that excepted staff should be available for work and not on leave for at least a 3-4 few weeks of a shutdown.

HR and ADM will be reaching out to you with additional guidance and information as required. Please continue to refer staff to our EDO update and to the EDO sharepoint site for information.
<http://portal.nrc.gov/edo/staff/Lists/Announcements/DispForm.aspx?ID=16&Source=http%3A%2F%2Fportal%2Enrc%2Egov%2Fedo%2Fstaff%2Fdefault%2Easpx>

Thank you for all of your efforts and your flexibility during these difficult times.
Mary

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

Attachment FW Report.msg (2560 Bytes) cannot be converted to PDF format.

Lee, Richard

From: Lee, Richard
Sent: Friday, April 08, 2011 4:34 PM
To: Wagner, Katie
Subject: RE: Casto Briefing Sheet -4249 1043 4-07.doc
Attachments: image001.gif

Yes and No. They are asking for the sand/Zr reactions stuff that Dana will provide us on Monday.

From: Wagner, Katie
Sent: Friday, April 08, 2011 4:32 PM
To: Lee, Richard
Subject: RE: Casto Briefing Sheet -4249 1043 4-07.doc

Staff contact: Richard Lee and Hossein Esmaili
Complete?

From: Lee, Richard
Sent: Thursday, April 07, 2011 6:57 PM
To: Wagner, Katie
Subject: RE: Casto Briefing Sheet -4249 1043 4-07.doc


Katie:

The e-mail was sent to me and Charlie. Charlie was out today. Hossein and I reviewed it. A slight changes was made to it and Hossein took care of it while he was at the Op Center this afternoon.

Richard

From: Wagner, Katie
Sent: Thursday, April 07, 2011 4:48 PM
To: Lee, Richard
Subject: RE: Casto Briefing Sheet -4249 1043 4-07.doc

Richard – Who is the staff contact on this? I thought it looked like Jason. – Thanks, Katie

87	4/7/2011	Ops Center (RST)  NEW	Email: RST09 Hoc	Jason Schaperow (x7452)	SPB	Provide input on the sheet to be used by Casto to brief the U.S. Ambassador to ensure consistency with the discussions on 3/18.	Provide input on the sheet to be used by Casto to brief the U.S. Ambassador to ensure consistency with the discussions on 3/18.	Pending
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Sent: Thursday, April 07, 2011 1:47 PM
To: Lee, Richard; Schaperow, Jason
Cc: Wagner, Katie; Gibson, Kathy; Tinkler, Charles
Subject: RE: Casto Briefing Sheet -4249 1043 4-07.doc

Richard

Jason is coming to see you since Charlie is out.

Kathy wanted to add a bullet on how fuel is arranged in the pool based on B5b but it likely is for something else. She did call and said she may have given me a comment but was thinking of something else.

Jason

Please work with Jason.
thanks

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Sent: Thursday, April 07, 2011 1:12 PM
To: Gibson, Kathy
Cc: Santiago, Patricia; Wagner, Katie
Subject: FW: Casto Briefing Sheet -4249 1043 4-07.doc

Kathy:

Kathy:

Charlie needs to weigh in on this one. Casto needs it to brief the U.S. Ambassador.

Thanks, Richard

From: RST09 Hoc
Sent: Thursday, April 07, 2011 12:40 PM
To: Lee, Richard; Tinkler, Charles
Subject: Casto Briefing Sheet -4249 1043 4-07.doc

Richard/Charlie,

Can you please give a quick look to the attached document to see if it is consistent with the discussions on 3/18? If you could send it back to RST09 before 2:00 p.m. with your comments and suggestions, I'd greatly appreciate it. If you cannot review it by 2:00, please let me know so I can include it in the turn-over.

Thanks,
Mirela

Lee, Richard

From: Lee, Richard
Sent: Friday, April 08, 2011 4:59 PM
To: Sheron, Brian
Subject: RE: Science Expert Call Slides for 4/88
Attachments: image001.jpg

O.k. no problem.

From: Sheron, Brian
Sent: Friday, April 08, 2011 4:57 PM
To: Lee, Richard
Subject: FW: Science Expert Call Slides for 4/88

I may skip the call this afternoon. I'm backed up.

From: Larzelere, Alex [<mailto:alex.larzelere@nuclear.energy.gov>]
Sent: Friday, April 08, 2011 4:41 PM
To: DL-NITsolutions
Cc: 'Busby, Jeremy T.'; Dixon, David; Schneider, Steve; Caponiti, Alice
Subject: Science Expert Call Slides for 4/88

Everyone,

Here are the slides for today's call. Once again, if you get an update links message, please just hit cancel.

Regards,

Alex

Alex R. Larzelere
Director, Advanced Modeling and Simulation Office
Office of Nuclear Energy (NE-71)
U.S. Department of Energy
202-586-1906
Alex.Larzelere@nuclear.energy.gov



From: West, Steven
To: Ariano, Carole; Atkinson, Jeanne; Baker, Randal; Bakhsh, Sarah; Barclay, Kevin; Barker, Allan; Bartlett, Bruce; Bayliff, Shirley; Beavers, James; Benjamin, Jamie; Bernardino, Karen; Betancourt, Diana; Bielby, Michael; Bigoness, Jay; Bilik, Tom; Bloomer, Tamara; Boland, Anne; Bonano, Eugenio; Bozga, John; Bramnik, Andrew; Briley, Thomas; Brouillard, Silvia; Brown, Carey; Bucholz, Margaret; Buckley, Patricia; Burton, Stephen; Burza, Justine; Butler, Rodney; Cameron, James; Cardona-Morales, Pedro; Casey, Colleen; Cassidy, John; Chandrathil, Prema; Chart, Org; Choe, Jeannie; Christoffer-Baruch, Gail; Chyu, Doris; Clay, Jim; Cole, Christian; Corujo-Sandin, Jorge; Cudzik, Lynn; Cushman, Brian; Dabbur, Alan; Daley, Robert; Dalzell-Bishop, Jennifer; Dickson, Billy; Doombos, Roger; Draper, Jason; Duncan, Eric; Dunlop, Andrew; Dvorak, Charles; Eck, Timothy; Edwards, Rhex; Egan, Nathan; Ehrig, Tina; Eldridge, Sharon; Ellegood, John; Fahey, MaryKay; Falevits, Zelig; Feliz-Adorno, Nestor; Flowers, Diane; Foltz, Jeffrey; Forster, Sara; Frazier, Cassandra; Freeland, Kendra; Funk, Don; Garmoe, Alex; Garza, Michelle; Gattone, Robert; Giessner, John; Gilliam, Jasmine; Gladden, Karen; Go, Tony; Government Liaison Government Liaison; Gryglak, Magdalena; Grzywa, Mary; Haeg, Lucas; Hane, Nancy; Hannan, Mark; Hansen, Gregory; Hansing, Nicholas; Hartman, Thomas; Haskins, Kimberly; Hausman, Cheryl; Hausman, George; Hays, Robert; Heck, Jared; Heller, James; Hernandez, Cammie; Herr, Michael; Hicks, Beverly; Higgins, Patrick; Hills, David; Holmberg, Mel; Holt, BJ; Imager, R3Imager; Installer, R3nt40go; Jandovitz, John; Janicki, Michele; Jickling, Robert; Johnson, Jessica; Jones, Donald; Jones, Larry; Jones, Michael; Jones, Robert; Jones, Rosemary; Jonsson, Dawn; Jose, Benny; Kamprath, Martha; Keller, Nancy; Kemker, Brian; Kimble, Daniel; King, Michael; Kozak, Laura; Kozak, Thomas; Krsek, Robert; Kryk, Scott; Kulzer, Edward; Kunowski, Michael; Kutlesa, Jure; Kweiser, Janet; LaFlamme, Paul; LaFranzo, Michael; Lambert, Kenneth; Langan, Scott; Langstaff, Ronald; Lanksbury, Roger; Lara, Julia; Lawver, Dale; Learn, Matthew; Lee, Peter; Lennartz, Jay; Lerch, Robert; Lin, Bill; Linn, Linda; Lipa, Christine; Logaras, Haral; Lopez, Crystal; Lords, David; Loudon, Patrick; Loughheed, Patricia; Luo, Ming; Lynch, James; Magee, Thomas; Mallon, Joan; Marshfield, Mark; Martinez, Christine; Maynen, Joseph; McCann, Mike; McCormick, Chad; McCraw, Aaron; McGhee, James; McNeil, Dell; Meghani, Vijay; Melendez-Colon, Daneira; Miles, Daniel; Mitchell, Mark; Mittyng, Viktoria; Moore, Carl; Morris, R. Michael; Mullauer, James; Munir, Mohammad; Murray, Jenny; Murray, Robert; Myers, Valerie; Neurauter, James; Ng, Raymond; Null, Kevin; O'Dwyer, Gerard; O'Brien, Kenneth; Olteanu, Carmen; Orlikowski, Robert; Orth, Steven; Palagi, Bruce; Passehl, Dave; Pavon, Sandy; Pechous, Donna; Pederson, Cynthia; Pelke, Patricia; Pelke, Paul; Peterson, Hironori; Phalen, Martin; Phillips, Charles; Phillips, Monte; Pirok, Donna; Piskura, Deborah; Pope, Michael; R3-Events Operations; R3 IRC; R3 WEBUSER; R3BACKUP; r3exclsvc; R3EXTEST1; R3EXTEST2; R3RESTEST; R3SCAN, R3scan; Ramirez, Frances; Ray, Teresa; Reeser, David; Reichhold, William; Resource, OPA3; Reynolds, Steven; Riemer, Kenneth; Ring, Mark; Robbins, John; Rodriguez, Lionel; Rubic, Mark; Ruiz, Robert; Rutkowski, John; Sanchez Santiago, Elba; Sand, Duane; Sandrik, Lauren; Satorius, Mark; Scarbary, April; Schmidt, Colleen; Sellers, Loretta; Shah, Nirodh; Shaikh, Atif; Shaughnessy, Patrice; Shear, Gary; Sheldon, Stuart; Simmons, Tove; Skokowski, Richard; Slawinski, Wayne; Smagacz, Phillip; Smith, Desiree; Snell, William; Sotiropoulos, Dina; Stauffer, Gloria; Stoedter, Karla; Stone, AnnMarie; Streit, Katherine; Stricklin, Rebecca; Swarc, Dariusz; Szymanski, James; T3X001 Training; T3X011; T3X012; T3X013; T3X014; T3X015; T3X016; T3X017; T3X018; T3X019; T3X020; t3x021; T3X022, Training; T3X023, Training; T3X024, Training; Tambling, Scott; Tapp, Jeremy; Taylor, Thomas; Taylor, Tiresha; Te, Ryan; Thomas, Christopher; Thorpe-Kavanaugh, Meghan; Tilton, Caroline; Togliatto, Marcia; Tomczak, Tammy; Trainer; Training T3X002; Training T3X003; Training T3X004; Training T3X005; Training T3X006; Training T3X007; Training T3X008; Training T3X009; Training T3X010; Tran, Frank; Ulie, Joseph; Valos, Nicholas; Vassos, John; Voss, Patricia; Walton, Raymond; Warren, Geoffrey; Wendoll, Rowlene; West, Steven; White, Joan; Wiedeman, Darrel; Wilson, Adam; Winter, Robert; Wright, Geoffrey; Zerth, Marjorie; Zoia, Charles; Zurawski, Paul
Subject: "An Hour With Jack" - Come Hear About Jack's Experience in Japan
Date: Friday, April 08, 2011 3:31:29 PM
Attachments: image001.png

As I mentioned this morning during the 8:15 meeting, Jack Giessner has just returned home from Japan and will return to the office Monday, April 11th. Jack has offered to tell us about his experience in Japan and answer our questions.

We've scheduled "An Hour With Jack" immediately after the 8:15 meeting Monday morning in the main conference room. Please join us.

Steve

Steven West, Director

Division of Reactor Projects

NRC, Region III

630-829-9600

Steven.West@nrc.gov

T/258

Trapp, James

From: LIA06 Hoc
Sent: Sunday, April 10, 2011 9:36 PM
To: Liaison Japan; ET07 Hoc; ET02 Hoc; ET01 Hoc; LIA01 Hoc; LIA02 Hoc; LIA03 Hoc; LIA04 Hoc; LIA05 Hoc; LIA06 Hoc; LIA07 Hoc; LIA08 Hoc; LIA09 Hoc; LIA10 Hoc; LIA11 Hoc; LIA12 Hoc; OST05 Hoc
Cc: Blamey, Alan; Karas, Rebecca; Carpenter, Cynthia; Blount, Tom
Subject: Consortium Call Notes for 4-10-2011.doc
Attachments: Consortium Call Notes for 4-10-2011.doc

As per previous discussion, I've attached notes from earlier Consortium Call.

Andy Campbell
LT Dir.

T/2011

Consortium Call Notes for 4/10/2011 20:00 EDT

Cindy Carpenter led teleconference meeting starting at 20:00 hrs on 4/10/2011. Andy Campbell, Tom Blount and Rebecca Karas participating for NRC/ET & LT.

Roll call of participants

Discussion of U.S. – Japan Nuclear Related Assistance Tracker (The Matrix)

Item #

Emb / NRC Item/Issue & Status Update

- 21 / NA Devices for condensing rad contaminated water - DOE - no update
- 21a / 30,31&32 Assistance in dealing with accumulated TB water - provided update that new options paper delivered on 7th to embassy.
- 21b / 30&31 Water storage tanks/trailer - waiting on feedback from GOJ. Evaluating shipping from WC and EC and airlift options. GOJ had series of additional questions also. Need to get back to GOJ on shipping methods.
- 21c / 32 Evap technologies - no update
- 21e / 13 Direct requests from GOJ to PNNL on water decon and storage - no update
- 21f / NA Determine whether temp radwaste processing skids avail - provided info to TEPCO on 3/28 - have phone call with them tonight. Blamey - pass info to Japan team to forward to NISA. TEPCO has been put in touch with U.S. vendors and plants with avail equip. They are working directly with vendors to send equipment over. Can close after provide info to NISA.
- 21g-i / 30-32 Temp holding tanks - no update - wait for next call
- 4 / 19 Germanium semiconductor detectors - Cherry - item will be broken down in next version based on where each detector is being provided.
- 13a / 34 Rad survey meters/dosimetry/masks - no update
- 2a / 20&22 Ground rad monitoring devices - Cherry - gotten approval to place. US people placing devices are talking to Japanese counterparts in prep for installing.
- 2b / NA Blamey - have request in to GOJ to discuss issue. Several ready to ship from Bruce - need to find out if they need in near term, or if sea is OK. Bruce will ship 2 early this week by air.
- 5 / 21 robotic monitoring devices - in-country. Title transferred to Japan. When equipment reaches site, will go out with METI to work with Japanese on equipment.

- 5a / NA Info on shielding materials for vehicles - no change. They seem to be greatly overestimating their shielding needs. We are ready to assist. Need to do rad mapping first.
- 5b / NA Rad hardened camera/gamma-camera - same status as robot
- 18 / 27 KI prep - still with Japanese lawyers
- 20 / NA HX to be used for SFP - working with commercial firm
- 24 / NA Medical triage - no update
- 25 / 28 Extinguishant/coolant - no update Waiting on GOJ for more info
- 26 / NA Incorporate PNNL into SFP crisis management dialogue - Cherry - should be closed - PNNL is part of process.
- 27,29,29b/NA US coop in bringing priv ind engineers into shielding - haven't heard from GOJ yet
- 32 / 111 GEH on N2 purge analysis - have analysis - going to look at
- 33 / NA Clarify for RST indications to assess RPV integrity/core location - received U2 analysis - lower priority, need to stay focused on mitigation, regardless of location
- 34 / NA List of alt flowpaths for purging - ongoing with RST
- 35 / NA Confirm RST recommendation Re: RPV inject. - ongoing with RST

Alan Blamey - embassy having meeting on taking over list and logistics - can discuss tomorrow and how we transition moving forward.

Lee, Richard

From: Lee, Richard
Sent: Monday, April 11, 2011 9:09 AM
To: Wagner, Katie
Subject: RE: Casto Briefing Sheet -4249 1043 4-07.doc
Attachments: image001.gif

yes

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Thanks,
Mirela

Howell, Art

From: Hay, Michael
Sent: Monday, April 11, 2011 10:35 PM
To: R4
Cc: Casto, Chuck
Attachments: IMG_0011.jpg; IMG_0017.jpg

Hello all from Japan.

Elmo, Chuck, and I are doing well, although things here are busy and at times somewhat scary as we go through these earthquakes. We worry about the building we're in, then worry more about what is going on at the crippled Fukushima facility. Yesterdays quake resulted in them losing their temporary water source to the reactors for almost an hour. Look forward to getting back and seeing all the friendly faces in Region IV. I'll send a picture of Chuck next that you all will enjoy. We have some more pictures, it takes long time to send them though so I'll bring them home with me hopefully this Saturday.

Take care all,
See you soon.
Mike

Gray, Mel

From: Henderson, Pamela
Sent: Thursday, April 14, 2011 11:36 AM
To: Ferdas, Marc; Hinson, Felicia; Lew, David; Lorson, Raymond; McKinley, Raymond; McNamara, Nancy; Roberts, Darrell; Screnci, Diane; Sheehan, Neil; Tifft, Doug; Weerakkody, Sunil; Wilson, Peter; Bellamy, Ronald; Burritt, Arthur; Dentel, Glenn; Gray, Mel; Jackson, Donald; Krohn, Paul; Cahill, Christopher; Dean, Bill; Conte, Richard; Cook, William; Doerflein, Lawrence; Hansell, Samuel; Schmidt, Wayne; Walker, Tracy; Dwyer, James; Collins, Daniel; Dean, Bill; Clifford, James; Baker, Pamela; Rogge, John; Miller, Chris; Welling, Blake; Miller, Marie
Subject: Today's Commissioner's Assistants Briefing on Japanese Earthquake-Tsunami

From today's (4/14) 10 am HOO briefing of Commissioners Assistants on Japan event: No significant changes. Some good news... the Japanese were able to confirm that the Unit 4 spent fuel pool (SFP) has remained filled with water above the fuel rods. Isotopic analysis has indicated that there is no fuel damage in the Unit 4 SFP. The analysis did detect low levels of iodine-131, however, they do not believe it is from the SFP, rather they believe it is contamination from another source on site.

I will forward the Executive Team's Update when I receive it.

From: Henderson, Pamela
Sent: Wednesday, April 13, 2011 1:46 PM
To: Ferdas, Marc; Hinson, Felicia; Lew, David; Lorson, Raymond; McKinley, Raymond; McNamara, Nancy; Roberts, Darrell; Screnci, Diane; Sheehan, Neil; Tifft, Doug; Weerakkody, Sunil; Wilson, Peter; Bellamy, Ronald; Burritt, Arthur; Dentel, Glenn; Gray, Mel; Jackson, Donald; Krohn, Paul; Cahill, Christopher; Dean, Bill; Conte, Richard; Cook, William; Doerflein, Lawrence; Hansell, Samuel; Schmidt, Wayne; Walker, Tracy; Dwyer, James; Collins, Daniel; Dean, Bill; Clifford, James; Baker, Pamela; Rogge, John; Miller, Chris
Subject: OUO -- 1200 EDT (April 13, 2011) USNRC Earthquake-Tsunami Update

4/13/11 update attached.

From: HOO Hoc
Sent: Wednesday, April 13, 2011 12:56 PM
To: HOO Hoc
Subject: FW: OUO -- 1200 EDT (April 13, 2011) USNRC Earthquake-Tsunami Update

FYI

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



From: LIA07 Hoc
Sent: Wednesday, April 13, 2011 12:13 PM
To: LIA07 Hoc
Subject: OUO -- 1200 EDT (April 13, 2011) USNRC Earthquake-Tsunami Update

T/262

Attached, please find a 1200 EDT, April 13, 2011, status update from the US Nuclear Regulatory Commission's Emergency Operations Center regarding the impacts of the earthquake/tsunami.

Please note that this information is "Official Use Only" and is not intended to be shared outside of the Federal government without NRC approval.

Please call the NRC's Headquarters Operations Officer at 301-816-5100 with questions.

Thank you,
Sara

Sara Mroz
US Nuclear Regulatory Commission
LIA07.HOC@nrc.gov (Operations Center)

- 0189

APX A - 1