

Valentine, Nicholee

From: Bowman, Eric
Sent: Thursday, March 17, 2011 3:15 PM
To: Westreich, Barry
Cc: Thomas, Eric
Subject: ACTION REQUESTED: IN Concurrence
Attachments: IN 11-xx B5b Earthquake.docx

Importance: High

Happy to be able to help. I've been trying to get in touch w/Eric Thomas to discuss the DIRS review, but haven't been able to. I plan on putting you down for the actual concurrence on the IN. Have you had a chance to look at it? Latest copy is attached.

V/R Eric

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

From: Westreich, Barry
Sent: Thursday, March 17, 2011 3:11 PM
To: Bowman, Eric
Subject: RE: B.5.b comm plan

thanks

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

From: Bowman, Eric
Sent: Thursday, March 17, 2011 2:42 PM
To: Westreich, Barry
Subject: RE: B.5.b comm plan

Here it is.

V/R Eric

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

From: Westreich, Barry
Sent: Thursday, March 17, 2011 2:24 PM
To: Bowman, Eric
Subject: B.5.b comm plan

Can you send me a copy of the comm plan you showed Eric today?

Sent from NRC blackberry
Barry Westreich
Deputy Director for Security Oversight
Office of Nuclear Security and Incident Response USNRC
301-415-6828 (office)

(b)(6) (cell)

mmmm / 12.4

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

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

ADDRESSEES

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

PURPOSE

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

DESCRIPTION OF CIRCUMSTANCES

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

Tokyo Electric Power Company, the operator of the plant, resorted to injecting sea water and boric acid into the reactor vessels Units One through Three, which had been operating at the time of the earthquake and subsequently scrammed, in an effort to cool the fuel and ensure they remained shutdown. Hydrogen explosions from overheated fuel-water reaction damaged the secondary containment, apparently leaving the primary containment functional in all three units. In addition, all three units suffered from decreasing SFP levels.

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Units Four through Six had been shutdown for refueling outages at the time of the earthquake, with the core for Unit Four offloaded to the SFP, which suffered a total loss of water along with an inability to retain water. The SFPs for Units Five and Six appeared intact, but heating up.

The areas surrounding Fukushima Daiichi were evacuated under the instructions of the Government of Japan.

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

BACKGROUND

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

As a result of the events of September 11, 2001, the NRC issued EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (the ICM Order) dated February 25, 2002, (designated safeguards information (SGI)), which modified then-operating licenses for commercial power reactor facilities to require compliance with specified interim safeguards and security compensatory measures. Section B.5.b of the ICM Order requires licensees to adopt mitigation strategies using readily available resources to maintain or restore core cooling, containment, and SFP cooling capabilities to cope with the loss of large areas of the facility due to large fires and explosions from any cause, including beyond-design-basis aircraft impacts. By letter dated February 25, 2005 the NRC staff provided guidance for implementing Section B.5.b of the ICM Order. This guidance is designated SGI and is commonly referred to as the B.5.b Phase 1 Guidance.

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) to gather information on actions taken in response to the February 25, 2005, guidance. The NRC staff then convened assessment panels to evaluate the adequacy of licensee actions taken to date. These assessment panels developed acceptance criteria to determine the adequacy of licensee responses to each of the 34 expectations identified in Attachment B to the B.5.b Phase 1 Guidance. On January 18 and 26, 2006, the NRC staff met with industry representatives and provided further clarifying information, including staff acceptance criteria on how licensees could meet Section B.5.b of the ICM Order. The NRC clarifying information for acceptance of each expectation was disseminated in Section 05.02.c and 05.02.d of TI 2515/168 (SGI). This

clarifying information represents acceptable methods, along with staff acceptance criteria, for satisfying the expectations. The staff used this clarifying information in developing its safety evaluation and inspection of current reactor licensee's compliance with Section B.5.b of the ICM Order.

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

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

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

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

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

as required by § 50.54(hh)(2) of this chapter." This rulemaking also added 10 CFR 50.54(hh)(2) in order to impose the same mitigating strategies requirements on new reactor applicants and licensees as those imposed by the ICM Order and associated license conditions. The Statement of Considerations for this rulemaking specifically noted that the requirements described in Section 50.54(hh) are for addressing certain events that are the cause of large fires and explosions that affect a substantial portion of the nuclear power plant and are not limited or directly linked to an aircraft impact. In addition, the rule contemplates that the initiating event for such large fires and explosions could be any number of beyond-design basis events, including natural phenomena such as those described in GDC 2 (i.e., earthquakes, tornadoes, floods, tsunami, and seiches), without regard to the GDC 2 limitation in magnitude of the design bases for the natural phenomena.

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

DISCUSSION

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

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

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

PAPERWORK REDUCTION ACT STATEMENT

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

Public Protection Notification

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

CONTACTS

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

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

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

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

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Timothy J. McGinty, Director
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.

Distribution:
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OFFICE	NRR/DPR/PGCB	TECH EDITOR	NRR/DIRS/D	NRR/DE/D
NAME	EBowman			PHiland (GWilson for)
DATE	03/17/11	X/XX/11 email		03/17/2011 email
OFFICE	NSIR/DSP	DPR/PGCB/LA	DPR/PGCB/BC	NRR/DPR/D
NAME	RCorreia	CHawes	SRosenberg	TMcGinty
DATE	03/17/2011 email	03/17/2011		

OFFICIAL RECORD COPY

Valentine, Nicholee

From: Bowman, Eric
Sent: Thursday, March 17, 2011 4:23 PM
To: Rosenberg, Stacey
Subject: FW: IN edits from IOEB
Attachments: IN 11-xx B5b Earthquake-dirs inputs_Rev1.docx

FYI.

E

From: Thomas, Eric
Sent: Thursday, March 17, 2011 4:22 PM
To: Bowman, Eric
Subject: FW: IN edits from IOEB

FYI...courtesy advance copy...please wait for Barry's edits before you send to the Ops Center.

Sorry I put you off for so long today.

Eric Thomas

U.S. Nuclear Regulatory Commission
NRR/DIRS/IOEB
OWFN-7E24
eric.thomas@nrc.gov
301-415-6772 (office)
(b)(6) (mobile)

From: Thomas, Eric
Sent: Thursday, March 17, 2011 4:21 PM
To: Westreich, Barry
Cc: Thorp, John
Subject: IN edits from IOEB

Barry,

See attached edits from John and I.

Please forward to Eric Bowman.

Eric

Eric Thomas

U.S. Nuclear Regulatory Commission
NRR/DIRS/IOEB
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

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

ADDRESSEES

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

PURPOSE

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

DESCRIPTION OF CIRCUMSTANCES

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

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

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

~~Hydrogen explosions from overheated fuel-water reaction damaged the secondary containment, apparently leaving the primary containment functional in all three units. In addition, all three units suffered from decreasing SFP levels.~~

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

~~The areas surrounding Fukushima Daiichi were evacuated under the instructions of the Government of Japan. The Japanese Government ordered an evacuation out to 20 km for the area surrounding Fukushima Daiichi. Residents out to 30 km were ordered to shelter in place.~~

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

BACKGROUND

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

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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 is designated SGI and is commonly referred to as the B.5.b Phase 1 Guidance.

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) to gather information on actions taken in response to the February 25, 2005, guidance. The NRC staff then convened assessment panels to evaluate the adequacy of licensee actions taken to date. These assessment panels developed acceptance criteria to determine the adequacy of licensee responses to each of the 34 expectations identified in Attachment B to the B.5.b Phase 1 Guidance. On January 18 and 26, 2006, the NRC staff met with industry representatives and provided further clarifying information, including staff acceptance criteria on how licensees could meet Section B.5.b of the ICM Order. The NRC clarifying information for acceptance of each expectation was disseminated in Section 05.02.c and 05.02.d of TI 2515/168 (SGI). This clarifying information represents acceptable methods, along with staff acceptance criteria, for satisfying the expectations. The staff used this clarifying information in developing its safety evaluation and inspection of current reactor licensee's compliance with Section B.5.b of the ICM Order.

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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's functions during seismic events appropriate for the site and development of mitigating strategies of potential vulnerabilities.

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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

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301-415-2963
e-mail: Eric.Bowman@nrc.gov

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Distribution:
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ADAMS Accession Number: MLXXXXXXX

OFFICE	NRR/DPR/PGCB	TECH EDITOR	NRR/DIRS/D	NRR/DE/D
NAME	EBowman			PHiland (GWilson for)
DATE	03/17/11	X/XX/11 email		03/17/2011 email
OFFICE	NSIR/DSP	DPR/PGCB/LA	DPR/PGCB/BC	NRR/DPR/D
NAME	RCorreia	CHawes	SRosenberg	TMcGinty
DATE	03/17/2011 email	03/17/2011		

OFFICIAL RECORD COPY

Lee, Samson

From: Leeds, Eric
Sent: Thursday, March 17, 2011 2:38 PM
To: Dean, Bill; McCree, Victor; Satorius, Mark; Collins, Elmo; Lew, David; Wert, Leonard; Pederson, Cynthia; Howell, Art; Boger, Bruce; Grobe, Jack; Wiggins, Jim; Evans, Michele; Sheron, Brian; Uhle, Jennifer; Johnson, Michael; Holahan, Gary; Haney, Catherine; Dorman, Dan; Miller, Charles; Moore, Scott; Doane, Margaret; Mamish, Nader; Boyce, Thomas (OIS); Schmidt, Rebecca; Powell, Amy; Brenner, Eliot; Hayden, Elizabeth; McDermott, Brian
Cc: Virgilio, Martin; Weber, Michael; Ash, Darren; Nguyen, Quynh; Meighan, Sean; Kammerer, Annie; Landau, Mindy; Wittick, Brian; Morris, Scott; Bahadur, Sher; Blount, Tom; Brown, Frederick; Cheok, Michael; Galloway, Melanie; Glitter, Joseph; Givvines, Mary; Hiland, Patrick; Holian, Brian; Howe, Allen; Lee, Samson; Lubinski, John; McGinty, Tim; Nelson, Robert; Quay, Theodore; Ruland, William; Skeen, David
Subject: Japan event Q&As - additional info

I've assigned Bob Nelson, Deputy Director, Division of Operating Reactor Licensing, as the NRR Coordinator for External Communications related to NRR's response to the recent events in Japan. Nelson and his team will be responsible for coordinating the development and review of related Qs & As, and coordinating the response to related controlled correspondence tasked to NRR, including related 2.206 petitions. Assisting Nelson will be Sean Meighan and Quynh Nguyen from the NRR front office, Eric Thomas from DIRS and a communications "tiger team" being formulated in DORL headed by Mike Markley. Harold Chernoff will also provide assistance as needed. Please forward all of your requests for support in this area to Nelson. (Extension 7298 and cell: (b)(6))

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

mmmm/126

Kolb, Timothy

From: junichi.soma.pv@hitachi.com
Sent: Thursday, March 17, 2011 10:28 PM
To: Kolb, Timothy
Cc: afiovent@bechtel.com; Cemercha@bechtel.com; kuriko.nagata.ry@hitachi.com; masahiko.nakane.rr@hitachi.com; masahito.yoshimura.fa@hitachi.com; shunsuke.utena.dp@hitachi.com
Subject: Re: Need your help; Per your support to Japan; Jack Soma, Hitachi ;

Dear Mr. Tim Kolb,

I got your contact information from Mr. Ned Merchant of Bechtel.
Ned said NRC is working with Japan side to send hose pipes and pumps to Yokota Base.

As Hitachi, we made it ready to receive the components and assemble them at Hitachi Works (our factory). However, we need to know who (in Japanese government side) is communicating with your side to prepare ourselves to receive the components in ahead of time. We believe some one in Ministry of Foreign Affairs of Japan is contacting with US side.
We are also looking for the contact in Japanese government, too, though.

Regards,

Junichi (Jack) Soma

Hitachi-GE Nuclear Energy, Ltd

<Mobile Phone> —
+81-80-3533-5886 —

mmmm/12/17

From: Trapp, James
To: Hughart, Joe
Cc: Rutland, William; McGinty, Tim; Bloom, Steven; Monninger, John; Cook, William
Subject: RE: Fwd: URGENT: COOLING SOLUTION
Date: Friday, March 18, 2011 8:14:15 PM

Thanks Joe - I'll have the guys check it out.

From: Hughart, Joe [jhughart@ofda.gov]
Sent: Friday, March 18, 2011 3:37 PM
To: Trapp, James
Subject: Fwd: Fwd: URGENT: COOLING SOLUTION

Jim, please see message below. Thoughts?

Best,
- Joe

From: Lanakila Achong <lanakila@in-fog.com>
To: Hughart, Joe
Cc: Beed, John [USAID]; eivy <eivy@in-fog.com>
Sent: Fri Mar 18 15:28:58 2011
Subject: Fwd: URGENT: COOLING SOLUTION
Gentlemen,

This is the email we also sent to the Japanese Embassy in Washington. We were directed your way by the Naval Sea Systems Command. Our containment system WILL work to cool down and maintain cooling of the nuclear systems in Japan, it will work with sea or fresh water and we would like to donate it to the effort.

We're in the business of safety and saving lives, please help us do so as soon as possible for the people in jeopardy in Japan and around the world.

Thank You!

Lanakila (Kila) Achong
Project Manager
International Fog, Inc.
<http://www.in-fog.com/>
888.574.4474
CELL: (b)(6)

----- Forwarded message -----
From: Lanakila Achong <lanakila@in-fog.com>
Date: Fri, Mar 18, 2011 at 11:38 AM
Subject: URGENT: COOLING SOLUTION
To: earthquake@ws.mofa.go.jp

Urgent,

We are from International Fog, Inc. <http://www.in-fog.com/index.php> and WE CAN provide you with a solution to cooling down the nuclear sites in trouble in Japan

Currently our 1" and 1.5" Containment System nozzles are used by Oil, Gas and Electric companies to protect hot spot areas such as pump rows and even electrical substations.
<http://www.in-fog.com/industrial-containment-system.php>

mmmm/128

We can make an 8" version of our nozzle to be installed on a fixed water supply system.

EACH NOZZLE WILL CREATE A 100 TO 125 FT. FULL CONE UNINTERRUPTED FOG PATTERN THAT WILL COOL EACH SYSTEM AND PROVIDE A BARRIER THAT REDUCES HEAT BY 90%

Lanokila (Kila) Achong
Project Manager
International Fog, Inc.
<http://www.in-fog.com/>

628,524,4934

CELL (b)(6)

From: OST01 HOC
Sent: Monday, March 28, 2011 1:36 AM
To: PMT02 Hoc; PMT11 Hoc; Hoc, PMT12
Cc: FOIA Response.hoc Resource
Subject: FW: Tap Water in Tokyo

From: HOO Hoc [mailto:HOO.Hoc@nrc.gov]
Sent: Monday, March 28, 2011 1:35 AM
To: LIA07 Hoc; OST01 HOC; OST02 HOC; OST03 HOC
Subject: FW: Tap Water in Tokyo

From: (b)(6)
Sent: Monday, March 28, 2011 1:34:30 AM
To: (b)(6)

(b)(6)

Subject: FW: Tap Water in Tokyo
Auto forwarded by a Rule

This email is UNCLASSIFIED.

From: Sano, Mikako
Sent: Monday, March 28, 2011 2:33 PM
To: Howard, E. Bruce; Petrie, Ronald C

mmmm/129

Cc: Yamashiro, Ritsu; JapanEmbassy, TaskForce
Subject: Tap Water in Tokyo

You may have seen the data already, but just in case.

Radioactive iodine-131 has not been detected from a sample of tap water taken at in Kanamachi Purification Plant, Tokyo at 6:00 a.m. this morning.

Mikako Sano

Wagner, Katie

From: Wagner, Katie
Sent: Friday, March 18, 2011 10:25 AM
To: Gibson, Kathy
Cc: Santiago, Patricia; Lee, Richard
Subject: FW: Japan requests

Kathy can we talk about the Sharepoint site for a minute? I want to make sure that it will capture the information you want in the way you want it before I populate it. Thanks! - Katie

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

From: Jimenez, Juan
Sent: Thursday, March 17, 2011 4:02 PM
To: Santiago, Patricia; Wagner, Katie
Cc: Lee, Richard
Subject: RE: Japan requests

I created a database in SharePoint (List) here: <http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>

And also here is a printable page (report) <http://portal.nrc.gov/edo/res/DSA/reports/japan-requests.aspx>

I spoke to Katie an hour ago and she is going to contact me when she gets out of a meeting..

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

From: Santiago, Patricia
Sent: Thursday, March 17, 2011 3:40 PM
To: Wagner, Katie; Jimenez, Juan
Cc: Lee, Richard
Subject: Japan requests

Kathy and mike would like a report at the end of the day on the requests we are receiving. I am not sure but is any available today. Thx

Sent from an NRC BlackBerry
Patricia Santiago

(b)(6)

mmmm/1/20

Wagner, Katie

From: Wagner, Katie
Sent: Friday, March 18, 2011 12:26 PM
To: Jimenez, Juan
Subject: title

Here's the title I want: "Status of Japan-Related Requests"

Thanks for all your help!

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

From: Wagner, Katie
Sent: Friday, March 18, 2011 11:36 AM
To: Jimenez, Juan
Subject: FW: Japan requests

Juan,

I just looked at the pages and realized I forgot to mention a couple of things:

- Please make the printable page (report) reflect the changes made to the List today (ie. Notes are now "Deliverables" and branch field added).
- Also, this is a minor thing but if you could change the title from "Status of Japan Related Requests" to "Status of Japan-Related Requests" that would be great.

I will call soon to clarify something.

Thanks,
Katie

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

From: Jimenez, Juan
Sent: Thursday, March 17, 2011 4:02 PM
To: Santiago, Patricia; Wagner, Katie
Cc: Lee, Richard
Subject: RE: Japan requests

I created a database in SharePoint (List) here: <http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>

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I spoke to Katie an hour ago and she is going to contact me when she gets out of a meeting..

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

From: Santiago, Patricia
Sent: Thursday, March 17, 2011 3:40 PM
To: Wagner, Katie; Jimenez, Juan
Cc: Lee, Richard
Subject: Japan requests

Kathy and mike would like a report at the end of the day on the requests we are receiving. I am not sure but is any available today. Thx

Sent from an NRC BlackBerry

Patricia Santiago

(b)(6)

Wagner, Katie

From: Wagner, Katie
Sent: Friday, March 18, 2011 2:50 PM
To: Lee, Richard
Subject: RE: SFP Recommendations -- Update

Richard it is entered now (#17), please take a look and tell me if information for that particular entry looks ok.
<http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>

– Thanks, Katie

From: Lee, Richard
Sent: Friday, March 18, 2011 2:34 PM
To: Wagner, Katie
Cc: Gibson, Kathy; Scott, Michael
Subject: FW: SFP Recommendations -- Update

Please enter this (if you have not) to our share point site. This documented the option paper that Op Center will forward to the NRC teams at the U.S. Embassy in Tokyo to provide U.S. advice to the Japanese team on managing the Fukushima crisis.

From: RST01 Hoc
Sent: Friday, March 18, 2011 1:13 PM
To: Modeen, David
Cc: Tinkler, Charles; Lee, Richard; Gordon, Matthew; RST07 Hoc
Subject: RE: SFP Recommendations -- Update

Please send to members of the phone group

From: Modeen, David [<mailto:dmodeen@epri.com>]
Sent: Friday, March 18, 2011 10:45 AM
To: RST01 Hoc; Edsinger, Kurt
Subject: RE: SFP Recommendations -- relative to criticality concerns

Joe, working on it. When we have some insights, we'll pass along.
Dave

Director, External Affairs
EPRI Nuclear Power Sector
704-595-2670 (work)
(b)(6) (cell)
dmodeen@epri.com

From: RST01 Hoc [<mailto:RST01.Hoc@nrc.gov>]
Sent: Friday, March 18, 2011 10:23 AM
To: Modeen, David
Subject: RE: SFP Recommendations -- relative to criticality concerns

Dave,

We are trying to get up to speed on that issue, so any thoughts you have will be appreciated.

Joe Williams
RST Coordinator

From: Modeen, David [<mailto:dmodeen@epri.com>]
Sent: Friday, March 18, 2011 10:05 AM
To: RST01 Hoc
Subject: RE: SFP Recommendations

I will distribute, Joe. Thanks.

I didn't want to complicate the call, but would like to know if NRC staff has an assessment (not a calculation of the actual SFPs at 1F) as to the potential risk of a criticality configuration resulting from any of those strategies. Seems very unlikely but that is just a judgment. Any work done on your end on that?

Dave

Director, External Affairs
EPRI Nuclear Power Sector
704-595-2670 (work)

(b)(6)

dmodeen@epri.com

From: RST01 Hoc [<mailto:RST01.Hoc@nrc.gov>]
Sent: Friday, March 18, 2011 10:00 AM
To: Modeen, David
Cc: Wall, James; Edsinger, Kurt; RST07 Hoc
Subject: RE: SFP Recommendations

Dave,

Here is NRC recommendation summary. Please ensure all phone call participants receive a copy.

Joe Williams
RST Coordinator

From: Modeen, David [<mailto:dmodeen@epri.com>]
Sent: Friday, March 18, 2011 8:55 AM
To: RST01 Hoc
Cc: Wall, James; Edsinger, Kurt
Subject: SFP Recommendations

Following up from the morning telcon, EPRI Contacts are:

David Modeen – dmodeen@epri.com
Kurt Edsinger – kedsinge@epri.com
James (Joe) Wall – jwall@epri.com

FYI, I am coordinating EPRI's response. Any requests for information or discussion on any other technical topic, the NRC Operations Center duty officer should feel free to contact me any time.

Dave

Director, External Affairs
EPRI Nuclear Power Sector
704-595-2670 (work)

(b)(6)

dmodeen@epri.com

Nelson, Robert

From: Nelson, Robert
Sent: Friday, March 18, 2011 3:37 PM
To: Thomas, Eric
Cc: Meighan, Sean; Nguyen, Quynh; Tam, Peter; Markley, Michael
Subject: RE: Q's and A's

You're not wasting your time. Please complete.

NELSON

From: Thomas, Eric
Sent: Friday, March 18, 2011 3:34 PM
To: Markley, Michael
Cc: Meighan, Sean; Nguyen, Quynh; Nelson, Robert; Tam, Peter
Subject: Q's and A's

I estimate I have answers to about 50-60% of the questions based on conversations in the Ops Center. It's all written in chicken scratch on a hard copy I have right now. I am typing them up as we speak.

I did not address the questions specific to Pilgrim/Seabrook/VY.

Let me know if I am wasting my time typing all this up.

I'll email it out when I am finished (4:30 ish).

Eric

Eric Thomas

U.S. Nuclear Regulatory Commission
NRR/DIRS/IOEB
OWFN-7E24
eric.thomas@nrc.gov
301-415-6772 (office)
(b)(6) mobile)

From: Wiggins, Jim
Sent: Friday, March 18, 2011 9:46 AM
To: ET07 Hoc
Subject: FW: Additional support

From: Virgilio, Martin
Sent: Thursday, March 17, 2011 11:14 PM
To: Casto, Chuck
Cc: Monninger, John; Sheron, Brian; Wiggins, Jim
Subject: Additional support

Chuck

Note that we engaged DOE NE management to turn off any plans to have them send a team to Japan. Brian will follow up again on day shift.

Note the message below for additional options. I have worked with Gil in the past and would recommend him.

Marty

From: Zigler, Gilbert [mailto:gzigler@alionscience.com]
Sent: Thursday, March 17, 2011 1:22 PM
To: Virgilio, Martin
Subject: RE: Message

Marty:

Thanks for taking the time to respond. I would like to inform you that Bahman Atefi, Alion's Chairman & CEO, stands ready to provide pro-bono technical support (including travel to Japan) to support the request by the Japanese government for technical assistance concerning the Fukushima accident. Alion has personnel who are very experienced in the ECCS performance analysis of BWRs as well as post-accident analysis. I was personally involved in the TMI accident—arriving on-site 16 hours after the reactor scram to establish reactor vessel water level monitoring—and became very familiar with plant responses to upset conditions. Over the last 6 years I have also had significant interactions and performed multiple ECCS system analyses for TEPCO, and could facilitate obtaining additional sources of information. Dr. Peter Mast was a consultant to the Kemeny Commission Technical Task Force that investigated the TMI accident and co-authored a report at Los Alamos to provide an early estimate of fuel damage in the plant. Steve Unikewicz just recently left the NRC and was a qualified member of the Incident Response Team as well as a Reactor Safety Team counterpart to the Protective Measure Team, Red Team. Previous to his work at NRC, Steve was a severe accident team lead at Millstone I. Alion has been actively engaged in CFD modeling of post-accident reactor vessel thermal hydraulics by virtue of performing ECCS analysis for both PWRs and BWRs. I would suggest that Alion could provide in-depth technical support in documenting and understanding the accident progression at each of the Fukushima Daiichi plants.

mmmm/13H

Please let me know who I should contact either within the NRC or the US Agency for International Development to integrate Alion into the US team supporting the Fukushima accident response. We would like to be of assistance, and your help in facilitating our involvement would be greatly appreciated.

Gilbert Zigler
Senior Scientist/Engineer
Alion Science and Technology
6200 Uptown Blvd NE, Suite 120
Albuquerque, NM 87110

Phone:
Albuquerque: (505) 872-1089 ext 126
Colorado: (970) 882-8066
Mobile: (b)(6)

From: Virgilio, Martin [mailto:Martin.Virgilio@nrc.gov]
Sent: Wednesday, March 16, 2011 10:28 PM
To: Zigler, Gilbert
Subject: Message

Hi Gil

I understand that you have been trying to get in touch. I have been working night shift this week in support of our team in Japan. Is there something we can discuss by e mail.

Marty

From: Leeds, Eric
To: Virgilio, Rosetta; Johnson, Michael; Sheron, Brian; Haney, Catherine
Cc: Dorman, Dan; Santiago, Patricia; Williams, Donna; Wertz, Trent; Piccone, Josephine; Jackson, Deborah; Turtill, Richard; Deegan, George; Miller, Charles; Moore, Scott
Subject: RE: ACTION: NGA Center in DC Requests NRC Expert Speaker for 3/22 or 3/23 and 4/4
Date: Friday, March 18, 2011 1:08:00 PM

I am willing and would use our briefing material from the Commission meeting for the presentation. The problem is that I won't know my availability until the day of. Maybe the day before.

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

From: Virgilio, Rosetta
Sent: Friday, March 18, 2011 12:38 PM
To: Johnson, Michael; Leeds, Eric; Sheron, Brian; Haney, Catherine
Cc: Dorman, Dan; Santiago, Patricia; Williams, Donna; Wertz, Trent; Piccone, Josephine; Jackson, Deborah; Turtill, Richard; Deegan, George; Miller, Charles; Moore, Scott
Subject: ACTION: NGA Center in DC Requests NRC Expert Speaker for 3/22 or 3/23 and 4/4
Importance: High

All – Bob Nelson suggested I contact you directly, as you have been designated as NRC Communicators, relative to two requests below from the National Governors Association.

I told Greg Dierkers that NRC staff is pretty well stretched and might not be available to participate in next week's meeting, but I would put the request forward. I also offered that NRC is planning to hold a public Commission meeting Monday, 3/21, which will be Web streamed, and suggested this might satisfy their needs at this time. I told Greg I would send him the details when available. He understood we were pretty busy, indicating FEMA was unable to participate in the NGA meeting.

Please advise whether your schedule can support such a meeting – I would like to close the loop with Greg by COB this/Friday afternoon. Thanks much for your consideration.

Rosetta O. Virgilio
Senior Liaison Project Manager
Intergovernmental Liaison Branch
U.S. Nuclear Regulatory Commission
11545 Rockville Pike - T-8F42
Rockville, MD 20852-2738
301-415-2367
Rosetta.Virgilio@nrc.gov

From: Virgilio, Rosetta
To: 'gdierkers@NGA.ORG' <gdierkers@NGA.ORG>

mmmm/155

Sent: Thu Mar 17 17:03:28 2011

Subject: Re: NGA Center NRC expert speaker requests

Thank you, Greg; I will followup and get back to you.

Sent from an NRC Blackberry

Rosetta O. Virgilio

(b)(6)

From: Dierkers, Gregory <gdierkers@NGA.ORG>

To: Virgilio, Rosetta

Cc: Gander, Sue <sgander@NGA.ORG>; MacLellan, Thomas <TMaclellan@NGA.ORG>;

Ferro, Carmen <CFerro@NGA.ORG>

Sent: Thu Mar 17 16:36:04 2011

Subject: NGA Center NRC expert speaker requests

Hi Rosetta,

Thanks for your time today. We appreciate you identifying someone from the NRC to support the NGA Center's outreach to states during this busy time.

As we discussed we would like to invite the NRC to join us for **two upcoming events -- a webinar next week and a conference in early April -- to brief governors' advisors on the Japanese situation and the implications for US plants.** The events are:

1) **A webinar with governors' security and energy advisors.** NGA Center staff is planning to host a conference call next week (Tuesday 3/21 or Wednesday 3/22) to provide senior state officials with an update on the Japan situation and to answer questions as to the operations of US plants, including regulations, plant security/safety, and the emergency preparedness efforts at the US nuclear fleet. We would ask that an NRC expert join the webinar remotely; the webinar would last for 1 hour.

2) **An in-person speaker at a governors' energy advisors meeting.** NGA Center's *Governors' Energy Advisors Policy Institute* on April 4th in Arlington, Virginia. The focus of the April 4th Institute is to provide a 'Technology 101' briefing for governors senior energy advisors. We would invite the NRC to attend in-person on April 4th from 1:45pm to 4:15pm. We would ask for a 10-15 minute presentation on the situation in Japan, the state of nuclear technology and regulations in the US, and the implications for states from the Japanese crisis. Attached is a draft agenda.

Thanks for considering both of these requests.

Sincerely,

Greg Dierkers

Program Director – Energy and Transportation

NGA Center for Best Practices

Environment, Energy and Transportation Division

(b)(6)

gdierkers@nga.org

From: Leeds, Eric
To: Nelson, Robert; Markley, Michael
Cc: Lew, David; Dean, Bill
Subject: More on 50 miles - see attached.
Date: Friday, March 18, 2011 6:00:00 PM

This could help also with the discussion on Monday.

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

From: Milligan, Patricia
Sent: Friday, March 18, 2011 5:03 PM
To: Leeds, Eric
Subject: Fw: NRC vsEPA

Sent from my NRC Blackberry
Patricia A Milligan, CHP RPh
(b)(6)

From: Milligan, Patricia
To: MacKinney, John A <John.Mackinney@dhs.gov>
Sent: Fri Mar 18 10:35:50 2011
Subject: RE: NRC vsEPA

they know not of what they speak.

If they read NUREG-0654/FEMA-REP-1 the basis for the 10 mile EPZ (and there is also a 50 mile EPZ) that clearly states the 10 mile EPZ provides a substantial basis for expansion of the 10 mile EPZ as is necessary. Given the lack of information coming from the Japanese and the lack of any apparent cohesive plan to address the problems and the projected doses if things continued to get worse, the NRC decided it was prudent to recommend evacuation beyond that recommended by the Japanese. It is not inconsistent with the regulations or guidance. It is simply a case of "selective" reading by the Ed Lymans of the world.

we can discuss how we reached that decision if you like. I was part of the protective measures team that was making these decisions.

Patricia Milligan, CHP, RPh
Senior Technical Advisor for Preparedness & Response
Office of Nuclear Security and Incident Response
US NRC
MS T B46M
Washington, DC 20555
301-415-2223
Blackberry (b)(6)

mmmm/136

From: LIA06 Hoc
Sent: Friday, March 18, 2011 7:34 AM
To: Hoc, PMT12
Subject: RE: EPZ Paper - NRC Review Needed!

Awesome! Thanks Kathy!

Mark Lombard
Liaison Team Director
U.S. Nuclear Regulatory Commission
Operations Center

From: Hoc, PMT12
Sent: Friday, March 18, 2011 7:31 AM
To: LIA06 Hoc
Subject: RE: EPZ Paper - NRC Review Needed!

Looks fine to me. K. Brock

From: LIA06 Hoc
Sent: Thursday, March 17, 2011 4:56 PM
To: Hoc, PMT12; Kahler, Robert; Anderson, Joseph
Subject: FW: EPZ Paper - NRC Review Needed!

Please take a look at the attached information that FEMA is planning to put and let me know if you have any issues with it.

Mark Thaggard
Liaison Team Director
U.S. Nuclear Regulatory Commission
Operations Center

From: LIA05 Hoc
Sent: Thursday, March 17, 2011 4:53 PM
To: LIA06 Hoc
Subject: FW: EPZ Paper - NRC Review Needed!

Please review.

FEMA REP Liaison
NRC Operations Center
(301) 816-5187

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From: Wierman, Kenneth [mailto:kenneth.wierman@dhs.gov]
Sent: Thursday, March 17, 2011 4:51 PM

mmmm/137

To: LIA05 Hoc
Subject: Fw: EPZ Paper - NRC Review Needed!

Kenneth L. Wierman Jr.
Policy and Regulations Unit
Radiological Emergency Preparedness
Federal Emergency Management Agency (FEMA) Headquarters
Office: (202) 212-3711
Blackberry: (b)(6)
kenneth.wierman@dhs.gov

Sent using BlackBerry

From: Purvis, James
To: 'Sheffield, Bonnie' <Bonnie.Sheffield@dhs.gov>; Wierman, Kenneth
Cc: Quinn, Vanessa; Greten, Timothy; 'harry.sherwood@dhs.gov' <harry.sherwood@dhs.gov>; Ralston, Michelle; Horwitz, Steve
Sent: Thu Mar 17 16:48:21 2011
Subject: EPZ Paper - NRC Review Needed!

REP Liaison to the NRC OPS Center:

Tim would like to ensure that the NRC finds this paper kosher, prior to piping it up to FEMA OPA & OLA for their consumption. Please coordinate this with the NRC. I don't think any kind of formal review & concurrence process is needed here – especially since the content is basically a summation of what is already delineated in FEMA-REP-1 – it is hoped this can be done expeditiously. Please keep me in the loop as this is being accomplished. The paper has been cleared through THD.

Thanks,

James H. Purvis
Emergency Management Specialist
Radiological Emergency Preparedness Program
Technological Hazards Division
DHS/FEMA Protection and National Preparedness Directorate
1800 South Bell Street, Room 830
Arlington, VA 20598-3025
Office: (202) 212-2334
Mobile: (b)(6)
Fax: (703) 305-0738
james.purvis@dhs.gov

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From: LIA06 Hoc
Sent: Friday, March 18, 2011 8:44 AM
To: Anderson, Joseph; Williams, Kevin
Subject: RE: EPZ Paper - NRC Review Needed!

Thanks for the quick review Kevin!

Mark Lombard
Liaison Team Director
U.S. Nuclear Regulatory Commission
Operations Center

From: Anderson, Joseph
Sent: Friday, March 18, 2011 8:13 AM
To: Williams, Kevin
Cc: LIA06 Hoc
Subject: Fw: EPZ Paper - NRC Review Needed!

Are you available to look at this? I am running about at USAID.

From: LIA06 Hoc
To: Williams, Kevin; Kahler, Robert; Anderson, Joseph
Cc: LIA06 Hoc
Sent: Fri Mar 18 08:09:42 2011
Subject: FW: EPZ Paper - NRC Review Needed!

Gentlemen,

FEMA has requested NRC review of the attached document they want to make public. The PMT has reviewed and has no comments. Brian McDermott wanted me to also pass it by you all to make sure you were ok with it. Please take a look and let me know as soon as you can.

Thanks,
Mark Lombard
Liaison Team Director
U.S. Nuclear Regulatory Commission
Operations Center

From: LIA06 Hoc
Sent: Thursday, March 17, 2011 4:56 PM
To: Hoc, PMT12; Kahler, Robert; Anderson, Joseph
Subject: FW: EPZ Paper - NRC Review Needed!

Please take a look at the attached information that FEMA is planning to put and let me know if you have any issues with it.

Mark Thaggard
Liaison Team Director

mmmm/138

U.S. Nuclear Regulatory Commission
Operations Center

From: LIA05 Hoc
Sent: Thursday, March 17, 2011 4:53 PM
To: LIA06 Hoc
Subject: FW: EPZ Paper - NRC Review Needed!

Please review.

FEMA REP Liaison
NRC Operations Center
(301) 816-5187

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From: Wierman, Kenneth [mailto:kenneth.wierman@dhs.gov]
Sent: Thursday, March 17, 2011 4:51 PM
To: LIA05 Hoc
Subject: Fw: EPZ Paper - NRC Review Needed!

Kenneth L. Wierman Jr.
Policy and Regulations Unit
Radiological Emergency Preparedness
Federal Emergency Management Agency (FEMA) Headquarters
Office: (202) 212-3711
Blackberry: (b)(6)
kenneth.wierman@dhs.gov

Sent using BlackBerry

From: Purvis, James
To: 'Sheffield, Bonnie' <Bonnie.Sheffield@dhs.gov>; Wierman, Kenneth
Cc: Quinn, Vanessa; Greden, Timothy; 'harry.sherwood@dhs.gov' <harry.sherwood@dhs.gov>; Ralston, Michelle;
Horwitz, Steve
Sent: Thu Mar 17 16:48:21 2011
Subject: EPZ Paper - NRC Review Needed!

REP Liaison to the NRC OPS Center:

Tim would like to ensure that the NRC finds this paper kosher, prior to piping it up to FEMA OPA & OLA for their consumption. Please coordinate this with the NRC. I don't think any kind of formal review & concurrence process is needed here – especially since the content is basically a summation of what is already delineated in FEMA-REP-1 – it is hoped this can be done expeditiously. Please keep me in the loop as this is being accomplished. The paper has been cleared through THD.

Thanks,

James H Purvis
Emergency Management Specialist

Radiological Emergency Preparedness Program
Technological Hazards Division
DHS/FEMA Protection and National Preparedness Directorate
1800 South Bell Street, Room 830
Arlington, VA 20598-3025
Office: (202) 212-2334
Mobile: (b)(6)
Fax: (703) 305-0738
james.purvis@dhs.gov

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From: Tonia Christensen <mail@change.org>
Sent: Friday, March 18, 2011 6:50 PM
To: FOIA Resource
Subject: Please follow Europe and China's leads and inspect old nuclear plants and delay new starts

Dear U.S. Nuclear Regulatory Commission,

Given the worsening Japanese nuclear disaster, I am writing to demand immediate closure of U.S. nuclear energy facilities that remain operational after having exceeded their engineered operable life. Please immediately close these facilities for inspection in an orderly manner as is occurring in Europe. It is the prudent thing to do given many older reactors in the U.S. are of similar design as those melting down in Japan.

Japan is facing the worst nuclear crisis since the atomic bombing of Hiroshima and Nagasaki. Multiple explosions have hit the Fukushima Daiichi nuclear plant, several reactors have lost their cooling systems, raising fears of meltdown(s). Radiation levels have been detected as far as 100 miles away. Many people have tested positive for radiation exposure, and hundreds of thousands of have been evacuated, with the numbers expected to rise.

In the United States, some reactors which have recently had their licenses extended are nearly 40 years old, and their owners are asking the Nuclear Regulatory Commission for approval to extend their lives further. No additional extensions should be granted, and these older reactors that have been extended must be taken off line immediately and inspected given recent happenings in Japan. Clearly these 1970s vintage era systems were not adequately engineering for infrequent but large natural disasters and increasingly human exacerbated events.

Further, it is presumptuous for the federal government to be planning to provide for \$36 billion in loan guarantees to build still more nuclear plants, when we do not yet have a permanent waste repository, or even a plan. We are dooming civilizations for hundreds of thousands of years to having to protect and maintain enclosure upon our nuclear waste. Nuclear waste stored on site has caught fire in Japan, and the current on site storage across America is completely unacceptable. It is not a matter of if, it is only one of when will there be a nuclear disaster in America.

All existing nuclear energy plants, waste and weapons are accidents waiting to happen. Nuclear complexity, ecological costs, natural disasters and a conflict ridden world show nukes can never be safe. The price of nuclear fission is potentially enormous when even one accident happens, must less several as now with our Japanese brothers and sisters. In a continually more disorderly world, it is clear that no nuclear materials are secured, and that developing countries embracing nuclear energy will lead to weapon proliferation and yet more great loss of life from accidents and war. But we could choose to ban nuclear materials in their entirety.

It is time for humanity to choose which technologies they allow based upon full preponderance of the evidence - and as an ecologist I would predict all but certain similar impacts no matter the effort from the introduction of geo-engineering, genetically modified organisms (particularly food), nanotech, etc. Nuclear fission has been shown to be deadly in the field of battle, along Japan's coastal plains, it's unsecured wastes are growing, and through terrorist and militaristic rhetoric regarding their use in an increasingly unstable world.


Please immediately cease extending the licenses of old nuclear power plants, and shut down for inspection those which have been extended. We will be calling upon President Obama to convene an urgent summit to begin

fully dismantling global nuclear weaponry. Some technologies such as splitting the atom at their root are anti-human and Earth. Let's get it done, ban the bomb, ban nuclear energy, and commit to climate and energy solutions that are serious and include life-saving energy conservation, efficiency, carbon taxes & using only true renewables. This will soon be the only energy at our disposal if we desire a habitable Earth, and we must transform our society accordingly.

Signed,

Tonia Christensen

(b)(6)

Note: this email was sent as part of a petition started on Change.org, viewable at www.change.org/petitions/ban-nuclear-energy-time-for-true-renewables-only. To respond, email responses@change.org and include a link to this petition. 

Nelson, Robert

From: Nelson, Robert
Sent: Friday, March 18, 2011 3:19 PM
To: LIA01 Hoc; LIA02 Hoc; LIA03 Hoc; LIA04 Hoc; LIA05 Hoc; LIA07 Hoc; LIA08 Hoc; LIA09 Hoc; LIA10 Hoc; LIA11 Hoc; LIA12 Hoc
Subject: FW: Query: Q & A Coordination
Attachments: image001.png

Sorry for the shot gun approach. Please ensure the Liaison Team Director sees this.

NELSON

From: Nelson, Robert
Sent: Friday, March 18, 2011 2:28 PM
To: LIA06 Hoc
Cc: Meighan, Sean; Nguyen, Quynh; Markley, Michael; Thomas, Eric
Subject: Query: Q & A Coordination

Liaison Team Director:

As you may be aware, Eric Leeds has tasked me with being the Coordinator for NRR External Communications relating to the events in Japan. We are working on Qs & As to support EOC meetings the regions will begin next week.

What is the Liaison Team's role in developing/reviewing Qs & As and how can we best coordinate with you?

Robert Nelson

Robert A. Nelson
Deputy Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation



E-mail: robert.nelson@nrc.gov | Office: (301) 415-1453 | Cell: (b)(6) | Fax: (301) 415-2102

mmmm/1410

Sigmon, Rebecca

From: Sigmon, Rebecca
Sent: Friday, March 18, 2011 1:16 PM
To: Thomas, Eric; Gratton, Christopher
Subject: RE: Staff slides - talking points for slide 3
Attachments: Staff Slides for March 21 Meeting (Japanese Event)-IOEB input.pptx

Chris,

I moved a couple items that had been in the talking points for slide 3 to slide 4 talking points where they seemed to fit better (discussing NRC response). I expanded the initiating events in the talking points of slide 3 to give enough background to show why problems happened. This may be too in the weeds for the brief, but easier to take out than to put in. Let me know if it needs anything more.

Rebecca Sigmon
Reactor Systems Engineer
NRR/DIRS/IOEB
Operating Experience Branch
(301) 415-4018
Rebecca.Sigmon@nrc.gov

From: Thomas, Eric
Sent: Friday, March 18, 2011 12:55 PM
To: Sigmon, Rebecca
Subject: FW:

Please send directly back to Chris Gratton and cc me.

Eric Thomas
U.S. Nuclear Regulatory Commission
NRR/DIRS/IOEB
OWFN-7E24
eric.thomas@nrc.gov
301-415-6772 (office) _
(b)(6) (mobile)

From: Gratton, Christopher
Sent: Friday, March 18, 2011 12:52 PM
To: Khanna, Meena; Thomas, Eric
Subject:

mmmm/141



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**
- **International perspectives**
- **Assessment of Domestic Reactor Safety**
- **Planned NRC Activities**
- **Impact on Current NRC Activities**

2

Event Overview

- **Discussion of Initiating event**
- **Current status of reactors**
- **Current status of spent fuel pools**
- **NRC Incident Response Center evaluating potential dose impacts within 50 miles of site**
- **Collaborating with DOE to support evaluation of potential impacts on U.S.**

3

Immediate NRC Response

- **Activated Operations Center**
- **Dispatched 11 NRC experts to Japan**
- **Established support for U.S. Embassy**
- **Opened dialog with Japanese government**
- **Established outreach to stakeholders**

4

Continuing NRC Response

- **Operations Center manned 24/7**
- **Support NRC personnel in Japan, rotate as necessary**
- **Provide assistance as requested**
- **Mobilize resources as part of U.S. response**

5

International Perspectives

- **Historical Relationships**
- **Global Nuclear Safety Network**

6

Assessment of Domestic Reactor Safety

- Design basis includes natural disasters expected for their locale
- Must be able to cope with a loss of all AC power for a designated time period
- Guidelines and planning for Beyond-Design-Basis events

7

Assessment of Domestic Reactor Safety (Cont.)

- Improvements to design and operation since initial licensing
- The emergency preparedness planning basis for nuclear power plants is valid.
- INPO and industry initiatives
- NRC confidence in U.S. plants safety

8

Planned NRC Activities – Near Term

- Regulatory Actions evaluation
 - Enhanced Inspection Activities
 - Generic Communications
 - Other regulatory actions

9

Planned NRC Activities – Longer Term

- Develop lessons learned and recommendations
- Consider other regulatory actions

10

Impact on Current NRC Activities

- Increased communications with stakeholders
- Current licensing action review impacts
- Most NRC activities will continue as scheduled

11

Kolb, Timothy

From: Monninger, John
Sent: Friday, March 18, 2011 2:12 PM
To: Devercelly, Richard; Kolb, Timothy
Cc: Monninger, John
Subject: Fw: Availability of remote control helicopter

Rich, Tim

See below. Can you get this to Joe Young and Rob Luke in the Embassy operations center. They are working tonight. The center is in the basement past the cafeteria. we are giving it to them for a heads up.

We will discuss the need for this with TEPOC CEO and Ministry of Defense tomorrow morning.

Thanks.

John Monninger

(b)(6)

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

From: Bain, Rob CIV AIR 6.6.3 (b)(6)
To: LIA06 Hoc; RMTPACTSU_ELNRC@ofda.gov <RMTPACTSU_ELNRC@ofda.gov>; Monninger, John; Kolb, Timothy; Dunigan, Tim CAPT PMA-266 (b)(6); Picon, Manuel CDR NAVAIR, 4.1 (b)(6); Laray, William R CAPT NAVAIR (b)(6)
Cc: LIA08 Hoc; gregory.lynch@lmco.com <gregory.lynch@lmco.com>; kevin.petrosky@lmco.com <kevin.petrosky@lmco.com>; LIA01 Hoc; LIA11 Hoc
Sent: Fri Mar 18 11:53:45 2011
Subject: RE: Availability of remote control helicopter

All,

CAPT Dunigan is the PMA-266 Program Manager. His designated representative for this matter is CDR Picon, 301-757-5831. All inquiries should need to go through him. I can only advise in the areas of supportably.

R/Rob

Rob Bain
PMA-266 Cargo/MRMUAS APML
301-863-0191 x326

(b)(6)

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

From: LIA06 Hoc [<mailto:LIA06.Hoc@nrc.gov>]
Sent: Friday, March 18, 2011 11:13
To: RMTPACTSU_ELNRC@ofda.gov; Monninger, John; Kolb, Timothy
Cc: LIA08 Hoc; LIA06 Hoc; gregory.lynch@lmco.com; kevin.petrosky@lmco.com; Bain, Rob CIV AIR 6.6.3; LIA01 Hoc; LIA11 Hoc
Subject: Availability of remote control helicopter

Based on an inquiry made by the NRC Liaison Team yesterday, Lockheed Martin found a remote control helicopter capable of handling a 5,000 pound payload. One is available at the Air National Guard base in Westboro, MA and can be deployed as soon as March 21, 2011 (Monday). Lockheed also has a TASE 150

mmmm / JH

Valentine, Nicholee

From: Bowman, Eric
Sent: Friday, March 18, 2011 3:35 PM
To: Thomas, Eric
Cc: Rosenberg, Stacey
Subject: RE: japan Q's and A's

Eric,

This is the one mention I have of sharing info w/ METI one on one at a classified level. This was after the ICM Order was issued, but before all of the studies, etc., were conducted. More information was exchanged on an unclassified level, but I'd have to dig further. This was an input provided by RES (Syed Ali) during the B.5.b History Project; I tried calling him to verify whether there are records of further information exchanges, but got his voice mail.

Thanks!

Eric

April 30, 2002

The NRC Met with Japanese Regulatory Authorities.

The NRC met with the Nuclear and Industrial Safety Agency and the Ministry of Economy, Trade, and Industry of Japan in a Secret NSI meeting. The Japanese discussed the measures to guard nuclear facilities; physical protection measures for nuclear source material, nuclear fuel, and reactors; regulations for the DBT; reactor scram in the event of an attack; and the legal system for military emergency bills in the event of an attack. In the meeting, the Japanese also presented the current status of the Security Policy on Nuclear Facility in Japan, an examination of vulnerability of nuclear facilities, a preliminary evaluation of the impacts of fire caused by an aircraft crash into an NPP, a preliminary evaluation of the impacts of ground-based attack, and the evaluation of the impact of airplane attack on reactor containment facilities.

From: Rosenberg, Stacey
Sent: Friday, March 18, 2011 3:27 PM
To: Bowman, Eric
Subject: FW: japan Q's and A's

Eric,

I do not know the answer to this one. Do you?

Stacey

From: Thomas, Eric
Sent: Friday, March 18, 2011 3:18 PM
To: Rosenberg, Stacey
Subject: japan Q's and A's

Stacey,

Brent Clayton said you may be able to help with this. I am trying to get some questions answered related to ongoing events in japan. Can you answer this one?

Did the US share the post 9/11 enhancements to US facilities with the Japanese? I believe the question is referring to B5b information.

Thanks for any assistance you can provide.

Eric

Eric Thomas

U.S. Nuclear Regulatory Commission

NRR/DIRS/IOEB

OWFN-7E24

eric.thomas@nrc.gov

301-415-6772 (office),

(b)(6) (mobile)

Valentine, Nicholee

From: Bowman, Eric
Sent: Friday, March 18, 2011 11:04 AM
To: Rosenberg, Stacey
Subject: FW: ACTION REQUESTED: Last Recheck of Background for IN
Attachments: IN 11-xx B5b Earthquake-dirs inputs_Rev 2.docx

From: Sigmon, Rebecca
Sent: Friday, March 18, 2011 10:14 AM
To: Thomas, Eric; Bowman, Eric
Cc: Thorp, John
Subject: RE: ACTION REQUESTED: Last Recheck of Background for IN

Eric (and Eric)

Based on the concerns Eric B mentioned below, I've made the attached changes to the "description of circumstances" section. My attempt was primarily to limit what we say happened to things we actually know happened and frame the rest to reflect challenges or potential consequences. I don't know that I've fully succeeded, and I highly recommend running it by someone on the RST who's more up-to-date on the actual sequence of events. Please be aware that almost all of my knowledge is from press releases put out by TEPCO and NISA, which may not completely reflect the information the way we want to put it out.

Rebecca Sigmon
Reactor Systems Engineer
NRR/DIRS/IOEB
Operating Experience Branch
(301) 415-4018
Rebecca.Sigmon@nrc.gov

From: Thomas, Eric
Sent: Friday, March 18, 2011 8:58 AM
To: Sigmon, Rebecca
Subject: FW: ACTION REQUESTED: Last Recheck of Background for IN
Importance: High

Eric Thomas
U.S. Nuclear Regulatory Commission
NRR/DIRS/IOEB
OWFN-7E24
eric.thomas@nrc.gov
301-415-6772 (office)
(b)(6) (mobile)

From: Bowman, Eric
Sent: Friday, March 18, 2011 8:43 AM
To: Thomas, Eric
Subject: ACTION REQUESTED: Last Recheck of Background for IN
Importance: High

Eric,

George Wilson mentioned to me this morning that it is actually Unit 3's SFP rather than Unit 4's that isn't holding water. Could you take one last look at the description of circumstances to be sure it reflects our current understanding of the situation this morning?

Thanks!

Eric

Eric E. Bowman

Sr. Project Manager

Generic Communications & Power Uprate Branch

Division of Policy and Rulemaking

Office of Nuclear Reactor Regulation

U.S. Nuclear Regulatory Commission

301-415-2963

Eric.Bowman@nrc.gov

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

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 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

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, including damage to the cooling water systems, a sustained loss of both the off-site and on-site power systems, and a loss of spent fuel pooling (SFP) cooling. Efforts to restore power to emergency equipment have been impacted by damage to the surrounding areas due to the tsunami and earthquake.

Units 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. With the loss of normal offsite electric power following the earthquake, and

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the subsequent loss of emergency AC power following the tsunami, water injection to the cores of all three reactors was compromised, and the reactor water level could not be maintained. ~~to normal and emergency core cooling systems and subsequent failure of back-up decay heat removal systems.~~ Tokyo Electric Power Company (TEPCO), the operator of the plant, resorted to injecting sea water and boric acid into the reactor vessels of these three units, in an effort to cool the fuel and ensure they reactors remained shutdown. ~~During this process~~ However, the fuel was already at least ~~became~~ partially uncovered. Hydrogen gas built up in Units 1 and 3 as a result of exposed, overheated fuel reacting with water. ~~When the~~ Following gas pressure was venting from the primary containment to relieve pressure, hydrogen explosions occurred in both units and damaged the secondary containments, though, ~~it~~ it appears that the primary containments remained functional. ~~In addition, units 1, 2, and 3 suffered from decreasing SFP levels due to loss of their SFP cooling systems.~~ TEPCO cut a hole in the side of the ~~u~~Unit 2 secondary containment to prevent hydrogen buildup following a sustained period ~~when there was~~ with no water injection into the core.

Units 4 through 6 had been 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. Both ~~The~~ Unit 3 and 4 ~~four~~ SFPs suffered a ~~total~~ loss of water level along with possible structural damage affecting ~~its~~ their ability to retain water. Significantly elevated radiation levels were measured outside of Unit 4 following damage to the Unit 4 reactor building, indicating that spent fuel rods in the Unit 4 SFP had overheated. The SFPs temperatures for Units 5 and 6 increased, but the structures appear to be intact, ~~but have been heating up.~~ Emergency AC power ~~is~~ was made available to provide cooling water flow through the SFPs for Units 5 and 6 before any damage appears to have occurred.

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~~ resulted from 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, (designated as Safeguards Information (SGI)). The ICM Order 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, 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," 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 new reactor applicants and licensees as those imposed by the ICM Order and associated license conditions. The Statement of Considerations for this rulemaking specifically noted that the requirements 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, including natural phenomena such as those described in GDC 2 (i.e., earthquakes, tornadoes, floods, tsunamis, and seiches), without regard to the GDC 2 limitation in magnitude of the design bases for the natural phenomena.

NRC regulations at 10 CFR 50.63, "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 development of mitigating strategies to address potential vulnerabilities

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

PAPERWORK REDUCTION ACT STATEMENT

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

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CONTACTS

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

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

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

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

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

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

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

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.

Distribution:

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ADAMS Accession Number: ML110760432 * by e-mail

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DATE	03/17/2011	03/17/2011	03/17/2011	03/17/2011	03/17/2011
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NAME	TFrye	CHawes	SRosenberg		TMcGinty
DATE		03/17/2011	03/17/2011		

OFFICIAL RECORD COPY

Nguyen, Quynh

From: Thomas, Eric
Sent: Friday, March 18, 2011 4:38 PM
To: Nelson, Robert
Cc: Nguyen, Quynh; Meighan, Sean; Tam, Peter; Markley, Michael
Subject: Initial cut at Q's and A's
Attachments: questions and answers 3-18.docx

Bob,

Here's what I have so far. It needs to be cleaned up, but hopefully makes you a little more comfortable with our progress.

We can discuss on Monday.

Have a great weekend.

Eric

Eric Thomas

U.S. Nuclear Regulatory Commission

NRR/DIRS/IOEB

OWFN-7E24

eric.thomas@nrc.gov

301-415-6772 (office)

(b)(6) (mobile)

mmmm, HB

1. Could this happen at [any U.S. plant]?
 - a. The events that have occurred in Japan are the result of a combination of highly unlikely natural disasters. These include the fifth largest earthquake in recorded history and the resulting devastating tsunami. It is highly unlikely that a similar event could occur in the United States.
2. For Pilgrim Station and Seabrook Station, what design and safety precautions have been installed at your plant to sustain a devastating tsunami that would hit as did the tragedy at the Japanese plants?
3. Does NRC have any take on whether planes departing from Japan should be checked for radiation contamination? I'm not sure if you guys have received any calls yet, but we are getting inquiries.
 - a. The Health and Human Services department is responsible for monitoring contamination levels of individuals who travel to/from the U.S. **[source: HOC PMT]**
 - b. Customs and Border Patrol is responsible for monitoring contamination of food or cargo going into and out of the U.S. **[source: HOC PMT]**
 - c. In accordance with established protocols, U.S. Customs and Border Protection (CBP) employs several types of radiation detection equipment in its operations at both air and sea ports, and uses this equipment, along with specific operational protocols, to resolve any security or safety risks that are identified with inbound travelers and cargo. Out of an abundance of caution, CBP has issued field guidance reiterating its operational protocols and directing field personnel to specifically monitor maritime and air traffic from Japan. CBP will continue to evaluate the potential risks posed by radiation contamination on inbound travelers and cargo and will adjust its detection and response protocols, in coordination with its interagency partners, as developments warrant. **[source: HOC OPA Talking Points]**
4. How do the Japanese reactor designs compare to the US reactor designs of similar vintage?
[source HOC RST]
 - a. U.S. Boiling water reactors have a hardened vent which permits a controlled depressurization of primary containment as well as a controlled release of radioactive materials and combustible hydrogen generated by damaged fuel, as could happen during severe accident sequences that involve loss of decay heat removal capacity.
 - b. EDG oil tanks required by NRC regulations are sheltered in safety-related structures or underground in order to withstand an earthquake as well as flooding events. These tanks provide a reliable fuel supply to safety related AC and DC power systems for several days.
 - c. Station Blackout (10 CFR 50.63) loss of all AC power is required in the US to supply an alternate AC power source in the event of a loss of station on-site and normal off-site power sources. In addition, stations are required to have alternate AC sources from separate grid systems separate from the normal off-site power supply.
 - d. An emergency portable diesel-driven water pump for emergency fuel pool cooling is available at all US nuclear sites.
 - e. Emergency operating procedures as well as severe accident management guidelines ensure that the containment structure integrity takes priority in an accident situation. Therefore, in a beyond design basis event, such as the one at Fukushima Dai'ichi, US BWR operators would attempt to preserve primary and secondary containment by venting to provide the greatest assurance of public protection during a severe accident.
 - f. In parallel with the above efforts, a US facility would prioritize restoring offsite power quickly and the resources of the US nuclear fleet would be brought to bear to assist in power restoration or temporary power needs to supply vital power needs following a severe event.
5. If the same tragedy hit Pilgrim Station, Seabrook Station and Vermont Yankee would we be having the same major issues that the Japanese plants have? Please explain yes or no
6. Please explain that outcome at each plant (Pilgrim Station, Seabrook Station and Vermont Yankee) if it was hit with a 8.9 earthquake the same as what hit Japan?

7. What is the magnitude of the release at the Japanese facility? (There are conflicting reports in the press.) (ie, offsite dose rates)
 - a. NRC is responsible for RASCAL (Radiological Assessment System for Consequence Analysis) runs, and has the lead for protective action recommendations for U.S. citizens within a 50-mile radius of the nuclear plant. DOE is developing dose predictions for the west coast of the United States, and for all other areas beyond the 50-mile radius. The NRC continues to work with DOE to develop dose projections for areas outside the 50-mile radius. **[source: HOC PMT]**
8. What is the NRC doing to correct misinformation in the public / media?
 - a. OPA should answer this one.
9. What is the seismic limit that Pilgrim Station, Seabrook Station and Vermont Yankee have been built to withstand?
10. What is the sequence of events at the Japanese reactors?
 - a. How much detail do you want?
11. What would the effect be on [plant X] if a 9.0 earthquake hit?
12. What would the effect be on [plant X] if a subsequent tsunami hit?
13. When the states receive questions from the public / media that the NRC would be better to answer, where should they direct these calls? **[source: HOC LT]**
 - a. Contact the NRC Operations Center (301) 816-5100 and ask for the Liaison Team
14. Who are the Federal Contacts (for the state) to get information on what DOE & EPA are doing? **[source: HOC LT]**
 - a. DOE – (202) 586-8100
 - b. EPA – (800) 424-8802
 - c. Or Contact NRC Operations Center (301) 816-5100
15. Why is Indian Point safe if there is a fault line underneath it? **[source: ???]**

The Ramapo fault system, which passes through the Indian Point area, is a group of Mesozoic age faults, extending from southeastern New York to northern New Jersey, as well as further southwest. The fault system is composed of a series of southeast-dipping, northeast-striking faults. Various faults of the system contain evidence of repeated slip in various directions since Proterozoic time, including Mesozoic extensional reactivation. However, the USGS staff, who reviewed 31 geologic features in the Appalachian Mountains and Coastal Plain and compiled a National Database on Quaternary Faulting (Crone and Wheeler, 2000), listed the Ramapo fault system as low risk because the fault system lacks evidence for Quaternary slip. They further pointed out that the Ramapo fault system, and 17 other geologic features, "have little or no published geologic evidence of Quaternary tectonic faulting that could indicate the likely occurrence of earthquakes larger than those observed historically" (Wheeler and Crone, 2004). Among these faults, the Ramapo fault system is one of the three that underwent a paleoseismological study. In two trenches excavated across the Ramapo fault, no evidence of Quaternary tectonic faulting was found (Wheeler and Crone, 2000). Because the Ramapo fault system is relatively inactive, because the Indian Point plants are built on solid bedrock, and because the plants are designed to safely shutdown in the event of an earthquake of the highest intensity ever recorded in that area, the NRC has concluded that the risk of significant damage to the reactors due to a probable earthquake in the area is extremely small.

16. Do US nuclear plants have better capabilities to respond to natural disasters than the plants in Japan?
- U.S. nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically reported for the site and surrounding area. The NRC is confident that the robust design of these plants makes it highly unlikely that a similar event could occur in the United States. **[Note: Should we add some of the stuff from Question #4 in here?]**
17. Did the NRC share the post 9/11 enhancements to the U.S. facilities with the Japanese? **[Syed Ali in RES may have this info]**
18. Could there be core damage and radiation release at a US plant if a natural disaster exceeding the plant design were to occur?
- U.S. nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically reported for the site and surrounding area. The NRC is confident that the robust design of these plants makes it highly unlikely that a similar event could occur in the United States. Right now, the US is focused on assisting Japan in dealing with recovery from the current crisis. Afterward, there will be time to assess what if any changes are needed for US nuclear power plants.
19. Could explosions like those that occurred in Japan happen at a U.S facility? **[The answer is yes...but how do we want to word it? "Yes but it is a lot less likely due to design differences. [hardened vents, etc?]"**
20. How would the U.S. have responded to the events of March 11?
- US nuclear power plants have emergency operating procedures as well as severe accident management guidelines that ensure that the containment structure integrity takes priority in an accident situation. Therefore, in a beyond design basis event, such as the one at Fukushima Dai'ichi, US BWR operators would attempt to preserve primary and secondary containment by venting to provide the greatest assurance of public protection during a severe accident.
 - Each US plant has an emergency plan which is coordinated with local, state and federal agencies to ensure the safety of the public within the 50-mile Emergency Planning Zone.
21. How are US BWRs similar and/or different from the plants experience problems in Japan? **[See Question 4 above]**
22. Why are US plants safe to operate considering the events in Japan?
- U.S. nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically reported for the site and surrounding area. The NRC is confident that the

robust design of these plants makes it highly unlikely that a similar event could occur in the United States.

23. How big an earthquake is plant X designed to handle (for each plant)?

a. I believe DORL was addressing this one.

24. Is plant X designed to withstand a tsunami (for each coastal plant)?

a. I believe DORL was addressing this one.

25. What is the NRC doing to ensure this (Japan event) doesn't happen at US plants?

a. U.S. nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically reported for the site and surrounding area. The NRC is confident that the robust design of these plants makes it highly unlikely that a similar event could occur in the United States. [Chairmans Qs and A's #2]

26. How will the U.S. learn from the failures at the Japanese reactors?

a. Industry has undertaken an effort to all domestic plants verify their capability to: [source: INPO IER L1]

- i. Mitigate conditions that result from beyond design basis events.
- ii. Mitigate station blackout conditions as required by station design
- iii. Mitigate internal and external flooding events required by station design

b. The NRC will issue a Temporary Instruction to its inspectors shortly to verify each nuclear power plant's severe accident coping strategies.

27. Is the NRC relooking at seismic analysis for US plants?

a. Prior to this event, NRC had already undertaken Generic Issue-199, which is a review of seismic design for all domestic plants in the central and eastern US.

28. Is the event in Japan worse than TMI and Chernobyl?

a. Currently, the Japan event is rated as an Level 5 on the International Nuclear Events Scale (INES). TMI was also ranked as a Level 5, and Chernobyl was a Level 7.

29. What is the longer term prognosis for keeping the reactors cooled at the Japanese facilities?

a. It is difficult to tell the long-term prognosis for the Japanese plants until the extent of the damage is known. The NRC is coordinating with private industry, other Federal Agencies, and the military to develop solutions for long-term methods to provide cooling water to the damaged reactors and spent fuel pools.

30. Does the NRC participate in inspection of the Japanese facilities?

31. Given low probability events do occur, how does the U.S. ensure that U.S. plant designs are not significantly degraded by risk-informed changes?
- a. U.S. nuclear power plants are built to withstand environmental hazards, including earthquakes and tsunamis. Even those plants that are located outside of areas with extensive seismic activity are designed for safety in the event of such a natural disaster. The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically reported for the site and surrounding area. The NRC is confident that the robust design of these plants makes it highly unlikely that a similar event could occur in the United States. [Chairmans Qs and A's #2]
32. How does the NRC ensure people can escape if an accident occurs from a natural disaster when the infrastructure is also affected or destroyed in an area around a plant? [source: HOC PMT]
- a. Each US nuclear power plant has an Emergency Plan for ensuring the health and safety of members of the public who live within the emergency planning zone. In the event of a nuclear accident, the plant would interface with the NRC, FEMA, and state and local authorities to execute the emergency plan and order any necessary evacuations of the surrounding areas.
 - b. Emergency plans contain contingencies for alternate evacuation routes, alternate means of notification, and other backup plans in the event of a natural disaster that damages the surrounding infrastructure
-

SET 1

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

Amanda,

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

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

Questions related to event in Japan:
Could this happen at [X plant]?
What is the sequence of events at the Japanese reactors?
What is the magnitude of the release at the Japanese facility? (There are conflicting reports in the press.) (ie, offsite dose rates)

Who are the Federal Contacts (for the state) to get information on what DOE & EPA are doing?
When will the plume hit the US?
What are the environmental consequences to the US?
What dose rates do we expect to see in the US?
How do the Japanese reactor designs compare to the US reactor designs of similar vintage?
When the states receive questions from the public / media that the NRC would be better to answer, where should they direct these calls?
What is the NRC doing to correct misinformation in the public / media?

Hypothetical questions related to US plants:
What would the effect be on [plant X] if a 9.0 earthquake hit?
What would the effect be on [plant X] if a subsequent tsunami hit?
Why is Indian Point safe if there is a fault line underneath it?

-Doug

SET 2

It's just the ex-reporter in me but I notice the news release doesn't specify how big an earthquake or how great a tsunami that CA nuclear power plants are built to withstand. Anybody know that? See attached draft responses – not approved by OPA.

Michael Sicilia
Assistant Deputy Director
Office of Public Affairs
California Department of Public Health
916.440.7259 office

(b)(6) blackberry

The California Department of Public Health is dedicated to optimizing the health and well-being of the people in California.

Needless to say, there are a lot of questions being asked because of the devastation in Japan. The Director, Secretary of EOPSS and Governor's office have been asking questions and I have been sending out information I have received on the plants in Japan. I would like all three plants to answer the following questions that I have been asked.

- What is the seismic limit that Pilgrim Station, Seabrook Station and Vermont Yankee have been built to withstand?
- Please explain that outcome at each plant if it was hit with a 8.9 earthquake the same as what hit Japan?
- For Pilgrim Station and Seabrook Station, what design and safety precautions have been installed at your plant to sustain a devastating tsunami that would hit as did the tragedy at the Japanese plants?
- If the same tragedy hit our plants would we be having the same major issues that the Japanese plants have? Please explain yes or not

Please let me know when I can expect an answer to these questions or if you would like to meet and discuss that would be ok

Thanks and let me know if you have any questions

John

John Giarrusso, Jr.
Planning and Preparedness Division Chief
MEMA

508-820-2040 (w)

(b)(6) (c)

SET 3

I fielded a call from NC and he followed up with the e-mail on Qs he is getting from the NC National Guard.

From: Cox, Lee [<mailto:lee.cox@ncdenr.gov>]

Sent: Tuesday, March 15, 2011 12:49 PM

To: Piccone, Josephine; Trojanowski, Robert

Cc: Lewis, Robert; james.pajejr@ic.fbi.gov; Kelly, Mike A.; Pierce, Terry; Kees, Diana; Leonard, Laura; Kritzer, Jamie

Subject: FW: Questions Coming In about the Ongoing Japan Event

Josie and Bob,

As discussed, below are some questions that came from our National Guard, Civil Support Team, Major Cherry. Good questions. Any recommendations or suggestions would be helpful.

Just FYI, we have been paying close attention to our deployed 24/7 rad air monitors around the state.

No results yet.

As suggested, it may be a good idea to reach out to all State SLOs and update them with information and any expectations. At this point I will be informing the Governor's staff with updates and ongoing efforts.

I will pass along the NEI.org website as a go to place for information.

Thanks so much.

W. Lee Cox, III, Chief
Radiation Protection Section
DEH/DENR
Office: 919-571-4141 ext. 201
Fax: 919-571-4148
email: lee.cox@ncdenr.gov

Please Note New E-mail Address and New Phone Extension

E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law and may be disclosed to third parties.

From: Mills, Grant

Sent: Tuesday, March 15, 2011 12:01 PM

To: Cox, Lee

Cc: Albright, James

Subject: Questions Coming In

Lee / James-

I took a call from Maj. Cherry with NGCS (~11:00), he was asking about any state plans being developed or implemented in the following areas

- testing consumer products coming in from Japan (food, -meds, households, ...)
- monitoring travelers & airplanes coming in from Japan (apparently some countries are already monitoring at airports)
- environmental / plume monitoring (base lining)
- website instructions / guidance

33.

Einziger, Robert

From: Gordon, Matthew
Sent: Friday, March 18, 2011 10:24 AM
To: Einziger, Robert
Subject: FW: SFP Recommendations
Attachments: NRC RST Spent Fuel Pool Fukushima Daiichi Cooling Recommendations for mitigation of dose rates.doc

Here are the current thoughts.

There will be a bridge-line (I don't have the number) yet. At 11:30 to discuss options.

From: RST07 Hoc
Sent: Friday, March 18, 2011 10:21 AM
To: Gordon, Matthew
Subject: FW: SFP Recommendations

Jim Shea RST

From: RST01 Hoc
Sent: Friday, March 18, 2011 10:00 AM
To: Modeen, David
Cc: Wall, James; Edsinger, Kurt; RST07 Hoc
Subject: RE: SFP Recommendations

Dave,

Here is NRC recommendation summary. Please ensure all phone call participants receive a copy.

Joe Williams
RST Coordinator

From: Modeen, David [<mailto:dmodeen@epri.com>]
Sent: Friday, March 18, 2011 8:55 AM
To: RST01 Hoc
Cc: Wall, James; Edsinger, Kurt
Subject: SFP Recommendations

Following up from the morning telcon, EPRI Contacts are:

David Modeen – dmodeen@epri.com
Kurt Edsinger – kedsinge@epri.com
James (Joe) Wall – jwall@epri.com

FYI, I am coordinating EPRI's response. Any requests for information or discussion on any other technical topic, the NRC Operations Center duty officer should feel free to contact me any time.

Dave

Director, External Affairs
EPRI Nuclear Power Sector

704-595-2670 (work)

(b)(6)

dmodeen@epri.com

mmmm/14/6

NRC RST Spent Fuel Pool Fukushima Daiichi Cooling Recommendations for mitigation of dose rates

All options assume addition of Boron or other Poison and with continuous delivery

If Pool is Not Dry

Quench/ Deluge – whatever means possible

If Pool is Dry

And Temperature is below $< 650^{\circ}\text{C}$ (1200°F) then

Quench/ Deluge Fuel– whatever means possible

And Temperature is greater $>$ than 650°C (1200°F) then in order of preference.

- 1 Slurry of Boron and Sand in a continuous controlled fashion
 - (a) accurate placement (achieving/ensuring uniform coverage).
 - (b) fill from the bottom if possible
- 2 Water
 - a.If connected piping available that would be preferred delivery method.
 - b.Minimize flow impingement onto bundle/fuel
 - c.Fill from the bottom
- 3 Do nothing
 - a.Stable conditions in the pool- monitor temp/rad levels

Background (email dated Thu March 17, 9:55)

Thoughts from EPRI Team on approaches for mitigating dose level

1) Water: If there is no leak in the pool or a slow leak, they should do everything they can to maintain water level (with the caveat in 1a on adding water). It's much simpler and more effective than the alternatives. There should be non-destructive methods to confirm the presence or absence of water (e.g., thermography). Some additional considerations include:

(a) Adding water to fuel that has been exposed needs to be carefully considered. Depending on the temperature of the fuel, which is partially related to the water level at the time, you may need to fill to pool quickly to avoid accelerating the oxidation process.

(b) Any structural damage to the spent fuel pool also needs to be considered. Need to confirm the structure is capable of handling the weight of a full pool of water

(c) Consider options to fix the leak or reduce the leak rate (placement of concrete in the area of the leak, etc.)

(2) Sand: Filling the pool with sand could also be an effective measure. The sand should be mixed with boron to ensure the fuel remains subcritical. The primary concerns with sand would be (a) dose registered during the placement of the sand (which could make this approach very impractical); (b) weight

of the sand, particularly if the supporting structure has damage (loose sand is about 45% heavier than water, wet sand about twice as heavy); and (c) accurate placement (achieving/ensuring uniform coverage).

(3) Lightweight concrete: This would be a similar option to the sand option except that it could be pumped and therefore might be easier to handle from a dose perspective (though wet sand could also be pumped). As with sand, one would have a similar concern with the additional weight on the structure. You might also need to think about the thermal conductivity of the concrete to ensure overall integrity of the encapsulating material (EPRI has not assessed -- Perhaps there are additives for the concrete to increase thermal conductivity if this is found to be an issue).

(4) Firefighting Foam: Some type of foam might provide an effective barrier to materials becoming airborne. You would need to look at what foams are available and how long they might last under the radiation and high heat conditions, but it's a possibility in terms of reducing access of oxygen to the fuel surface and in terms of reducing the ability of materials from the fuel pool becoming airborne. It is also something with a lot of experience in application (though not in this exact application)

(5) Additives: Although less developed as an idea, there might also be additives for the water (e.g., surfactants) that could reduce the ability of material to become airborne and/or reduce access of oxygen to the fuel rod surface (slowing oxidation). The effectiveness would depend on the water level and the fuel rod temperature, but one can imagine it helping in a couple of scenarios. If the water level is relatively high (or at least high enough to keep the length of the fuel rod relatively cool), it could slow the rate of release of materials from the surface of the rod and possibly from the water. If the water level is below the level of the fuel, it could slow evaporation of the water and mitigate airborne from surfaces that would otherwise dry out.

From: Klein, Paul
To: Taylor, Robert
Subject: FW: URGENT!!! - Concrete Question
Date: Friday, March 18, 2011 9:49:10 AM

FYI

From: Csontos, Aladar
Sent: Friday, March 18, 2011 9:21 AM
To: Prokofiev, Iouri; RES_DE_CIB; Nove, Carol
Subject: RE: URGENT!!! - Concrete Question

Everything is done and recommendations have been sent. Please stand down on this matter now.

From: Prokofiev, Iouri
Sent: Friday, March 18, 2011 9:20 AM
To: Csontos, Aladar; RES_DE_CIB; Nove, Carol
Subject: RE: URGENT!!! - Concrete Question

AI,

I believe that ANL/Mitch Farmer has info about melt core reaction with concrete and Igor Bodnar can provide info from Chernobyl.

Are you asking info because:

(Reuters) - Japan engineers conceded on Friday that burying a crippled nuclear plant in sand and concrete may be a last resort to prevent a catastrophic radiation release, the method used to seal huge leakages from Chernobyl in 1986.

See below link:

<http://www.reuters.com/article/2011/03/18/us-japan-quake-idUSTRE72A0SS20110318>

Iouri

From: Csontos, Aladar
Sent: Thursday, March 17, 2011 3:59 PM
To: RES_DE_CIB; Nove, Carol
Subject: URGENT!!! - Concrete Question

Anyone work/know of work on concrete/sand contacting spent fuel, i.e. thermal conductivity, reactivity, etc.? If so, please stop by/call ASAP.

Aladar A. Csontos, Ph.D
Chief, Component Integrity Branch
Division of Engineering
Office of Nuclear Regulatory Research
Mailstop C5-A24M
Washington, DC 20555-0001

mmmm/147

(301) 251-7640 (Office)

(b)(6) Blackberry)

(301) 251-7425 (Fax)

Email: aladar.csontos@nrc.gov

From: Kammerer, Annie
To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc
Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Glitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Nilesh; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffrey; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Eliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan, Vincent; Bergman, Thomas; Webb, Michael; Manoly, Kamal; Khanna, Meena; Scirenci, Diane; Thomas, Eric; Nguyen, Quynh; Meighan, Sean; FOIAResource.hoc@nrc.gov
Subject: FAQ questions posted
Date: Saturday, March 19, 2011 5:24:49 PM

All,

For your reading enjoyment, and in anticipation of the end of cycle meetings in the regions next week, the NRC has issued a press release announcing a publically available set of FAQs on the earthquake and tsunami.

I hope people find it helpful!

Cheers,
Annie

PS special thanks to Jenniter Uhle who stayed after her overnight shift in the Ops Center to review and provide outstanding comments that really improved the document.

From: Kammerer, Annie
Sent: Saturday, March 19, 2011 9:00 AM
To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc
Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Glitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Nilesh; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffrey; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Eliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan, Vincent; Bergman, Thomas; Webb, Michael; Manoly, Kamal; Khanna, Meena; Scirenci, Diane; Thomas, Eric; Nguyen, Quynh; Meighan, Sean; FOIAResource.hoc@nrc.gov
Subject: Seismic Q&As March 19th 8am update

All,

Here is today's updated version. Lot of new fact sheets have been prepared for various briefings and for Monday's public meeting!

However, the big news of the day is that we just sent off a 6 page, 22 question, much better edited version for a public Q&A set. It's all in OPA's capable hands now. I think it's pretty good...but then I'm biased.

Cheers,
Annie

From: Kammerer, Annie
Sent: Friday, March 18, 2011 6:51 AM
To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc
Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Glitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Nilesh; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffrey; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Eliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan, Vincent; Bergman, Thomas; Webb, Michael; Manoly, Kamal; Khanna, Meena; Scirenci, Diane; Thomas, Eric; Nguyen, Quynh; Meighan, Sean
Subject: RE: Seismic Q&As March 18th 5am update

All,

Please see the updated version of the Seismic Q&As.

Among today's highlights:

- *We added a Terms and Definitions section at the end of the document. (We know that an acronyms list would be helpful too, but it will have to wait a little)
- *The "additional information" section has been split into tables, plots, and fact sheets
- *A high-level draft fact sheet on NRC's seismic regulations has been added
- *We added a section to track outstanding questions that have come in from congress. This will support those who get the tickets in the short terms (most likely NRR). The questions will be moved to the appropriate sections long term (as long as they are not duplicates.)

I'm sure we all agree this has been a crazy week! We're hoping that the weekend workload is lighter (if only because we won't get as many email from in house) and we can clean up this document and fill in some of the missing answers in preparation for the news story changing. We're trying hard to get out in front of the next wave.

mmmm 1/18

Cheers,
Annie

From: Kammerer, Annie
Sent: Thursday, March 17, 2011 2:36 AM
To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc
Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Giltter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Nitesh; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Giltter, Joseph; Howe, Allen; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Munson, Clifford; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffrey; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Elliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan, Vincent; Bergman, Thomas
Subject: Seismic Q&As March 17th 2am update

All,

As promised, a sharepoint site has been set up where our friends in NRR will be posting the latest version of the Seismic Q&A document on an ongoing basis. If someone would prefer to use the sharepoint site, instead of being on this distribution list, please let me know...

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

This latest update has a number of new questions (not many with answers today, but we are working hard). A high priority question we are working on is "how many plants are near a mapped active fault". We're focusing on anything within 50 miles. We're also pulling relevant questions from the congressional inquiries we just received; and will also give these high priority to support any needs by NRR.

Many new figures and some draft fact sheets have added to the "additional information" section. These include the NRO half of a tsunami fact sheet...a description of the tsunami research is still to come from RES.

Some good news: Yesterday's version seems to have been widely forwarded around the agency. So, we are also starting to get some excellent questions from staff looking forward. This is allowing us to feel that we are finally getting out in front of things to a small degree. Also, our team has grown and we now have someone acting as source of seismic expertise for the 11pm to 7 am shift. This means that we now have seismic experts available to the RST and OPA at the Op Center 24 hours, with 2 people during the day. That extra support is allowing us to get this out at least an hour earlier today ☺

We are continuing to compile the questions that come in and update the seismic Q&A document. If you have suggested changes, or want to provide missing answers, please forward them to me for compilation.

This is a living document and will be updated daily in the foreseeable future.

Happy St. Paddy's Day. May the world (especially our friends in Japan) have the luck of the Irish today.

Cheers,
Annie

Dr. Annie Kammerer, PE
Senior Seismologist and Earthquake Engineer
US Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Washington DC 20555

(b)(6) mobile
(b)(6) 88

From: Kammerer, Annie
Sent: Tuesday, March 15, 2011 3:41 AM
To: Hiland, Patrick; Skeen, David
Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Giltter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Kammerer, Annie; Chokshi, Nitesh; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Giltter, Joseph; Howe, Allen; Case, Michael; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Munson, Clifford; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael
Subject: latest version of Q&As

All,

This is the first draft of the seismic-specific Q&As. It is pretty rough and there are many answers still missing, but people

have contributed a lot and we thought it may be useful for many people trying to answer questions coming in.

We are continuing to compile the questions that come in and update the seismic Q&A document. If you have suggested changes, or want to provide missing answers, please forward them to me for compilation.

This is a living document and will be updated daily in the foreseeable future.

Annie

Dr. Annie Kammerer, PE
Senior Seismologist and Earthquake Engineer
US Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Washington DC 20555

(b)(6)	mobile
(b)(6)	BB

From: McDermott, Brian
Sent: Saturday, March 19, 2011 3:07 PM
To: ET07 Hoc
Subject: ACTION: call Chuck C

Pls call Chuck on a separate line - Bill B says he should drop off the call and get some sleep.

Brian

Brian McDermott
301-415-7475 (direct)
(b)(6) (mobile)

mmmm / 14/9

Kolb, Timothy

From: Clark, Ngoc CIV OSD POLICY (b)(6)
Sent: Saturday, March 19, 2011 12:07 PM
To: Halvorsen, Diane,, DSCA/PGM/HDM; Gurwith, Nicola , , DSCA/PGM/HDM; Harris, Jeffrey W CIV PACOM, J4
Cc: Trigilio, John, CIV, OSD-POLICY
Subject: Japan Status Update

BLUF: AUS pumps no longer needed.

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

From: Schear, James A SES OSD POLICY
Sent: Saturday, March 19, 2011 11:53 AM
To: Clark, Ngoc CIV OSD POLICY; Logan, Erin M CIV OSD POLICY
Cc: Hulley, Paul, SES, OSD-POLICY; POL HADR; Schiffer, Michael SES OSD POLICY; POL Japan
Subject: Re: Japan Status Update

Thx!

Jim Schear, via PDA

BB (b)(6)

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

From: Clark, Ngoc CIV OSD POLICY
Sent: Saturday, March 19, 2011 11:44 AM
To: Logan, Erin M CIV OSD POLICY; Schear, James A SES OSD POLICY
Cc: Hulley, Paul, SES, OSD-POLICY; POL HADR
Subject: RE: Japan Status Update

Erin, and all,

Apologies fo the multiple emails, but this is a fast-moving action. NRC staff just alerted USAID that the AUS pumps are no longer needed. This is based on NRC triangulating information with their field and Wash DC staff and the GoJ. NRC indicated that the required materials could be found in Japan and the AUS pumps were not needed. Additionally, NRC had a better understanding of the GoJ's action plan and was more comfortable with the information received and steps GoJ was planning to take. NRC telephoned USAID Asst Admin Nancy Lindborg this morning to request that the AUS pumps plan be put on hold. In the event that the situation changes over the next 24 hours and the pumps are required, they could be readied in a matter of hours. The AUS C-17 is reportedly still standing by to transport.

As background, I believe there was much misunderstanding yesterday as to the costs and number of pumps and how many would be required due to the different sources of info (NRC in Wash and Japan, relaying the info to RMT colleagues, to OSD). Additionally, Bechtel had initially offered to provide associated equipment and staff to work the pumps, but this was later not the case.

V/r,

Ngoc

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

From: Logan, Erin M CIV OSD POLICY
Sent: Saturday, March 19, 2011 11:01 AM
To: Clark, Ngoc CIV OSD POLICY; Schear, James A SES OSD POLICY
Cc: Hulley, Paul, SES, OSD-POLICY; POL HADR
Subject: Re: Japan Status Update

mmmm / 150

From: Leeds, Eric
To: Milligan, Patricia
Subject: Nuclear comparison
Date: Saturday, March 19, 2011 1:38:07 PM

Trish -

Here's one for corvello: can we come up with a non- nuclear analogy with the quantifiatiion of the lack of impact of any detectable radiation fallout on US soil. For example people face more risk from a walk in the sun than any radiation we expect to receive from the jpanese accident. I know that's bad. But do you get the idea? My BB is (b)(6)

Thanks!

mmmm/ 151

Scott, Michael

From: Scott, Michael
Sent: Saturday, March 19, 2011 2:21 PM
To: (b)(6)
Subject: FW: Deployment to Japan
Attachments: 2nd Staff Deployment to Japan.docx

Thought you might be interested. Please do not forward.

From: Evans, Michele
Sent: Saturday, March 19, 2011 11:42 AM
To: Scott, Michael; Blamey, Alan; Giessner, John; Taylor, Robert; Jackson, Todd; Miller, Marie; Ali, Syed; Sheikh, Abdul; Way, Ralph; Ramsey, Jack
Cc: Cadoux, Claude; Dempsey, Jeanne; Linnerooth, Sarah; Buchholz, Jeri; Sheron, Brian; McCree, Victor; Pederson, Cynthia; Lubinski, John; Holian, Brian; Leeds, Eric; Lew, David; Lorson, Raymond; Mamish, Nader
Subject: Deployment to Japan

Thank you for volunteering for deployment to Japan. This work is of highest priority for the agency and your efforts are enormously appreciated.

The plan is for Mike Scott (RES) and Alan Blamey (RII) to leave the USA on Tuesday, March 22. The remaining team members, Jack Giessner (RIII), Rob Taylor (NRR), Todd Jackson (RI), Marie Miller (RI), Syed Ali (RES), Abdul Sheikh (NRR), Ralph Way (NSIR), and Jack Ramsey (OIP) will depart on or about March 24. The intent is that your stay will be two weeks or less, depending on how the situation in Japan evolves.

The Operations Center Liaison Team (LT) will be contacting you later today to handle the logistic for your trip. This includes items such as flights, passports, country clearances, health immunizations, international blackberry service, dosimetry and KI tablets.

In addition, HR has requested that I provide you the information below:

-Please contact NRC Health Services on Monday morning on 301-415-8400 to schedule an appointment with Dr. Cadoux for health screening and counseling. If at all possible, it is important that you meet with Dr. Cadoux face-to-face. However, if you are located in the Region or if you are notified and deployed in a very short time frame so that medical screening is not possible, this screening will be conducted by phone. Please be aware that medical services available in Tokyo are limited at this time. Additionally, working conditions are such that controlling diet, sleep, exercise, and routine may be impossible. All of these factors can impact your health. Please review any medical conditions that you may have with Dr. Cadoux so that he can provide you with advice and counseling on managing your medical condition while deployed.

-Before you deploy we recommend that you speak briefly with the NRC Employee Assistance Program counselor, Sarah Linnerooth. Sarah can be reached on 301-415-7113. While you are deployed, EAP services are available to both you and your family, including extended family members such as Grandparents. The telephone number for EAP service is 1-800-896-0276. More information is available on the EAP on the web at www.eapconsultants.com. To learn more about the EAP and the services provided click on the member services tab. The NRC passcode is "nuclear". Please be sure to share this information with your family.

At this point, I ask that you hold any questions that you may have until the LT contacts you directly. However, after that time, if you have any additional questions or concerns that have not been addressed, please call or email me.

Thank you.

Michele Evans
Acting Deputy OD, NSIR
Michele.evans@nrc.gov
dB: (b)(6)

Deployment of Second NRC Team to Japan as of March 19, 2011

Skill Set	Name/Office/Projected Deployment date
Executive level	Dan Dorman/NMSS/March 19
General Technical Knowledge/interpersonal skills travelling March 22	Mike Scott/RES/March 22 Alan Blamey/Region II/ March 22
General Technical Knowledge/interpersonal skills travelling March 24	Jack Giessner/Region III/March 24 Rob Taylor/NRR/March 24
Protective Measures/Dose Assessment	Todd Jackson/Region I/March 23 Marie Miller/Region I/March 24
Structural Engineering Expertise	Syed Ali/RES/March 24 Abdul Sheikh/NRR/March 24
Damage Assessment Expertise	Ralph Way/NSIR/March 24
Expertise in Infrared Images	No NRC staff identified with this expertise. We are pursuing NGA resources that could support in Japan.
International Programs Expertise	Jack Ramsey/OIP/March 24 TBD/TBD/March 24

Valentine, Nicholee

From: Jolicoeur, John
Sent: Saturday, March 19, 2011 7:20 PM
To: Sheehan, Neil
Cc: Rosenberg, Stacey
Subject: Re: Japan reactor events Information Notice

Sorry,

I'm not aware of this IN. Maybe Stacey Rosenberg. She's the Generic Comm Branch Chief.
Sent from my NRC BlackBerry

John Jolicoeur
(b)(6)

From: Sheehan, Neil
To: Jolicoeur, John
Cc: Bowman, Adriane
Sent: Fri Mar 18 09:28:23 2011
Subject: re: Japan reactor events Information Notice

John,

I'm told you might know when the Information Notice on the Japan reactor events is going out. Do you know the answer on that at this point?

Neil
Public Affairs
(b)(6)

mmmm/153

From: Virgilio, Rosetta
To: Leeds, Eric; Sheron, Brian
Cc: Turtill, Richard; Piccone, Josephine; Jackson, Deborah; LIA08 Hoc; LIA04 Hoc
Subject: Fw: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN
Date: Sunday, March 20, 2011 12:51:00 PM

Gentlemen - See email thread below. I am trying to get more detailed info from NGA, as to date/time for next weeks meeting (Tues 3/22 or Wed 3/23), but would appreciate knowing your availability those days, as well as for April 4.

Sent from an NRC Blackberry

Rosetta O. Virgilio

(b)(6)

From: LIA08 Hoc
To: Virgilio, Rosetta; LIA06 Hoc; LIA04 Hoc; OST05 Hoc
Cc: Piccone, Josephine; Jackson, Deborah; Turtill, Richard; Ryan, Michelle
Sent: Sun Mar 20 11:59:33 2011
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Hi Rosetta. Just talked to Jim Wiggins. He said to plan on Eric Leeds and Brian Sheron being in the USA next week. Beyond that, not sure what their schedules are now, or what they will look like after Mondays Commission meeting. Jeff

From: Virgilio, Rosetta
Sent: Sunday, March 20, 2011 9:59 AM
To: LIA06 Hoc; LIA08 Hoc; LIA04 Hoc; OST05 Hoc
Cc: Piccone, Josephine; Jackson, Deborah; Turtill, Richard; Ryan, Michelle
Subject: Fw: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Below is my latest communication to NGA. Have not heard back from Brian Sheron as to his availability. Johnson, Leeds, and Haney are not available. Leeds said he might be available for April 4 - if he doesn't go to Japan.
What does ET recommend?

Sent from an NRC Blackberry

Rosetta O. Virgilio

(b)(6)

From: Virgilio, Rosetta
To: gdierkers@nga.org <gdierkers@nga.org>
Sent: Fri Mar 18 15:13:22 2011
Subject: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Hello, Greg - Just wanted to touch base and let you know that things are not looking good for NRC participation in next week's NGA webinar; however, I am pursuing the April 4, date, which may be more doable.

mmmm / 154

As I indicated yesterday, the NRC staff will brief the Commission Monday, March 21, 2011, at 9:00 a.m. regarding NRC's response to recent nuclear events in Japan. The meeting is public and will be held at NRC Headquarters at 11555 Rockville Pike, Commissioners' Conference Room, in Rockville, Maryland.

The meeting can also be viewed via Webcast at: <http://www.nrc.gov/public-involve/public-meetings/webcast-live.html>

Please feel free to share this information with your contacts.

Rosetta O. Virgilio
Senior Liaison Project Manager
Intergovernmental Liaison Branch
U.S. Nuclear Regulatory Commission
11545 Rockville Pike - T-8F42
Rockville, MD 20852-2738
301-415-2367
Rosetta.Virgilio@nrc.gov

From: Virgilio, Rosetta
To: 'gdierkers@NGA.ORG' <gdierkers@NGA.ORG>
Sent: Thu Mar 17 17:03:28 2011
Subject: Re: NGA Center NRC expert speaker requests

Thank you, Greg; I will followup and get back to you.

Sent from an NRC Blackberry
Rosetta O. Virgilio
(b)(6)

From: Dierkers, Gregory <gdierkers@NGA.ORG>
To: Virgilio, Rosetta
Cc: Gander, Sue <sgander@NGA.ORG>; MacLellan, Thomas <TMaclellan@NGA.ORG>; Ferro, Carmen <CFerro@NGA.ORG>
Sent: Thu Mar 17 16:36:04 2011
Subject: NGA Center NRC expert speaker requests

Hi Rosetta,

Thanks for your time today. We appreciate you identifying someone from the NRC to support the NGA Center's outreach to states during this busy time.

As we discussed we would like to invite the NRC to join us for **two upcoming events -- a webinar next week and a conference in early April -- to brief governors' advisors on the Japanese situation and the implications for US plants.** The events are:

1) **A webinar with governors' security and energy advisors.** NGA Center staff is planning to host a conference call next week (Tuesday 3/21 or Wednesday 3/22) to provide senior state officials with an update on the Japan situation and to answer questions as to the operations of US plants, including regulations, plant security/safety, and the emergency preparedness efforts at the US nuclear fleet. We would ask that an NRC expert join the webinar remotely; the webinar would last for 1 hour.

2) **An in-person speaker at a governors' energy advisors meeting.** NGA Center's *Governors' Energy Advisors Policy Institute* on April 4th in Arlington, Virginia. The focus of the April 4th Institute is to provide a 'Technology 101' briefing for governors senior energy advisors. We would invite the NRC to attend in-person on April 4th from 1:45pm to 4:15pm. We would ask for a 10-15 minute presentation on the situation in Japan, the state of nuclear technology and regulations in the US, and the implications for states from the Japanese crisis. Attached is a draft agenda.

Thanks for considering both of these requests.

Sincerely,

Greg Dierkers
Program Director – Energy and Transportation
NGA Center for Best Practices
Environment, Energy and Transportation Division
202-624-7789
gdierkers@nga.org

From: Leeds, Eric
To: Virgilio, Rosetta; Sheron, Brian
Cc: Turtill, Richard; Piccone, Josephine; Jackson, Deborah; LIA08 Hoc; LIA04 Hoc; Grobe, Jack; Boger, Bruce
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN
Date: Sunday, March 20, 2011 2:00:00 PM

I spoke with Rich Turtill, Rosetta and let him know that April 4 will work. Tuesday I've got the NY State Lt Gov and his entourage, and by Wed, I may need some time to catch up with activities here in NRR.

If that's a big problem, let me know and we'll reassess.

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

From: Virgilio, Rosetta
Sent: Sunday, March 20, 2011 12:51 PM
To: Leeds, Eric; Sheron, Brian
Cc: Turtill, Richard; Piccone, Josephine; Jackson, Deborah; LIA08 Hoc; LIA04 Hoc
Subject: Fw: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

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Rosetta O. Virgilio
(b)(6)

From: LIA08 Hoc
To: Virgilio, Rosetta; LIA06 Hoc; LIA04 Hoc; OST05 Hoc
Cc: Piccone, Josephine; Jackson, Deborah; Turtill, Richard; Ryan, Michelle
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mmmm / 155

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(b)(6)

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Rosetta O. Virgilio
Senior Liaison Project Manager
Intergovernmental Liaison Branch
U.S. Nuclear Regulatory Commission
11545 Rockville Pike - T-8F42
Rockville, MD 20852-2738
301-415-2367
Rosetta.Virgilio@nrc.gov

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Sent: Thu Mar 17 17:03:28 2011
Subject: Re: NGA Center NRC expert speaker requests

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Sent from an NRC Blackberry

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(b)(6)

From: Dierkers, Gregory <gdierkers@NGA.ORG>
To: Virgilio, Rosetta
Cc: Gander, Sue. <sgander@NGA.ORG>; MacLellan, Thomas <TMacLellan@NGA.ORG>;
Ferro, Carmen <CFerro@NGA.ORG>
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Sincerely,

Greg Dierkers
Program Director – Energy and Transportation
NGA Center for Best Practices
Environment, Energy and Transportation Division
202-624-7789
gdierkers@nga.org

From: Leeds, Eric
To: Sheron, Brian; Turtill, Richard; LIA08 Hoc; Virgilio, Rosetta; LIA06 Hoc; LIA04 Hoc; OST05 Hoc
Cc: Piccone, Josephine; Jackson, Deborah; Ryan, Michelle; Wiggins, Jim; Coe, Doug; Grobe, Jack; Wittick, Brian
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN
Date: Sunday, March 20, 2011 4:01:00 PM

Yes – NRR is working with the EDOs office to set up the meeting and we appreciate RES's support. Brian Wittick is the POC.

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

From: Sheron, Brian
Sent: Sunday, March 20, 2011 3:06 PM
To: Turtill, Richard; LIA08 Hoc; Virgilio, Rosetta; LIA06 Hoc; LIA04 Hoc; OST05 Hoc
Cc: Piccone, Josephine; Jackson, Deborah; Ryan, Michelle; Leeds, Eric; Wiggins, Jim; Coe, Doug
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

RES is working with NRR and will support the meeting. We are not taking the lead to set it up, etc. I am assuming NRR is doing that.

From: Turtill, Richard
Sent: Sunday, March 20, 2011 12:40 PM
To: LIA08 Hoc; Virgilio, Rosetta; LIA06 Hoc; LIA04 Hoc; OST05 Hoc
Cc: Piccone, Josephine; Jackson, Deborah; Ryan, Michelle; Leeds, Eric; Wiggins, Jim; Sheron, Brian
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN
Importance: High

Jeff (not certain which Jeff):

I'm the Branch Chief of FSME's Intergovernmental Liaison Branch, and some of us, including Rosetta and I, want to be assured that NRR and/or RES are taking the lead in (of course) preparing for the meeting with NY, but also **coordinating logistics for such a meeting**. I was planning to call Eric this afternoon to assure NRR was in fact taking the lead to coordinate meeting with NY, and keeping Chairman's office and RI informed of the meeting.

Shall I call Eric? The meeting is fast approaching... Tuesday. Many will be engaged in the Commission meeting on Mon morning. **I believe we (NRR Administrative support?) should be in touch with NY (their contact in DC - Hilary F. Jochmans, Director New York State Washington Office of the Governor 202-434-7100) first thing Monday morning to plan out meeting logistics for this meeting, including room reservation, etc.**

Can we be assured that NRR (and/or RES) is doing this? At this time, there have been just WAY too many e-mails discussing this meeting. Unless I hear from you shortly, I'll try

mmmm / 156

to contact Eric directly by phone. Please let me know.

Rich Turtill

(b)(6)

From: LIA08 Hoc

Sent: Sunday, March 20, 2011 12:00 PM

To: Virgilio, Rosetta; LIA06 Hoc; LIA04 Hoc; OST05 Hoc

Cc: Piccone, Josephine; Jackson, Deborah; Turtill, Richard; Ryan, Michelle

Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Hi Rosetta. Just talked to Jim Wiggins. He said to plan on Eric Leeds and Brian Sheron being in the USA next week. Beyond that, not sure what their schedules are now, or what they will look like after Mondays Commission meeting. Jeff

From: Virgilio, Rosetta

Sent: Sunday, March 20, 2011 9:59 AM

To: LIA06 Hoc; LIA08 Hoc; LIA04 Hoc; OST05 Hoc

Cc: Piccone, Josephine; Jackson, Deborah; Turtill, Richard; Ryan, Michelle

Subject: Fw: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Below is my latest communication to NGA. Have not heard back from Brian Sheron as to his availability. Johnson, Leeds, and Haney are not available. Leeds said he might be available for April 4 - if he doesn't go to Japan.
What does ET recommend?

Sent from an NRC Blackberry

Rosetta O. Virgilio

(b)(6)

From: Virgilio, Rosetta

To: gdierkers@nga.org <gdierkers@nga.org>

Sent: Fri Mar 18 15:13:22 2011

Subject: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Hello, Greg – Just wanted to touch base and let you know that things are not looking good for NRC participation in next week's NGA webinar; however, I am pursuing the April 4 date, which may be more doable.

As I indicated yesterday, the NRC staff will brief the Commission Monday, March 21, 2011, at 9:00 a.m. regarding NRC's response to recent nuclear events in Japan. The meeting is public and will be held at NRC Headquarters at 11555 Rockville Pike, Commissioners' Conference Room, in Rockville, Maryland.

The meeting can also be viewed via Webcast at: <http://www.nrc.gov/public-involve/public-meetings/webcast-live.html>

Please feel free to share this information with your contacts.

Rosetta O. Virgilio
Senior Liaison Project Manager
Intergovernmental Liaison Branch
U.S. Nuclear Regulatory Commission
11545 Rockville Pike - T-8F42
Rockville, MD 20852-2738
301-415-2367
Rosetta.Virgilio@nrc.gov

From: Virgilio, Rosetta
To: 'gdierkers@NGA.ORG' <gdierkers@NGA.ORG>
Sent: Thu Mar 17 17:03:28 2011
Subject: Re: NGA Center NRC expert speaker requests

Thank you, Greg; I will followup and get back to you.

Sent from an NRC Blackberry
Rosetta O. Virgilio

(b)(6)

From: Dierkers, Gregory <gdierkers@NGA.ORG>
To: Virgilio, Rosetta
Cc: Gander, Sue <sgander@NGA.ORG>; MacLellan, Thomas <TMaclellan@NGA.ORG>; Ferro, Carmen <CFerro@NGA.ORG>
Sent: Thu Mar 17 16:36:04 2011
Subject: NGA Center NRC expert speaker requests

Hi Rosetta,

Thanks for your time today. We appreciate you identifying someone from the NRC to support the NGA Center's outreach to states during this busy time.

As we discussed we would like to invite the NRC to join us for **two upcoming events -- a webinar next week and a conference in early April -- to brief governors' advisors on the Japanese situation and the implications for US plants.** The events are:

1) **A webinar with governors' security and energy advisors.** NGA Center staff is planning to host a conference call next week (Tuesday 3/21 or Wednesday 3/22) to provide senior state officials with an update on the Japan situation and to answer questions as to the operations of US plants, including regulations, plant security/safety, and the emergency preparedness efforts at the US nuclear fleet. We would ask that an NRC expert join the webinar remotely; the webinar would last for 1 hour.

2) **An in-person speaker at a governors' energy advisors meeting.** NGA Center's *Governors' Energy Advisors Policy Institute* on April 4th in Arlington, Virginia. The focus of the April 4th Institute is to provide a 'Technology 101' briefing for governors senior energy advisors. We would invite the NRC to attend in-person on April 4th from 1:45pm to 4:15pm. We would ask for a 10-15 minute presentation on the situation in Japan, the state of nuclear technology and regulations in the US, and the implications for states from the Japanese crisis. Attached is a draft agenda.

Thanks for considering both of these requests.

Sincerely,

Greg Dierkers
Program Director – Energy and Transportation
NGA Center for Best Practices
Environment, Energy and Transportation Division
202-624-7789
gdierkers@nga.org

Scott, Michael

From: Scott, Michael
Sent: Sunday, March 20, 2011 9:38 AM
To: LIA03 Hoc
Subject: RE: Request for information for contact purposes

As noted and modified below.

From: LIA03 Hoc
Sent: Sunday, March 20, 2011 8:49 AM
To: Dorman, Dan; Scott, Michael; Blamey, Alan; Giessner, John; Taylor, Robert; Jackson, Todd; Miller, Marie; Ali, Syed; Sheikh, Abdul; Way, Ralph; Ramsey, Jack
Cc: LIA02 Hoc
Subject: Request for information for contact purposes

All,

Please respond only to me (not to all as your response will have PII) to provide the information requested below. We need this information for ongoing contact purposes, and to make sure you have the telephonic equipment you need. Also please note that other travelers in your group cannot sign for your dosimeters. You need to stop by the Ops Center, International Liaison desk, to personally sign for that equipment.

NRC TRAVELERS IN JAPAN

Name	Phone Number	Email	Flight Arrival (in Japan Time)	Flight Arrival (in Eastern Daylight Time)	Return date to U.S.	Home telephone #	Emergency contact name	Do you need a blackberry &/or has it been internationally enabled?	Have you picked up your dosimeter
Dan Dorman Deputy Director, NMSS		Daniel.Dorman@nrc.gov							
Mike Scott Deputy Director (Acting), Division of Systems Analysis, RES	301-251-7524	Michael.Scott@nrc.gov				(b)(6)	(b)(6)	I have one. Will hopefully get it enabled Monday.	Not yet
Alan Blamey, RII TITLE?		Alan.Blamey@nrc.gov							
Jack Giessner, RIII TITLE?		@nrc.gov							
Rob Taylor SG Tube Integrity and Chemical Engineering Branch, NRR		Robert.Taylor@nrc.gov							

mmmm/ 157

Todd Jackson Commercial and R&D Branch, DNMS, RI		Timothy.kolb@nrc.gov							
Marie Miller Chief, Material Security and Industrial Branch, RI		Marie.Miller@nrc.gov							
Syed Ali Senior Level Advisor, Div of Engineering, RES		Syed.Ali@nrc.gov							
Abdul Sheikh, NRR TITLE?		Abdul.Sheikh@nrc.gov							
Ralph Way, NSIR TITLE?		Ralph.Way@nrc.gov							
Jack Ramsey, Senior Level Advisor, OIP		Jack.Ramsey@nrc.gov							

From: McGinty, Tim
To: Leeds, Eric; Boger, Bruce
Subject: Fw: fyi
Date: Monday, March 21, 2011 4:41:55 PM

Sent from my NRC blackberry
Tim McGinty

(b)(6)

From: McGinty, Tim
To: Blount, Tom
Sent: Mon Mar 21 13:32:41 2011
Subject: RE: fyi

oops

<http://www.bloomberg.com/news/2011-03-21/jaczko-s-call-on-fukushima-radiation-plucks-u-s-regulator-from-obscurity.html>

From: McGinty, Tim
Sent: Monday, March 21, 2011 1:32 PM
To: Blount, Tom
Subject: fyi

mmmm/158

From: Virgilio, Martin
To: Wittick, Brian; Borchardt, Bill; Weber, Michael
Cc: Muessle, Mary; Andersen, James; Leeds, Eric; Sheron, Brian; Dean, Bill; Lew, David; Wiggins, Jim
Subject: REPLY: Status update on NYS LtGov visit
Date: Monday, March 21, 2011 9:51:34 PM

Thanks, Brian

Do we have a prepared response(s) to a question(s) related to the implications for Indian Point associated with the 50 mile evacuation recommendation in Japan.

Marty

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

From: Wittick, Brian
Sent: Monday, March 21, 2011 6:46 PM
To: Borchardt, Bill; Weber, Michael; Virgilio, Martin
Cc: Muessle, Mary; Andersen, James; Leeds, Eric; Sheron, Brian; Dean, Bill; Lew, David; Wiggins, Jim
Subject: Status update on NYS LtGov visit

Bill/Mike/Marty,

Following is an update to the NYS LtGov delegation visiting tomorrow:

The NYS delegation includes:

Lieutenant Governor Robert Duffy
Howard Glaser, Director of State Operations and Senior Policy Advisor
Thomas Congdon, Assistant Secretary for Energy and Environment
Andrew Feeney, Director - New York State Office of Emergency Management
Joan Matthews, Assistant Commissioner - Department of Environmental Conservation
Paul Eddy, Utilities Supervisor - Department of Public Service
Brian Quiara, Senior Policy Advisor to Lieutenant Governor Duffy
David Doyle, Press Officer from the Governor's office

Stated topics of interest include:

- The governor's office desires to establish a foundation for communications with the NRC at a high level;
- They desire to obtain a better understand the September 2010 report on seismicity, especially with respect to Indian Point; they are also interested in any follow-up reviews or plans for review;
- They want to understand how the findings of the seismic report relate to relicensing;
- Andrew Feeney, Director of Emergency Management is coming as a result of our recommendation to evacuate out to 50 miles in Japan, to understand how this fits into their perceived plans; Tom Congdon indicated they had always only focused on a 10 mile evacuation capability.

It would appear they are bringing a press officer as they want to be able to make a statement after the meeting that they have reached agreement with NRC on certain issues.

The meeting is being held from 1030 - 1200 in O13B4, with HOC tour following.

VR/
Brian Wittick
Executive Technical Assistant for Reactors
Office of the Executive Director for Operations
U.S. Nuclear Regulation Commission
301-415-2496 (w) (b)(6) (c)

mmm/159

From: OST01 HOC
Sent: Thursday, April 28, 2011 5:36 PM
To: Dudek, Michael
Cc: Correia, Richard
Subject: ACTION - New Ticket for Japanese Event Task Tracking (JETT) Ticket
Attachments: Ed Tanzman Help - Tasker 5075.doc

The Operations Center has identified a task that falls in the purview of the Line Organization. You were provided as a POC for NSIR.

Ed Tanzman is preparing to testify to the Illinois State legislature about nuclear preparedness issues Friday morning (4/29). Please see the attachment for the information he requested. PMT will discuss questions with Japan Site Team on 1830 call (4/28). All answers will be sent to tanzman@anl.gov. Any unanswered questions will be tasked to NSIR to follow-up.

This ticket is being tracked in the Japan SharePoint page (<http://nsir-ops.nrc.gov/Lists/HOC%20Red%20Tickets/Open%20Items.aspx>) under ticket number 5075.

Please provide a response to this email to confirm receipt. Thank you.

Rebecca Stone
Executive Support Team

Please note that all attachments are OUO

Thanks for taking the time to help me with my testimony. I have a couple of questions whose answers might help. Unfortunately, I need them by about noon CDT tomorrow (Thursday) because my statement has to be transmitted in mid-afternoon. Here are the questions:

1) Can I get confirmation that radiological emergency planning zone size in Japan is from 8-10 km from reactor sites and that only a single zone exists there? Here are links to a Japanese government publication (Government of Japan, Convention on Nuclear Safety National Report of Japan for the Third Review Meeting (provisional translation), Table 1, p. A3-89 (2004) (available at http://www-ns.iaea.org/downloads/ni/safety_convention/japan_report_041227.PDF)) and an independent article (Organisation for Economic Co-operation and Development Nuclear Energy Agency, Short-Term Countermeasures in Case of a Nuclear or Radiological Emergency (ISBN 92-64-02140-X), p. 19 (2003) (available at <http://www.oecd-nea.org/rp/reports/2003/nea3600-short-term.pdf>)) that both report this zone definition. However, the distance is so much smaller than the zone sizes in the United States that it seems wrong.

The United States zones are 314 square miles for plume EPZs and 7,850 miles for ingestion EPZs, whereas the Japanese EPZ is 121 square miles, and no ingestion zone pathway EPZ appears to exist at all.

2) Can I get confirmation that the nuclear utilities in Japan write the offsite radiological emergency preparedness plans, rather than the prefecture and municipal governments (analogous to state and local governments in the United States)? Article 7(1) on p. 5 of the attached Japanese Act on Special Measures Concerning Nuclear Emergency Preparedness states that:

"A nuclear operator shall, pursuant to the provisions of an ordinance of the competent ministry, prepare a nuclear operator emergency action plan with regard to its measures to prevent nuclear emergency, emergency response measures, and measures for restoration from nuclear emergency and other duties that are necessary for preventing the occurrence and progression (expansion) of a nuclear disaster and for promoting nuclear disaster recovery efforts, with respect to each of its nuclear sites, and review its nuclear operator emergency action plan every year and revise it if revision is found to be necessary."

This Act refers extensively to the Basic Act on Disaster Control Measures, but that one does not seem to be available in English. If confirmation is not possible, an English translation of the Basic Act, if available, would allow me to draw my own conclusions.

Thanks in advance for whatever you can do. If anybody wants to call me, I will be available on Thursday at (b)(6)

From: Ralston, Michelle <Michelle.Ralston@dhs.gov>
Sent: Monday, March 21, 2011 2:08 PM
To: LIA05 Hoc
Subject: RE: Commission Meeting: Briefing on NRC Response to Recent Nuclear Events in Japan

Thank you.

Respectfully,

Michelle Ralston, MS, PMI
Public Affairs, Stakeholder Outreach & Campaign Planning
Professional Services & Integration
Technological Hazards Division
Protection & National Preparedness
DHS/FEMA
1800 South Bell Street, Rm. 828
Arlington, VA 22202
(202) 212-2310 desk
(b)(6) Blackberry
(703) 305-0837 facsimile

From: prvs=054bd8b01=LIA05.Hoc@nrc.gov [mailto:prvs=054bd8b01=LIA05.Hoc@nrc.gov] **On Behalf Of** LIA05 Hoc
Sent: Monday, March 21, 2011 2:05 PM
To: Ralston, Michelle
Subject: RE: Commission Meeting: Briefing on NRC Response to Recent Nuclear Events in Japan

We receive them at 0600 and 1700

Bonnie Sheffield Dayshift 0700-1500
Ken Wierman Nightshift 1500-2300
FEMA REP Liaison
NRC Operations Center
(301) 816-5187

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~~DO NOT RELEASE OUTSIDE OF THE FEDERAL FAMILY~~

From: Ralston, Michelle [mailto:Michelle.Ralston@dhs.gov]
Sent: Monday, March 21, 2011 2:01 PM
To: LIA05 Hoc
Subject: RE: Commission Meeting: Briefing on NRC Response to Recent Nuclear Events in Japan

Do you expect another status update soon?

Respectfully,

Michelle Ralston, MS, PMI

Public Affairs, Stakeholder Outreach & Campaign Planning
Professional Services & Integration
Technological Hazards Division
Protection & National Preparedness
DHS/FEMA
1800 South Bell Street, Rm. 828
Arlington, VA 22202
(202) 212-2310 desk
(b)(6) Blackberry
(703) 305-0837 facsimile

From: prvs=054bd8b01=LIA05.Hoc@nrc.gov [mailto:prvs=054bd8b01=LIA05.Hoc@nrc.gov] **On Behalf Of** LIA05 Hoc
Sent: Monday, March 21, 2011 7:14 AM
To: Dan Feighert; Andrew Seward; Harry Sherwood; John Simpson; Michelle Ralston; Steve Horwitz; Tim Greten; Vanessa E. Quinn; Albert Coons; Bill Webb; Conrad Burnside; Craig Fiore; Darrell Hammons; Lisa Hammond; Rebecca Thomson; Ronald McCabe; Steve Colman; William King
Cc: James.Kish@dhs.gov
Subject: FW: Commission Meeting: Briefing on NRC Response to Recent Nuclear Events in Japan

A Commission meeting will be held on Monday, March 21, 2011 at 9:00 am EST. This is a public meeting and can be viewed via webcast.

Please use the following link to access the webcast.

<http://www.nrc.gov/public-involve/public-meetings/webcast-live.html>

Feel free to notify interested stakeholders.

Bonnie Sheffield Dayshift 0700-1500
Ken Wierman Nightshift 1500-2300
FEMA REP Liaison
NRC Operations Center
(301) 816-5187

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From: OST05 Hoc
Sent: Monday, March 21, 2011 7:10 AM
To: LIA05 Hoc
Subject: FW: Commission Meeting: Briefing on NRC Response to Recent Nuclear Events in Japan

A Commission meeting will be held on Monday, March 21, 2011 at 9:00 am. This is a public meeting and can be viewed via webcast.

Please use the following link to access the webcast.

<http://www.nrc.gov/public-involve/public-meetings/webcast-live.html>

Feel free to notify interested stakeholders.

Thanks,
Cindy Flannery
State Liaison – Liaison Team
NRC Incident Response Center

Lee, Richard

From: Santiago, Patricia
Sent: Monday, March 21, 2011 4:39 PM
To: Gibson, Kathy; Schaperow, Jason; Lee, Richard
Subject: RE: NR Program Questions on NRC BWR MELCOR Spent Fuel Assessment

OK, we can use a separate PM for any Japan event contract and I will work with Richard Lee. I am trying to reverse the op center item.
thanks

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

From: Gibson, Kathy
Sent: Monday, March 21, 2011 4:38 PM
To: Santiago, Patricia; Schaperow, Jason; Lee, Richard
Subject: Re: NR Program Questions on NRC BWR MELCOR Spent Fuel Assessment

I object to taking Jason out of the ops center. I thought I made that clear. I also object to Jason being PM for this new contract. Richard Lee has people that can and should be tapped for some of this work.

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

From: Santiago, Patricia
To: Gibson, Kathy; Schaperow, Jason
Sent: Mon Mar 21 16:34:07 2011
Subject: RE: NR Program Questions on NRC BWR MELCOR Spent Fuel Assessment

Yes we did a mod but now I am proposing a separate contract with Jason as PM since most work is directed from Jason and Charlie.
thanks

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

From: Gibson, Kathy
Sent: Monday, March 21, 2011 3:04 PM
To: Schaperow, Jason
Cc: Santiago, Patricia
Subject: Re: NR Program Questions on NRC BWR MELCOR Spent Fuel Assessment

I hope we modified the contract since this is not SOARCA related.

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

From: Schaperow, Jason
To: Gibson, Kathy
Sent: Mon Mar 21 14:53:51 2011
Subject: RE: NR Program Questions on NRC BWR MELCOR Spent Fuel Assessment

We are paying for Sandia's time under the SOARCA project.

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

From: Gibson, Kathy
Sent: Monday, March 21, 2011 2:49 PM
To: Schaperow, Jason; Santiago, Patricia; Lee, Richard
Cc: Wagner, Katie; Tinkler, Charles; Scott, Michael; Elkins, Scott; Chang, Richard
Subject: Re: NR Program Questions on NRC BWR MELCOR Spent Fuel Assessment

Who is paying for Sandia's time? Is this work something we would want done anyway?

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

From: Schaperow, Jason
To: Santiago, Patricia; Lee, Richard
Cc: Wagner, Katie; Tinkler, Charles; Gibson, Kathy; Scott, Michael; Elkins, Scott; Chang, Richard
Sent: Mon Mar 21 14:44:35 2011
Subject: RE: NR Program Questions on NRC BWR MELCOR Spent Fuel Assessment

SNL is supporting this request from NR. They worked with Jennifer and me late last night and today. I plan to talk with KC Wagner shortly, as we will need his help in answering most of the questions below.

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

From: Santiago, Patricia
Sent: Monday, March 21, 2011 2:14 PM
To: Schaperow, Jason; Lee, Richard
Cc: Wagner, Katie; Tinkler, Charles; Gibson, Kathy; Scott, Michael; Elkins, Scott; Chang, Richard
Subject: Re: NR Program Questions on NRC BWR MELCOR Spent Fuel Assessment

When the action is closed we also need to alert katie and richard. Also u should cc me as we realize this work is dynamic so that I know what work is being done or requested. Is SNL doing anything since that requires u also cc richard chang as pm so he knows who is directing who at his contractor. we also need to let him know the extent of snl support since there is only 100k for this support presently.

Thanks

Sent from an NRC BlackBerry

Patricia Santiago

(b)(6)

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

From: Schaperow, Jason
To: Lee, Richard
Cc: Wagner, Katie; Tinkler, Charles; Szeto, Gordon CIV SEA 08 NR (b)(6) Santiago, Patricia
Sent: Mon Mar 21 13:23:17 2011
Subject: FW: NR Program Questions on NRC BWR MELCOR Spent Fuel Assessment

Hi Richard,

Last night, when Jennifer Uhle was in the Ops Center, she directed me to coordinate with Naval Reactors (NR) who had some questions regarding spent fuel pool accident progression analysis for Fukushima Daiichi unit 4. Also, she sent NR the latest results of KC's spent fuel pool calculations for Fukushima Daiichi unit 4. I coordinated with NR last night and again this morning and, as a result, they forwarded me the information request below. I am forwarding it to you, as it is my understanding that you are handling and overseeing information requests for our division.

Thanks,
Jason

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

From: Szeto, Gordon CIV SEA 08 NR (b)(6)
Sent: Monday, March 21, 2011 1:15 PM
To: Schaperow, Jason
Cc: Roberts, Thomas E CIV SEA 08 NR; Steinhurst, Laurel A CIV SEA 08 NR; Herman, David R CIV NAVSEA, 08; Vavoso, Thomas G CIV NAVSEA, 08; Bell, Stephen T CIV SEA 08 NR; Steele, Jeffrey M CIV

SEA 08 NR; robert.fontaine.contractor@unnpp.gov; thomas.sambolt.contractor@unnpp.gov;
marlene.gilmore.contractor@unnpp.gov
Subject: NR Program Questions on NRC BWR MELCOR Spent Fuel Assessment

Jason

Below are questions from NR program on the subject from 1015 call 21 Mar
11-

1. What is the decay heat assumed in the model. How is the fuel and its decay heat distributed radially (temperature plots indicate similar behavior for the "fresh" and "older" fuel). What are the decay heat assumptions for the "recently discharge" and "older discharged" fuel?
2. Clad temperature plots indicate complete clad relocation at about 17.6 days. What is the failure mechanism modeled in MELCOR?

(Highest temperature is too low to be melting. All axial elevations regardless of temperature fail at the same time.)
3. What is the fraction of zircaloy that has oxidized? The hydrogen generation plot shows increase of hydrogen generation due to zircaloy stopping at about 17.6 days (consistent with relocation) and no hydrogen generation after that.
4. What is the nodalization of the MELCOR model?
5. Why did the calculation stop at 18.2 Days?
6. Are there any results available from CAV or CVH Packages?
7. In the model, is the depleted oxygen being replenished from outside the building?
8. On the "hydrogen generation" curve, all of the hydrogen generation appears to stop prior to relocation of the core. What is the reason for the stopping of hydrogen generation?
9. What is the distribution of the older vs newer fuel in the pool and how was it modeled in the analysis? Can NRC contact GE spent fuel personnel to get insight into how Daiichi plants may distribute fuel?
10. Reports - please provide copies of the 5 reports that were given to GE on this analysis. Also, provide a bibliography of the other relevant reports for the BWR spent fuel pool analysis.

The reports should be provided the Mr. Fontaine (KAPL) at the email address above, Mr. Sambolt (Bettis), and Mr. Szeto at NR. NR mailing address for paper copy is:

1240 Isaac Hull Ave
SE Building 104
Washington DC 20376-8005

Call me if you have questions Jason

Tks
Gszeto

(b)(6)

From: Tregoning, Robert
To: Collins, Jay; Dunn, Darrell
Cc: Csontos, Aladar; Gavrilas, Mirela; Richards, Stuart; Case, Michael
Subject: FW: ULTRASONIC EXAMINATION RESULTS IN INDICATIONS ON TWO REACTOR HEAD PENETRATIONS
Date: Monday, March 21, 2011 4:26:42 PM

Jay/Darrell:

I presume that you've seen this, but if not I'm forwarding FYI. Do we have any more information regarding the extent and location of the cracking?

Thanks,
Rob

Robert Tregoning
Technical Advisor for Materials
US Nuclear Regulatory Commission
21 Church Street, M/S CS-5A24
Rockville, MD 20850
ph: 301-251-7662

(b)(6)

fax: 301-251-7425

From: Richards, Stuart
Sent: Monday, March 21, 2011 4:01 PM
To: Csontos, Aladar; Tregoning, Robert
Cc: Case, Michael
Subject: ULTRASONIC EXAMINATION RESULTS IN INDICATIONS ON TWO REACTOR HEAD PENETRATIONS

See report from Byron plant at the webpage below – fyi - Stu

http://nrr10.nrc.gov/roe/event/en-internal.cfm?criteria=1¤t=0&en_no=46686

mmmm/163

From: [Hayden, Elizabeth](#)
To: [Boska, John](#)
Cc: [Leeds, Eric](#)
Subject: FW: NRC meeting with NY officials, proposal
Date: Monday, March 21, 2011 6:43:11 PM
Importance: High

I got the NY press person info from Brian Wittick.

John,

Who from NY is planning to attend the meeting tomorrow and who from NRC will be there?

Do you know if any of the NY public affairs folks will be coming, too? If so, can you give me their contact information?

We have a handful of reporters who want to talk to the NY delegation after the meeting. I need to find out if the NYers would be interested in talking to the press before a tour of the Ops Center or afterwards.

We need to give reporters our message from the meeting even if the NYers don't want to talk to reporters.

Also, it would help if you could tell me what is to be discussed and/or talking points that I understand you are developing.

Lastly, I told reporters there would be no Commissioners at this meeting—right?

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

From: Regina Bediako [<mailto:bediako@nhkdc.com>]
Sent: Monday, March 21, 2011 4:58 PM
To: McIntyre, David
Cc: Hayden, Elizabeth
Subject: RE: NRC meeting with NY officials, proposal
Importance: High

Thanks for the info David! Will stay tuned.

Hi Beth – we weren't sure if this was happening here or in NYC, so we appreciate this heads-up. Will there be anything that we can send a camera to in the way of the actual meeting itself, a spray at the top or maybe stakeout opportunities, or will this be more of a private affair? Also, will any of the commissioners be attending? Anything you have on this would be great.

mmmm / 16H

Regina Bediako
NHK (Japan Broadcasting Corporation)
2030 M St NW, Suite 706
Washington, D.C. 20036

Office: (202) 828-5180, ext. 111 Cell: (b)(6)

From: McIntyre, David [mailto:David.McIntyre@nrc.gov]
Sent: Monday, March 21, 2011 4:22 PM
To: Regina Bediako
Cc: Hayden, Elizabeth
Subject: RE: NRC meeting with NY officials, proposal

Hi Regina – no word from the Commission on that proposal yet – we should have a press release once that's final.

As for tomorrow's meeting with the NY officials, it will be here in Rockville. I'm cc'ing my colleague, Beth Hayden, who is handling that issue and can fill you in on the details.

From: Regina Bediako [mailto:bediako@nhkdc.com]
Sent: Monday, March 21, 2011 12:35 PM
To: McIntyre, David
Subject: NRC meeting with NY officials, proposal
Importance: High

Hi David,

I was hoping you might be able to provide us with a little background on tomorrow's scheduled meeting with NY Governor Cuomo's staff and NRC officials tomorrow on Indian Point. Is it happening in Washington, and who will be the officials attending (will any of the commissioners be there)? We were also curious to know what kind of media might be put out on this – I'm guessing it's not a public meeting like today's since there haven't been any press releases, so would I be correct to assume there won't be any video available or stakeout opportunities afterwards? Let me know if we can expect anything in the way of readouts, still, etc.

I also asked Public Affairs about the proposal that the Chairman mentioned that's in front of the Commission on short-term and long-term review options. Is there any more detail we might be able to get on this, if not the proposal itself?

Thanks very much!

Regina Bediako

NHK (Japan Broadcasting Corporation)

2030 M St NW, Suite 706

Washington, D.C. 20036

Office: (202) 828-5180, ext. 111 Cell (b)(6)

From: HOO Hoc
Sent: Friday, April 22, 2011 10:58 AM
To: LIA07 Hoc; LIA08 Hoc; OST01 HOC
Subject: FW: <Press Release> Enhancement Plan for Monitoring
Attachments: Enhancement Plan for Monitoring.pdf

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

From: (b)(6)

Sent: Friday, April 22, 2011 10:55 AM

To: (b)(6)

(b)(6)

Subject: <Press Release> Enhancement Plan for Monitoring

Dear Sirs and Madams,

Please see attached the document.

Press Release regarding the Enhancement Plan for Environmental Monitoring has been issued.

English version will be sent later.

Sincerely yours,

Kei EDA

EOC, Ministry of Education, Culture, Sports, Science & Technology (MEXT), Japan

mmmm/165

「環境モニタリング強化計画」について

平成 23 年 4 月 22 日

原子力災害対策本部

1. 趣旨

(1) 福島第一原子力発電所の事故の状況がまだ収束していない中で、緊急時被ばく状況に対応するために、避難区域、計画的避難区域及び緊急時避難準備区域が設定されているところである。

また、当該区域等における環境モニタリングは、文部科学省を中心に関係自治体等が実施している状況である。

(2) このような中で、この「環境モニタリング強化計画」は、事故状況の全体像を把握するとともに、計画的避難区域等の設定の評価に資することなどのために、下記の項目を考慮して適切な手法で取り組むものとする。

- ①福島第一原子力発電所周辺を含む適切な範囲での放射性物質の分布状況の把握
- ②今後の各区域（避難区域、計画的避難区域及び緊急時避難準備区域）における線量評価や放射性物質の蓄積状況評価のための準備
- ③周辺住民等の被ばく線量評価のための環境の線量情報の提供

2. 実施内容

「モニタリング強化計画」は、当面、事故収束後の状況への移行を視野に入れつつ、現在の緊急時被ばく状況に対応するために次のように行うものとする。

(1) 環境モニタリングの実施により次のような「放射線量等分布マップ」を作成する。

①現状における放射性物質の分布状況を把握するために「線量測定マップ」を作成する。

②上記①に基づき年間20mSvを基準として当該地域における事故発生後1年間の積算線量がどの程度になるかを推定する「積算線量推定マップ」を作成する。

③土壌表層中の放射性物質の蓄積状況を把握するため「土壌濃度マップ」を作成する。

(2) 各地点での測定は、空間線量率及び土壌表層のヨウ素131、セシウム134、セシウム137の濃度等を対象とする。また、効果的・効率的なモニタリングを実施するため、モニタリング実施地点の適正化や積算線量計の活用を行う。

(3) 米国エネルギー省及び文部科学省が行う航空機サーベイにより、広域的な線量分布を把握するとともに、その結果を踏まえて効果的・効率的な環境モニタリング活動ができるようにする。

(4) 20km圏内の避難区域については、事故状況の推移を見つつ

航空機サーベイを含め可能な環境モニタリングを実施する。

(5) 海洋エリアについては、沿岸域の測定点を増やすとともに、海流予測を活用した放射性物質の拡散予測を継続的に実施する。また、水産資源の調査を実施する。

(6) モニタリングの結果が蓄積され評価できる段階になった時点で、原子力安全委員会は総合的に評価し、原子力災害対策本部がその評価結果を受け、事故状況の推移も勘案して所要の措置をとる。

3. 実施体制

「モニタリング強化計画」は、関係機関が密接に連携して体系的に実施する。

(1) モニタリング強化計画におけるモニタリング実施機関は、①文部科学省（日本原子力研究開発機構、大学、米国エネルギー省との連携を含む。）、②防衛省、③警察（県警）、④福島県、⑤電気事業者ほかとする。

(2) 上記（1）の各機関の環境モニタリングの測定データのとりまとめと公表は文部科学省が行う。

(3) 体系的・計画的な環境モニタリングを推進していくために、文部科学省及び原子力安全委員会は経済産業省等と密接な連携を図り、モニタリングの範囲やモニタリング手法の標準化などの具体的な実施方法を策定する。

Wagner, Katie

From: Wagner, Katie
Sent: Monday, March 21, 2011 4:06 PM
To: Bush-Goddard, Stephanie
Subject: RE: Governmental Decisions and Recommendations as a result of the Japanese Emergency

Stephanie - Is there a specific staff contact for this item yet? - Thanks, Katie

From: Bush-Goddard, Stephanie
Sent: Monday, March 21, 2011 2:52 PM
To: RES_DSA_HEB
Cc: Sherbini, Sami; Wagner, Katie
Subject: FW: Governmental Decisions and Recommendations as a result of the Japanese Emergency

Katie: please document this in the SharePoint Site.

Staff:

I need help in answering these questions below for CRPPH.

Lets discuss at tomorrow Branch meeting.

-Stephanie

From: Edward.LAZO@oecd.org [mailto:Edward.LAZO@oecd.org]
Sent: Thursday, March 17, 2011 9:23 AM
To: amcgarry@rpil.ie; patrick.smeesters@fanc.fgov.be; kaare.ulbak@sis.dk; edward.lazo@oecd.org; schneider@cepn.asso.fr; jean-francois.lecomte@irsn.fr; ck@nuke.hacettepe.edu.tr; suzuki51@mext.go.jp; shandala@srcibph.ru; apanfilov@uyrb.faae.ru; toshihiko.kamada@mofa.go.jp; perez@who.int; masa.takahashi@cao.go.jp; Milligan, Patricia; bruno.cessac@irsn.fr; david.duchesne@hc-sc.gc.ca; david.tredinnick@arpansa.gov.au; p.hedemann@dekom.dk; david.cancio@ciemat.es; jose.gutierrez@ciemat.es; tomoho.yamada@cao.go.jp; ian.robinson@hse.gsi.gov.uk; johannes.hammer@ensi.ch; boyd.mike@epa.gov; carvalho@itn.pt; wweiss@bfs.de; shizuyo.kusumi@cao.go.jp; ali.ghovanlou@hq.doe.gov; kazsakai@nirs.go.jp; saito-minoru@jnes.go.jp; andre.jouve@ec.europa.eu; wim.molhoek@minvrom.nl; antonis@eeae.nrcps.ariadne-t.gr; r.martincic@iaea.org; j.p.auclair@hc-sc.gc.ca; jerzy.mietelski@ifj.edu.pl; olivier.lsnard@irsn.fr; brian.ahier@hc-sc.gc.ca; koblinger@haea.gov.hu (b)(6); rafal.frac@oecd-poland.org; kobayashi.hirohide@jaea.go.jp; clive.williams@environment-agency.gov.uk; carrz@who.int; jldelgado@cnsns.gob.mx; caroline.purvis@cncs-ccsn.gc.ca; sci.sec@icrp.org; ikumi.moriguchi@oecd.org; eduard.metke@ujd.gov.sk; jpgc@csn.es; keith.binfield@defra.gsi.gov.uk; delphine.xicluna@asn.fr; ronald.rusch@ensi.ch; werner.zeller@bag.admin.ch; pcam@enresa.es; karla.petrova@sujb.cz; dominique.rauber@babs.admin.ch; saigusa@nirs.go.jp; jim.scott@arpansa.gov.au; kr.kase@stanfordalumni.org; yuinoue@mext.go.jp; okuno.hiroshi@jaea.go.jp; kanamori.masashi@jaea.go.jp; patrick.breuskin@ms.etat.lu; duranova@vuje.sk; decair.sara@epa.gov; d.h.byron@iaea.org; adriana.sokolikova@ujd.gov.sk; yamamoto.kazuya@jaea.go.jp; f.baciu@iaea.org; delphine.caamano@asn.fr; ysumika@mext.go.jp; ciska.zuur@minvrom.nl; smm@gr.is; carlos.sancho@ciemat.es; khour@eeae.gr; ingemar.lund@ssm.se; augustin.janssens@ec.europa.eu; pedrovaz@itn.pt; ksmith@rpil.ie; jill.meara@hpa.org.uk; joerg.brauns@areva.com; ogoshi-harushige@meti.go.jp; acortes@cnsns.gob.mx; benjamin.stanford@oecd.org; malcolm.crick@unscear.org; olli.vilkamo@stuk.fi; stuart.prosser@arpansa.gov.au; helmut.fischer@lebensministerium.at; krajewski@clor.waw.pl; peter.johnston@arpansa.gov.au; johannes.kuhlen@bmu.bund.de; vera.starostova@sujb.cz; jmmc@csn.es; peter.hughes@hse.gsi.gov.uk; mike.griffiths@rimnet.gsi.gov.uk; paolo.zeppa@isprambiente.it; lynn.hubbard@ssm.se; nina.cernohlawek@ages.at; rvr@csn.es; sandra.little@hse.gsi.gov.uk; florence.gallay@asn.fr; salvatore.frullani@iss.infn.it; sychang@kaeri.re.kr; luciano.bologna@apat.it; sandro.sandri@enea.it; dana.drabova@sujb.cz; mrm@csn.es; florence.menetrier@cea.fr; hschoi@kins.re.kr; axel.boettger@bmu.bund.de; e.amaral@iaea.org; miroslav.pinak@oecd.org; barbara.vokal-nemec@gov.si; uichiro.yoshimura@oecd.org; jean-

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luc.godet@asn.fr; Bush-Goddard, Stephanie; halilburcin.okyar@oecd.org; finn.ugletveit@nrpa.no; hannele.aaltonen@stuk.fi; stig.husin@ssm.se; sep@gr.is; ann.heinrich@nnsa.doe.gov; vesa.tanner@ec.europa.eu; peter.hofer@lebensministerium.at; fgering@bfs.de; maekawa-yukinori@meti.go.jp; cmcmahon@rpil.ie; christian.vandecasteele@fanc.fgov.be; nakata@nustec.or.jp; isabelle.mehl-auget@asn.fr; fukumoto.masahiro@jaea.go.jp; gunnar.saxebol@nrpa.no; kevin.bundy@cnsccs.gc.ca; sisko.salomaa@stuk.fi; alexandru.rodna@cncan.ro; hans.riotte@oecd.org; iharikan@taek.gov.tr; niu@ilo.org; kristiina.korhonen@oecd.org; shannounf@who.int; hefin.griffiths@ansto.gov.au; hiroito@mext.go.jp; hkataoka@mext.go.jp; alexandra.brasat@amb-roumanie.fr; macsuga@haea.gov.hu; hoe@brs.dk; vince.mcclelland@nnsa.doe.gov; stephen.solomon@arpana.gov.au; bob.powell@hse.gsi.gov.uk; kevin.jackson@ec.europa.eu; krzysztof.dabrowski@paa.gov.pl; jette.bijlholt@minvrom.nl; kmiyamo@mext.go.jp

Subject: Governmental Decisions and Recommendations as a result of the Japanese Emergency

Dear Colleagues,

A key issue in any nuclear emergency is the need to keep decision makers informed of the details of the quickly evolving situation. One aspect of such an evolution is that countries will make decisions regarding advice to their own citizens, regarding their own imports and exports, regarding their own industries, etc.

For this reason, I discussed today (17 March) with the Inter-Agency Committee on Response to Nuclear Emergencies (IACRNE) the idea of trying to collect a kind of "database" of decisions and recommendations that have been made by various governments at this early stage of the situation, and to try to update and modify this database as long as this remains of use to you. The IACRNE meeting today agreed that this information would be very useful, and mandated the NEA to try to put this together. The EC reported that for its member countries the ECURIE system has been used to collect this information, and as such I have asked Augustin Janssens to provide decisions and recommendations for European countries, so as to avoid double reporting (and double work).

To begin, then, I would like to know whether your governments have made recommendations with regard to your citizens in Japan, with regard to food or goods coming from Japan, with regard to your citizens going to Japan. Sample questions are given in the attached table.

I would also like to know if you have any other questions you would like to have asked in this regard, concerning other types of decisions or recommendations that would be of use to your government in the context of the current situation.

Please send me any information regarding your published governmental positions, and any new questions for which you would like to have input. I will make sure that the CRPPH constituency, as well as the IAEA and the other IACRNE member organizations, are kept informed of all results I am able to collect.

Sincerely,
Ted

Wagner, Katie

From: Wagner, Katie
Sent: Monday, March 21, 2011 2:59 PM
To: Bush-Goddard, Stephanie; Dehn, Jeff
Subject: RE: Governmental Decisions and Recommendations as a result of the Japanese Emergency

Stephanie – This looks international to me so I am forwarding this to Jeff Dehn since he is the international request POC for DSA. – Thanks, Katie

From: Bush-Goddard, Stephanie
Sent: Monday, March 21, 2011 2:52 PM
To: RES_DSA_HEB
Cc: Sherbini, Sami; Wagner, Katie
Subject: FW: Governmental Decisions and Recommendations as a result of the Japanese Emergency

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e.amaral@iaea.org; miroslav.pinak@oecd.org; barbara.vokal-nemec@gov.si; uichiro.yoshimura@oecd.org; jean-luc.godet@asn.fr; Bush-Goddard, Stephanie; halilburcin.okyar@oecd.org; finn.ugletveit@nrpa.no; hannele.aaltonen@stuk.fi; stig.husin@ssm.se; sep@gr.is; ann.heinrich@nnsa.doe.gov; vesa.tanner@ec.europa.eu; peter.hofer@lebensministerium.at; fgering@bfs.de; maekawa-yukinori@meti.go.jp; cmcmahon@rpii.ie; christian.vandecasteele@fanc.fgov.be; nakata@nustec.or.jp; isabelle.mehl-auget@asn.fr; fukumoto.masahiro@jaea.go.jp; gunnar.saxebol@nrpa.no; kevin.bundy@cnsccsn.gc.ca; sisko.salomaa@stuk.fi; alexandru.rodna@cncan.ro; hans.riotte@oecd.org; iharikan@taek.gov.tr; niu@ilo.org; kristiina.korhonen@oecd.org; shannounf@who.int; hefin.griffiths@ansto.gov.au; hiroito@mext.go.jp; hkataoka@mext.go.jp; alexandra.brasat@amb-roumanie.fr; macsuga@haea.gov.hu; hoe@brs.dk; vince.mcclelland@nnsa.doe.gov; stephen.solomon@arpansa.gov.au; bob.powell@hse.gsi.gov.uk; kevin.jackson@ec.europa.eu; krzysztof.dabrowski@paa.gov.pl; jette.bijlholt@minvrom.nl; kmiyamo@mext.go.jp

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Sincerely,
Ted

From: Dudek, Michael
Sent: Wednesday, April 20, 2011 4:40 PM
To: OST01 HOC
Subject: FYI: JETS POC FOR FSME

Follow Up Flag: Follow up
Flag Status: Flagged

FYI – There is a change in POC for FSME.

Michael Dudek | Technical Assistant | NSIR/Division of Preparedness & Response | U.S. NRC
11555 Rockville Pike, Rockville, MD 20852 | ☎ (301) 415-6500 | ✉ Michael.Dudek@nrc.gov

From: Deegan, George
Sent: Wednesday, April 20, 2011 4:30 PM
To: Dudek, Michael
Cc: Moore, Scott; Lewis, Robert; RidsFsmeOd Resource
Subject: FW: JETS POC FOR FSME

Michael- I will be out of town the rest of this week, returning home late Sunday night. In the meantime, Kim Morgan Butler is acting for me as FSME TA and has offered to be our POC for any Japanese Event Tasks. Her contact information appears below.

Kim will let you know who are management contact is since Rob Lewis is also scheduled to be out of town. Scott Moore returns to the office on Friday.

From: MorganButler, Kimyata
Sent: Wednesday, April 20, 2011 8:48 AM
To: Deegan, George
Subject: My contact information

Hi George,

Here's my contact information

Home: (b)(6)
NRC bb: (b)(6)
Personal cell: (b)(6)

Thanks,

Kim Morgan Butler
Technical Assistant
FSME/DMSSA
301-415-0733
Kimyata.MorganButler@nrc.gov

From: Makeig, Katy
To: Operations Center Activities Resource; Leeds, Eric; Sheron, Brian; Haney, Catherine
Subject: Nuclear Reactor Safety Reviews
Date: Monday, March 21, 2011 6:24:19 PM
Attachments: image001.emz
image002.png

Advanced Technologies and Laboratories International, Inc.

555 Quince Orchard Rd., Suite 500
Gaithersburg, MD 20878-1461
Phone: 301.972.4430
Fax: 301.972.6904
WWW.ATLINTL.COM

March 21, 2011

Dr. R. William Borchardt, Executive Director for Operations
Dr. Eric Leeds, Director, Office of Nuclear Reactor Regulation (NRR)
Dr. Brian Sheron, Director, Office of Nuclear Regulatory Research (RES)
Dr. Catherine Haney, Director, Office of Nuclear Material Safety and Safeguards (NMSS)

U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Subject: President Obama's Request for U.S. Nuclear Reactor Safety Reviews

Last Thursday it was reported that President Obama asked the NRC for a comprehensive review of the safety of U.S. nuclear power plants in light of the events in Japan's Fukushima Dai-ichi plant. Senator Bernie Sanders, a member of the Environment and Public Works Committee, has called for an independent review by a special presidential commission with broad authority and a mandate to independently review the safety of every existing nuclear reactor and waste site in the United States. He also has called for the suspension of any new license renewal approvals. This will put a monumental burden on NRC resources.

Advanced Technologies and Laboratories International, Inc. (ATL) also is concerned about how events in Japan will affect the public's perception regarding the safety of nuclear power, the planned construction of new plants, and the approval of licenses to continue operation – beyond 40 and 60 years. We have been supporting the NRC for over 17 years. ***We stand poised to assist the NRC in their time-critical efforts to reassure the public of the safety of the domestic fleet.***

Our engineers are experienced in nuclear power plant construction, operation, aging, and decommissioning. Many of these experts are retired from the NRC, the Department of Energy, the utility industry, or the National Laboratories. They are subject matter experts in the areas of nuclear engineering, risk assessment, nuclear safety, health physics, nuclear physics, criticality, mechanical engineering, electrical engineering, structural engineering, materials science, corrosion, fatigue, fire safety engineering, spent fuel, time-limited aging analysis, failure analysis, metallurgy, instrumentation and controls, and chemistry. We also have expertise in seismic engineering and hydrology/hydrogeology that is specifically geared to the generation of nuclear power.

We just helped NRC/DLR complete the update to the Generic Aging Lessons Learned (GALL) Report. ATL has been performing safety audits of plants in the license renewal process for the last five years, with reviews of 12 plants and associated contributions to the Safety Evaluation Reports (SERs). In fact, our engineers recently have performed these safety reviews at Pilgrim, Beaver Valley, Diablo Canyon, and Three Mile Island, four of the top ten plants that NRC has ranked as sites with the highest risk of core damage from an earthquake. In addition, ATL engineers with probabilistic risk assessment (PRA) expertise were involved in the Independent Assessment of the Implementation of Corrective Actions at the Davis-Besse Nuclear Power Station (DBNPS) Unit 1 that concluded with a report in 2009 regarding the effectiveness of the actions taken to correct the issues associated with the reactor vessel head corrosion.

Our corporate offices are located in Gaithersburg, Maryland, which makes us immediately accessible to the NRC staff. I would be happy to meet with you at your convenience to discuss how we might be of assistance. Please contact me at my

mmmm / 169

office at 301-515-6799 or by email at kmakeig@atlintl.com. I look forward to hearing from you.

Sincerely,

Kathryn S. Makeig

Kathryn S. Makeig, Director
Environment and Nuclear Services
ATL International, Inc.

Cc: Brian Holian, Director, NRC/DLR

Katy Makeig
Director of Nuclear and Environmental Services
ATL International, Inc.
555 Quince Orchard Road, Suite 500
Gaithersburg, MD 20878
301-515-6799 office
(b)(6) cell
301-972-6904 fax
kmakeig@atlintl.com
www.atlintl.com

Attachment image001.emz (1272 Bytes) cannot be converted to PDF format.

Wagner, Katie

From: Wagner, Katie
Sent: Monday, March 21, 2011 10:55 AM
To: Esmaili, Hossein
Subject: FW: Jennifer Uhle FW: Fuku-4 Fuel Pool - MELCOR Results

From: Santiago, Patricia
Sent: Monday, March 21, 2011 10:51 AM
To: J. & R. Schaperow
Cc: Schaperow, Jason; Wagner, Katie; Lee, Richard
Subject: RE: Jennifer Uhle FW: Fuku-4 Fuel Pool - MELCOR Results

Jason

Were you up at 2:33 as an op ctr request? I want to list this in Katie's log although it may already be in it. Can you talk to Katie to ensure we are closing out any of your actions for Japan.
thanks

From: J. & R. Schaperow (b)(6)
Sent: Monday, March 21, 2011 2:33 AM
To: rogaunt@sandia.gov; kcw@dycoda.com; Tinkler, Charles; Santiago, Patricia; Schaperow, Jason
Cc: Uhle, Jennifer
Subject: Fw: Jennifer Uhle FW: Fuku-4 Fuel Pool - MELCOR Results

I just spoke with Jennifer regarding the NR requests below. She said she will tell NR that we do not believe that fuel debris (if there is any) is likely to eat through the concrete floor of the spent fuel pool and fall into the next lower floor of the reactor building. She also said that she will forward the attached MELCOR results to NR. She requested that, in the morning, we work to provide NR with our MELCOR input deck and our spent fuel pool reports.

Jason

----- Forwarded Message -----
From: J. & R. Schaperow (b)(6)
To: jennifer.uhle@nrc.gov
Cc: rogaunt@sandia.gov; kcw@dycoda.com; charles.tinkler@nrc.gov; patricia.santiago@nrc.gov
Sent: Mon, March 21, 2011 1:46:30 AM
Subject: Fw: Jennifer Uhle FW: Fuku-4 Fuel Pool - MELCOR Results

Hi Jennifer,

Attached are our recent MELCOR results for the Fukushima Daiichi Unit 4 spent fuel pool. These results show that there are no core concrete interactions, because the low decay power of the spent fuel results in temperatures below the ablation temperature of concrete.

I just spoke with Naval Reactors (NR), KAPL, and Bettis via their bridge line. NR is requesting the following:

- 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

mmmmmmmm

calculations with this model

3) the reports we produced over the last several years on analysis of severe spent fuel pool accidents.

I called you in the Ops Center at 1:10 a.m. to discuss this request, but the Ops Center said you were busy and would call me back. I will try calling you again, if I do not hear from you shortly. (My number is (b)(6))

Thanks,
Jason

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

From: "Gauntt, Randall O" <rogaunt@sandia.gov>
To: (b)(6)
Cc: "charles.tinkler@nrc.gov" <charles.tinkler@nrc.gov>
Sent: Mon, March 21, 2011 12:26:45 AM
Subject: Jennifer Uhle FW: Fuku-4 Fuel Pool - MELCOR Results

Jennifer and Jason,
Attached are Fuku-4 SFP analyses that we initiated last week.

There are probably more recent results available, but we got no direction from NRC here.

Randy

From: Casey Wagner [mailto:kcw@dycoda.com]
Sent: Friday, March 18, 2011 1:20 PM
To: Gauntt, Randall O; Charles.Tinkler@nrc.gov; 'Schaperow, Jason'
Cc: McClellan, Yvonne
Subject: Fuku-4 Fuel Pool - MELCOR Results

Randy asked if I would let this calculation continue into severe accident degradation. The model needs a bit of work to convert to 1.8.6 and include latest SOARCA updates but here is the "out-of-the-box" results.

I noticed that debris flow blockage was not on and that probably contributes to the debris coolability.

Let me know if you want anything else.

From: Casey Wagner [mailto:kcw@dycoda.com]
Sent: Friday, March 18, 2011 10:28 AM
To: rogaunt@sandia.gov; Charles.Tinkler@nrc.gov; 'Schaperow, Jason' (Jason.Schaperow@nrc.gov)
Cc: ymccl@sandia.gov
Subject: FW: Fuku-4 Fuel Pool - impact of dry pool - call#3 - 800-501-0843 code (b)(6)

Hi Randy, Charlie, and Jason,

Randy - Sorry to see you were up at 12:36 am.

Enclosed is a pretty good no leak case for Fukushima #4. I was able to use the PB decay routines to specify exactly 548 assemblies at 105 days (3.5 kW/assembly) and 659 assemblies at 500 days (1.5 kW/assembly) for a total pool power of 3.03 MW.

If Fukushima Unit 4 was uncovered in a week, it was not a simple boil-off.

KC

From: Gauntt, Randall O [mailto:rogaunt@sandia.gov] -
Sent: Friday, March 18, 2011 12:36 AM
To: Gauntt, Randall O; 'Marquino, Wayne (GE Power & Water)'; 'Hammargren, Benjamin (GE Power & Water)'; andy.lingenfelter@ge.com; Burns, Shawn; Pickering, Susan Y
Cc: (b)(6); 'Bolger, Francis T. (GE Power & Water)'; 'Ellison, Phillip G (GE Power & Water)'; 'Ginsberg, Robert (GE Power & Water)'; 'Klapproth, James F (GE Power & Water)'; 'Charles.Tinkler@nrc.gov'; 'Madronero, Hernando (GE Power & Water)'; 'kcw@dycoda.com'
Subject: RE: Fuku-4 Fuel Pool - impact of dry pool -call#3 - 800-501-0843 code (b)(6)

Dear Wayne (or anyone at GE!)

It would be of great value to confirm a few things. I think I heard yesterday that the SFP racking at Fukushima-4 had recently gone to high density racking. Can anyone confirm this?

Also, is there any latest best guess as to water level in FU-4 - yesterday NRC Chairman said it was dry; MELCOR says it covered; helicopter flyby says they saw a reflection of the sky in the top-down view. We would say that unless there was a leak, the fuel should only just now be uncovering????

Randy

From: Gauntt, Randall O
Sent: Wednesday, March 16, 2011 11:06 PM
To: 'Marquino, Wayne (GE Power & Water)'; 'Hammargren, Benjamin (GE Power & Water)'
Cc: (b)(6); 'Bolger, Francis T. (GE Power & Water)'; 'Ellison, Phillip G (GE Power & Water)'; 'Ginsberg, Robert (GE Power & Water)'; 'Klapproth, James F (GE Power & Water)'; 'Charles.Tinkler@nrc.gov'; 'Madronero, Hernando (GE Power & Water)'; 'kcw@dycoda.com'
Subject: RE: Fuku-4 Fuel Pool - impact of dry pool -call#3 - 800-501-0843 code (b)(6)

Wayne,

Did GE get the Sandia reports that were being inquired about? I missed some of the conversations.

Randy

From: Marquino, Wayne (GE Power & Water) [mailto:wayne.marquino@ge.com]
Sent: Wednesday, March 16, 2011 6:15 PM
To: Hammargren, Benjamin (GE Power & Water); Gauntt, Randall O
Cc: (b)(6); 'Bolger, Francis T. (GE Power & Water)'; 'Ellison, Phillip G (GE Power & Water)'; 'Ginsberg, Robert (GE Power & Water)'; 'Klapproth, James F (GE Power & Water)'; 'Charles.Tinkler@nrc.gov'; 'Madronero, Hernando (GE Power & Water)'; 'kcw@dycoda.com'
Subject: RE: Fuku-4 Fuel Pool - impact of dry pool -call#3 - 800-501-0843 code (b)(6)

Ben - here is a customer for your Origen data

Please send it to Randy Gauntt

Wayne

From: Gauntt, Randall O [mailto:rogaunt@sandia.gov]
Sent: Wednesday, March 16, 2011 7:56 PM
To: Bolger, Francis T. (GE Power & Water); Buchholz, Carol E. (GE Power & Water); Ellison, Phillip G (GE Power & Water); Ginsberg, Robert (GE Power & Water); Klapproth, James F (GE Power & Water); Marquino, Wayne (GE Power & Water); 'Charles.Tinkler@nrc.gov'; Madronero, Hernando (GE Power & Water); Heck, Charles (GE Power & Water); Loewen, Eric (GE Power & Water); Crawford, Douglas C (GNF); 'kcw@dycoda.com'; Upton, Hugh A. (GE Power & Water)

Cc: (b)(6)

Subject: RE: Fuku-4 Fuel Pool - impact of dry pool -call#3 - 800-501-0843 code (b)(6)

Is there any way anyone at GE could provide Sandia TONIGHT an Origen inventory that might approximate the SFP 4 inventory for the 100 day offload? We are trying to run a MACCS analysis for NRC tonight and need isotope mass and curies.

Randy Gauntt

-----Original Appointment-----

From: Bolger, Francis T. (GE Power & Water) [mailto:Francis.Bolger@ge.com]

Sent: Wednesday, March 16, 2011 5:37 PM

To: Buchholz, Carol E. (GE Power & Water); Ellison, Phillip G (GE Power & Water); Ginsberg, Robert (GE Power & Water); Klapproth, James F (GE Power & Water); Marquino, Wayne (GE Power & Water); Charles.Tinkler@nrc.gov; Madronero, Hernando (GE Power & Water); Heck, Charles (GE Power & Water); Loewen, Eric (GE Power & Water); Gauntt, Randall O; Crawford, Douglas C (GNF); kcw@dycoda.com; Upton, Hugh A. (GE Power & Water)

Cc: (b)(6)

Subject: Fuku-4 Fuel Pool - impact of dry pool -call#3 - 800-501-0843 code (b)(6)

When: Wednesday, March 16, 2011 6:30 PM-7:30 PM (UTC-07:00) Mountain Time (US & Canada).

Where: ATC2 CR 25

From: ET07 Hoc
Sent: Monday, March 21, 2011 8:57 PM
To: Kozal, Jason
Subject: RE: USAID staffing

ok

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

From: Kozal, Jason
Sent: Monday, March 21, 2011 8:15 PM
To: LIA01 Hoc; LIA02 Hoc; LIA06 Hoc; LIA07 Hoc; ET07 Hoc
Subject: USAID staffing

FYI Jeff Kowalczyk and Leigh Trocine have taken over as the USAID liaisons.

Sent from an NRC BlackBerry

Jason W Kozal

(b)(6)

mmmm/1/7/

From: Leeds, Eric
To: Schwarz, Sherry
Subject: FW: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN
Date: Monday, March 21, 2011 5:46:00 PM
Attachments: Governors Energy Advisors PI with speakers-March17.doc

Please blue folderize the emails and the attachment. Thanks!

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

From: Virgilio, Rosetta
Sent: Monday, March 21, 2011 5:29 PM
To: Leeds, Eric
Cc: Meighan, Sean; Schwarz, Sherry; Turtill, Richard; Ryan, Michelle; Rivera, Alison
Subject: Fw: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Eric - Please see below and attached relative to the National Governors' Association invitation to NRC to participate in an April 4, panel presentation before Governor Energy Advisors in Crystal City from 1:45-4:15 pm. The panel session is entitled Energy Technology 101; NGA is interested in hearing about the event in Japan and the implications for US plants.

Sherry Schwarz has put this appointment on your calendar.

I will be happy to work with you and your staff on this.

Rosetta

Sent from an NRC Blackberry
Rosetta O. Virgilio
(b)(6)

From: Dierkers, Gregory <gdierkers@NGA.ORG>
To: Virgilio, Rosetta
Sent: Mon Mar 21 16:14:15 2011
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Thank you Rosetta. Attached is the agenda for the April 4th meeting. We would look for a technical expert to join us on a panel at 1:45pm to 4:15pm on April 4th in Crystal City.

Please let me know if I can be of further assistance.

Greg Dierkers
Program Director - Energy and Transportation
NGA Center for Best Practices
Environment, Energy and Transportation Division



202-624-7789
gdierkers@nga.org

From: Virgilio, Rosetta [mailto:Rosetta.Virgilio@nrc.gov]
Sent: Monday, March 21, 2011 4:07 PM
To: Dierkers, Gregory
Subject: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Hi, Greg: I apologize for the late notice, but our staff indicate they are unable to support a meeting this week, but would make time available for the April 4 meeting. Please do keep me posted about those details.

I am not currently in the office (b)(6) but am monitoring my email.

Rosetta Virgilio

Sent from an NRC Blackberry
Rosetta O. Virgilio

(b)(6)

From: Dierkers, Gregory <gdierkers@NGA.ORG>
To: Virgilio, Rosetta
Sent: Mon Mar 21 12:22:27 2011
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Let me check but I think we are flexible pending your availability.

Greg

From: Virgilio, Rosetta [mailto:Rosetta.Virgilio@nrc.gov]
Sent: Sunday, March 20, 2011 12:43 PM
To: Dierkers, Gregory
Subject: Re: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Hello, Greg - Do you have any more detail regarding 3/22 or 3/23 meeting , i.e., date/ time of day?

Sent from an NRC Blackberry
Rosetta O. Virgilio

(b)(6)

From: Virgilio, Rosetta
To: gdierkers@nga.org <gdierkers@nga.org>
Sent: Fri Mar 18 15:13:22 2011
Subject: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT

NUCLEAR EVENTS IN JAPAN

Hello, Greg – Just wanted to touch base and let you know that things are not looking good for NRC participation in next week's NGA webinar; however, I am pursuing the April 4 date, which may be more doable.

As I indicated yesterday, the NRC staff will brief the Commission Monday, March 21, 2011, at 9:00 a.m. regarding NRC's response to recent nuclear events in Japan. The meeting is public and will be held at NRC Headquarters at 11555 Rockville Pike, Commissioners' Conference Room, in Rockville, Maryland.

The meeting can also be viewed via Webcast at: <http://www.nrc.gov/public-involve/public-meetings/webcast-live.html>

Please feel free to share this information with your contacts.

Rosetta O. Virgilio
Senior Liaison Project Manager
Intergovernmental Liaison Branch
U.S. Nuclear Regulatory Commission
11545 Rockville Pike - T-8F42
Rockville, MD 20852-2738
301-415-2367
Rosetta.Virgilio@nrc.gov

From: Virgilio, Rosetta
To: 'gdierkers@NGA.ORG' <gdierkers@NGA.ORG>
Sent: Thu Mar 17 17:03:28 2011
Subject: Re: NGA Center NRC expert speaker requests

Thank you, Greg; I will followup and get back to you.

Sent from an NRC Blackberry
Rosetta O. Virgilio

(b)(6)

From: Dierkers, Gregory <gdierkers@NGA.ORG>
To: Virgilio, Rosetta
Cc: Gander, Sue <sgander@NGA.ORG>; MacLellan, Thomas <TMaclellan@NGA.ORG>; Ferro, Carmen <CFerro@NGA.ORG>
Sent: Thu Mar 17 16:36:04 2011
Subject: NGA Center NRC expert speaker requests

Hi Rosetta,

Thanks for your time today. We appreciate you identifying someone from the NRC to support the NGA Center's outreach to states during this busy time.

As we discussed we would like to invite the NRC to join us for **two upcoming events -- a webinar next week and a conference in early April -- to brief governors' advisors on the Japanese situation and the implications for US plants.** The events are:

1) **A webinar with governors' security and energy advisors.** NGA Center staff is planning to host a conference call next week (Tuesday 3/21 or Wednesday 3/22) to provide senior state officials with an update on the Japan situation and to answer questions as to the operations of US plants, including regulations, plant security/safety, and the emergency preparedness efforts at the US nuclear fleet. We would ask that an NRC expert join the webinar remotely; the webinar would last for 1 hour.

2) **An in-person speaker at a governors' energy advisors meeting.** NGA Center's *Governors' Energy Advisors Policy Institute* on April 4th in Arlington, Virginia. The focus of the April 4th Institute is to provide a 'Technology 101' briefing for governors senior energy advisors. We would invite the NRC to attend in-person on April 4th from 1:45pm to 4:15pm. We would ask for a 10-15 minute presentation on the situation in Japan, the state of nuclear technology and regulations in the US, and the implications for states from the Japanese crisis. Attached is a draft agenda.

Thanks for considering both of these requests.

Sincerely,

Greg Dierkers
Program Director -- Energy and Transportation
NGA Center for Best Practices
Environment, Energy and Transportation Division
202-624-7789
gdierkers@nga.org



NGA Center for
BEST PRACTICES

Governors' Energy Advisors Policy Institute

April 5-6, 2011

Renaissance Arlington Capital View

2800 South Potomac Avenue, Arlington, VA 22202, Phone: 703.413.1400

DRAFT AGENDA

This Policy Institute will provide participants the opportunity to meet with national experts and state peers to learn about a diverse set of energy policy best practices. The meeting is a key opportunity for governors' staff to network in a small group setting and hear about concrete energy strategies that can reduce costs, promote economic development and address environmental goals.

In addition to the main program, there will be an optional half-day Energy Technology 101 session on the previous afternoon that will provide an overview of technologies related to a range of energy resources (e.g., energy efficiency, renewable energy, advanced nuclear power, natural gas, carbon capture and storage, alternative vehicles and the "smart" grid) and introduce participants to key federal players.

Contact: Sue Gander, Director, Environment, Energy & Transportation Division, 202-624-7740, sgander@nga.org

Monday, April 4, 2011

PRE-POLICY INSTITUTE WORKSHOP - ENERGY TECHNOLOGIES 101

**1:00 p.m. –
1:30 p.m.** **Registration and Coffee**

**1:30 p.m. –
1:45 p.m.** **Opening Session**
Welcome, Introductions & Overview of Meeting Goals

**1:45 p.m. –
4:15 p.m.** **Energy Technology 101**
This session will include panels of experts who will discuss the status of key energy technologies or applications including: renewable energy, alternative fuel vehicles, carbon capture and storage, natural gas and the smart grid.
Moderator: Marty Toomajian, Battelle

- *Julio Friedmann, PhD., Lawrence Livermore National Laboratory*
- *Ron Edelstein, Director, Gas Technology Institute*
- *Bob Hawsey, National Renewable Energy Lab*

Given the recent events at the Japanese nuclear reactors, we will dedicate a portion of this session to learning more about what happened in Japan and the implications for US plants.

- *TBD, Nuclear Regulatory Commission (invited)*

**4:15 p.m. –
4:30 p.m.** **Break**

**4:30 p.m. –
5:30 p.m.**

Introduction to Federal Energy Partners: Part I

This session will introduce participants to key federal energy experts. After brief presentations, senior officials from the Department of Energy (technology, finance, infrastructure, policy) will be available for informal discussions.

Moderator: Sue Gander, NGA Center

- *Pat Hoffman, Assistant Secretary for the Office of Electricity Delivery and Energy Reliability (invited)*
- *Dr. Victor K. Der, Acting Assistant Secretary for Fossil Energy (invited)*
- *TBD, Deputy Assistant Secretary Office of Nuclear Energy (invited)*

5:30 p.m.

Wrap-Up and Preview of Policy Institute

Tuesday, April 5, 2011
POLICY INSTITUTE – DAY 1

**7:30 a.m. –
8:00 a.m.**

Registration and Breakfast

**8:00 a.m. –
9:00 a.m.**

Welcome and Introductions

- NGA Center staff will review the goals of the meeting and introduce the topics to be discussed.
- State participants will introduce themselves and identify the top 1-2 energy challenges facing their state.

**9:00 a.m. –
9:45 a.m.**

Keynote: The New Energy Reality

This speaker will discuss the current context of U.S. energy resources, prices and energy markets and suggest ways states can craft complementary policies that address their energy challenges and bolster state economic development, environmental and fiscal goals.

Dickon Pinner, Principal, McKinsey & Company

**9:45 a.m. –
10:00 a.m.**

Break

**10:00 a.m. –
11:15 a.m.**

Energy & Economic Development: Supporting State Growth

A panel of experts will share examples of successful state approaches to advancing economic development through both energy development and efficiency initiatives. These will include efforts to promote increased deployment as well as research and development and innovation and how to create robust partnerships with different state agencies and offices and the private sector.

Moderator: Mary Jo Waits, NGA Center

- *Dr. Marilyn Brown, Professor, School of Public Policy, Georgia Institute of Technology*
- *Patrick Cloney, Executive Director of the Massachusetts Clean Energy Center*
- *Eric Shreffler, Sector Development Director, Advanced Energy Storage, Michigan Economic Development Corporation*

**11:15 a.m. –
12:45 p.m.**

Energy Funding and Financing: Leveraging Scarce Resources

A panel of experts will discuss key energy funding sources and financial partnership arrangements that can use scarce state resources to leverage private sector investments. Examples will include the use of new federal bonding authority, on-utility-bill financing, energy performance contracting, power purchase agreements, linked deposit programs and credit enhancement mechanisms.

Moderator: Sue Gander, NGA Center

- *Skip Grow, Managing Director of Clean Tech Business, Morgan Stanley*
- *Matthew H. Brown, Principal, Harcourt Brown & Carey*
- *Don Gilligan, President, National Association Energy Services Companies*

12:45 p.m. - 2:15 p.m.	Lunch: Energy Innovation and the States A lunch discussion will explore leading approaches to fostering energy innovation and the role states can play, vis a vis their own initiatives including efforts with their universities, targeted use of incentives and partnerships with industry. <i>William B. Bonvillian, Director, MIT Washington Office, Author of "Structuring an Energy Technology Revolution"</i>
2:15 p.m. - 3:45 p.m.	Lead by Example Programs: Showing the Way Lead by example (LBE) measures are one set of tools to help states pursue energy and cost savings in their operations, while demonstrating leadership, testing new technology applications and encouraging market development. This session will cover best practices in state facilities and fleets and look at the impact on cost savings, energy savings and supporting developing industries. <i>Moderator: Greg Dierkers, NGA Center</i> <ul style="list-style-type: none"> <i>Dr. Carolyn Snyder, Director, Clean Energy and Climate Policy, Delaware Department of Natural Resources and Environmental Control</i> <i>Jill Stuckey, Director, Center of Innovation for Energy, Georgia Environmental Finance Authority</i> <i>Daniel Malarkey, Deputy Director, Washington State Department of Commerce</i>
3:45 pm- 4:00 pm	Break
4:00 p.m. - 5:00 p.m.	Introduction to Federal Energy Partners: Part 2 This session will introduce participants to key federal energy experts. After brief presentations, senior officials from the Department of Energy (technology, finance, infrastructure, policy) and the Federal Energy Regulatory Commission will be available for informal discussions. <i>Moderator: Sue Gander, NGA Center</i> <ul style="list-style-type: none"> <i>Kathleen Hogan, Deputy Assistant Secretary for Energy Efficiency, Office of Energy Efficiency and Renewable Energy, US Department of Energy (invited)</i> <i>Steven Chalk, Deputy Assistant Secretary for Renewable Energy, Office of Energy Efficiency and Renewable Energy, US Department of Energy</i> <i>Jon Wellenhoff, FERC Chairman</i>
5:00 pm	CONCLUDE DAY 1

Wednesday, April 6, 2011
POLICY INSTITUTE – DAY 2

7:30 a.m. –
8:00 a.m.

Registration

8:00 a.m. –
8:15 a.m.

Welcome and Recap of Day 1

8:15 a.m. –
10:00 a.m.

Energy Planning and Policy: Mapping the Future and Advancing on the Path

Developing a statewide energy plan is an important part of building a secure, reliable and affordable state energy program that is integrated with state policy implementation. A panel of state experts will describe initiatives to develop statewide energy plans for meeting a variety of energy-related goals and explore how plans can link to specific policy measures.

Moderator: Sue Gander, NGA Center

- *Dr. Leonard Peters, Secretary, Kentucky Energy and Environment Cabinet*
 - *Joshua Goldman, New York State Washington Office of Governor Cuomo*
 - *Amanda Smith, Energy Policy Advisor to Utah Governor Gary Herbert and Executive Director, Utah Department of Environmental Quality*
 - *Manal Yamout, Special Advisor to California Governor Jerry Brown*
-

10:00 a.m. –
11:30 a.m.

Electricity Infrastructure, Smart Grids and EVs

New infrastructure and technologies in the electricity sector are currently being developed and deployed that can help achieve energy savings and more efficiently bring electricity into the marketplace. This session will cover strategies for building out and upgrading the transmission grid, technical and policy issues around smart grid deployment, and the increased interest in electric vehicles (EVs) and the role they play in state energy policy discussions.

Moderator: Andrew Kambour, NGA Center

- *Commissioner Paul Centolella, Commissioner, Ohio PUC*
 - *Naveen Lamba, Senior Managing Consultant, IBM*
 - *Val Jensen, VP, Marketing and Environmental Programs, ComEd*
-

11:30 a.m. –
12:00 p.m.

Break and Hotel Check Out

12:00 p.m. –
12:45 p.m.

What We've Learned, Where We're Headed

During the final session each state official will share their key 'take home messages' along with new ideas they plan to explore and any collaborations they expect to pursue. NGA Center staff will discuss follow up activities, including upcoming webinars, technical assistance and regional workshops on clean energy economic development.

12:45 p.m. –
1:00 p.m.

CONCLUDE POLICY INSTITUTE

Scott, Michael

From: Scott, Michael
Sent: Monday, March 21, 2011 10:17 PM
To: CountryClearance Resource
Cc: LIA03 Hoc
Subject: As requested for my international travel to Japan tomorrow
Attachments: Clearance_Cable_Worksheet_1.pdf

As requested

mmmm/173

COUNTRY CLEARANCE WORKSHEET

(* DENOTES MANDATORY INFORMATION)

TRAVELER INFORMATION			
*Name (Last, First MI): Scott, Michael L			
*Agency: USNRC			
*Employment Type (Full Time, Direct Hire, Contractor, Other): Full Time			
Email Address: michael.scott@nrc.gov			
Work Phone: 301-251-7524			
*Country of Birth: (b)(6)			
*Country of Passport: (b)(6)			
*Passport Number: (b)(6)			
*Passport Type (Diplomatic, Official, Personal): (b)(6)			
*Clearance Level: (b)			
EMERGENCY CONTACT INFORMATION			
Name: (b)(6)			
Address: (b)(6)			
City: (b)(6)		State: (b)(6)	Zip Code: (b)(6)
Phone: (b)(6)		Relationship: (b)(6)	

DESTINATION INFORMATION 1	
*Destination City, Country: Tokyo, Japan	
*Transit City: None	
*Arrival Date at Destination: 3/23/2011	
*Purpose of Visit: Invitational Travel: Serve on Pacific Tsunami DART	
CARRIER INFORMATION 1	
Mode of Transportation (Air, Train, Ship, Bus, Other): Air	
Carrier Name and Number (e.g. United 1234): United 897	
Departure Point: Washington DC Dulles	
Departure Date/Time: 3/22/11 1:22 pm	
Arrival Point at Destination 1: Tokyo Narita airport	
Arrival Date/Time: 3/23/11 4:35 pm	
U.S. EMBASSY (POST) SUPPORT INFORMATION	
*Do you require the Post to make hotel reservations for you? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
*Do you require the Post to arrange local transportation for you? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
*Will you be traveling with a (diplomatic) pouch? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
*Do you require any other kind of assistance from the Post? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
*Fiscal data (as applicable if Post assistance is requested):	

For multiple destinations, lodging, and return trip information please use the next pages. This form has three pages.

DESTINATION INFORMATION 2	
*Destination City, Country:	
*Transit City:	
*Arrival Date at Destination:	
*Purpose of Visit:	
CARRIER INFORMATION 2	
Mode of Transportation (Air, Train, Ship, Bus, Other):	
Carrier Name and Number (e.g. United 1234):	
Departure Point:	
Departure Date/Time:	
Arrival Point at Destination 2:	
Arrival Date/Time:	
U.S. EMBASSY (POST) SUPPORT INFORMATION	
*Do you require the Post to make hotel reservations for you?	<input type="checkbox"/> Yes <input type="checkbox"/> No
*Do you require the Post to arrange local transportation for you?	<input type="checkbox"/> Yes <input type="checkbox"/> No
*Will you be traveling with a (diplomatic) pouch?	<input type="checkbox"/> Yes <input type="checkbox"/> No
*Do you require any other kind of assistance from the Post?	<input type="checkbox"/> Yes <input type="checkbox"/> No
*Fiscal data (as applicable if Post assistance is requested):	

DESTINATION INFORMATION 3	
*Destination City, Country:	
*Transit City:	
*Arrival Date at Destination:	
*Purpose of Visit:	
CARRIER INFORMATION 3	
Mode of Transportation (Air, Train, Ship, Bus, Other):	
Carrier Name and Number (e.g. United 1234):	
Departure Point:	
Departure Date/Time:	
Arrival Point at Destination 3:	
Arrival Date/Time:	
U.S. EMBASSY (POST) SUPPORT INFORMATION	
*Do you require the Post to make hotel reservations for you?	<input type="checkbox"/> Yes <input type="checkbox"/> No
*Do you require the Post to arrange local transportation for you?	<input type="checkbox"/> Yes <input type="checkbox"/> No
*Will you be traveling with a (diplomatic) pouch?	<input type="checkbox"/> Yes <input type="checkbox"/> No
*Do you require any other kind of assistance from the Post?	<input type="checkbox"/> Yes <input type="checkbox"/> No
*Fiscal data (as applicable if Post assistance is requested):	

LODGING INFORMATION FOR DESTINATION 1	
Name of Hotel	(b)(6)
Hotel Address	(b)(6)
Hotel Phone	(b)(6)
Confirmation Number:	

LODGING INFORMATION FOR DESTINATION 2	
Name of Hotel:	
Hotel Address:	
Hotel Phone:	
Confirmation Number:	

LODGING INFORMATION FOR DESTINATION 3	
Name of Hotel:	
Hotel Address:	
Hotel Phone:	
Confirmation Number:	

RETURN TRIP INFORMATION	
*Departure City, Country:	Tokyo, Japan
*Mode of Transportation (Air, Train, Ship, Bus, Other):	Air
*Carrier Name and Number (e.g. United 1234):	United 0804
*Departure Point:	Tokyo Narita
*Departure Date/Time:	4/6/11 4:00 pm
*Arrival Point:	Washington DC Dulles
*Arrival Date/Time:	4/6/11 3:37 pm

Nguyen, Quynh

From: Wittick, Brian
Sent: Monday, March 21, 2011 5:53 PM
To: Meighan, Sean; Nguyen, Quynh
Subject: FW: Agenda Planning Meeting
Attachments: NRC Response to Events in Japan Scheduling Note (with SBO).docx

Follow Up Flag: Follow up
Flag Status: Flagged

Sean/Quynh,

I need one new scheduling note on SBO (see below). Some potential topics: status of event; why was it implemented; consequences.

I put together an outline attached to get you started.

No external panel is desired.

Need it by Wed... sorry for short notice.

Thanks,
Brian Wittick
Executive Technical Assistant for Reactors
Office of the Executive Director for Operations
U.S. Nuclear Regulatory Commission
301-415-2496 (w) (b)(6) (c)

From: Andersen, James
Sent: Monday, March 21, 2011 1:35 PM
To: EDO_TBPM Distribution
Cc: Muesle, Mary; Weber, Michael; Virgilio, Martin; Ash, Darren; Landau, Mindy
Subject: Agenda Planning Meeting

ETAs,

The Commission held an Agenda Planning Meeting this morning. SECY will provide the formal summary, but I wanted to let you know a couple things as quickly as possible:

- The 10CFR50.46(a) Commission meeting was postponed to a later unspecified date, the Commission will continue to review the paper (Bill Ruland was informed)
- The SMR Commission meeting on 3/29 is still on (Mike Mayfield was informed)
- The Source Security Commission meeting on 4/19 is still on (Josie Piccone was informed)
- The ITAAC Commission meeting was postponed to a later unspecified date, the Commission will continue to review the paper (Mike Mayfield was informed)
- The EEO/Human Capital Commission meeting was moved to June 2
- The Cumulative Effectives of Regulation Commission meeting was postponed to a later unspecified date (Tom Blount was informed)

- The AARM Commission meeting on 5/27 is still on
- The Emergency Planning Final Rule Commission meeting was moved up to May 12 (left Bob Kahler a message)
- The ACRS meeting on 6/6 is still on
- The International Commission meeting was postponed to a later unspecified date

Several new meetings were added:

- 30, 60, and 90 day status meetings regarding the Near-Term NRC Review Effort (task group?); probably around 5/3, 6/16, 7/18
- Status meeting on the Japanese event with additional focus on radiological consequence / health effects; probably around 4/14
- Status meeting on the Japanese event with additional focus on station blackout; probably around 4/28
- Stakeholder meeting on the staff's 90 day status report; probably around 7/25

Draft: 3/21/11

SCHEDULING NOTE

Title: STATUS MEETING ON THE JAPANESE EVENT WITH
ADDITIONAL FOCUS ON STATION BLACK OUT (Public
Meeting)

Purpose: To provide the Commission a status on the recent events in Japan,
including an understanding of the impacts of the NRC Station
Blackout (SBO) on such an event.

Scheduled: April 28, 2011
9:00 am

Duration: Approx. 2 hours

Location: Commissioners' Conference Room OWFN

Participants: Presentation

NRC Staff Panel 50 mins.*

XXXXXXXXXX,
Topic: Overview of Japanese event and U.S. response 15 mins.*

XXXXXXxx,
Topic: SBO basis 10 mins.*

XXXXXXXXXX,
Topic: 10 mins.*

Commission Q & A 50 mins.

Discussion – Wrap-up 5 mins.

Documents:

Background materials due to SECY: prior to the briefing.

Slides due to SECY: prior to the briefing.

Valentine, Nicholee

From: Bowman, Eric
Sent: Monday, March 21, 2011 12:40 PM
To: Burnell, Scott
Subject: RE: Technical assumptions for 50 miles exclusion zone Fukushima

Roger that; thanks.

Eric

From: Burnell, Scott
Sent: Monday, March 21, 2011 12:39 PM
To: Bowman, Eric; Couret, Ivonne
Subject: FW: Technical assumptions for 50 miles exclusion zone Fukushima

My read is that they also fall under the public inquiry category – if it's not from an existing utility, industry group or government agency, default to forwarding it to OPA.

From: Bowman, Eric
Sent: Monday, March 21, 2011 12:34 PM
To: Burnell, Scott
Subject: RE: Technical assumptions for 50 miles exclusion zone Fukushima

Thanks Scott. I also received the two attached that more closely address the IN, but are not really on topic. Should I reply, or will you address his inquiries?

Eric

From: Burnell, Scott
Sent: Monday, March 21, 2011 12:32 PM
To: Couret, Ivonne
Cc: Bowman, Eric
Subject: FW: Technical assumptions for 50 miles exclusion zone Fukushima

Thanks Eric, that'll go into our public inquiry file.

From: Bowman, Eric
Sent: Monday, March 21, 2011 12:28 PM
To: Burnell, Scott
Subject: FW: Technical assumptions for 50 miles exclusion zone Fukushima

Scott,

I received this inquiry over the weekend regarding press release 11-050. Would you be the appropriate point of contact to address this? I believe she chose to send it to me since I am the technical POC for the recent IN 2011-05.

Thanks!

Eric

Eric E. Bowman

mmmm/17b

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

From: (b)(6) (b)(6)
Sent: Saturday, March 19, 2011 10:49 AM
To: Bowman, Eric
Subject: Technical assumptions for 50 miles exclusion zone Fukushima

I would like to understand the basis for the "50 miles sheltering zone" recommendation of the NRC around Fukushima.
Is it the nuclear explosion of the 9 source terms on site?
Is it the nuclear explosion of one 850 MW reactor?
Something else?

To my knowledge, the attachment 11-050 gives NO scientific/technical basic assumptions for its computerized calculations.

Thanks for your response.

Catherine GAUJACQ

(b)(6)

Scott, Michael

From: RMTPACTSU_ELNRC [RMTPACTSU_ELNRC@ofda.gov]
Sent: Monday, March 21, 2011 9:33 PM
To: Scott, Michael
Subject: FW: TAs for NRC travelers tomorrow!
Attachments: Scott-TA-Japan-March 2011.pdf; Instructions for NRC Deployees; Travel Reservation March 22 for SCOTT.PDF; Travel Reservation March 22 for MICHAEL LEE SCOTT; Travel Reservation March 22 for SCOTT.PDF

Hi Scott,

I believe that you should already have the first attached travel authorization from the NRC Ops Center, but I'm sending it along just in case. The approvals appear to be on pages 5 and 7. Per the second attached email, NRC staff deploying to Japan should report to their hotel, get rest, report to the US Embassy in the morning. I also found your travel reservations attached to two additional email (third and fourth attachments). I'll call you in a little bit.

I hope this helps! Travel safely! ☺

Cheers,
Leigh

From: RMTPACTSU_ELNRC
Sent: Monday, March 21, 2011 5:16 PM
To: LIA11.Hoc@nrc.gov; LIA01.Hoc@nrc.gov; LIA02 Hoc (LIA02.Hoc@nrc.gov); LIA07.Hoc@nrc.gov; lia08.hoc@nrc.gov
Cc: et07.hoc@nrc.gov
Subject: FW: TAs for NRC travelers tomorrow!

FYI

From: RMTPACTSU_AC
Sent: Monday, March 21, 2011 5:13 PM
To: RMTPACTSU_ELNRC; Johnson, Natalya (DCHA/OFDA) [USAID] (njohnson@USAID.GOV); Johnson, Natalya
Cc: RMTPACTSU_DMO
Subject: FW: TAs for NRC travelers tomorrow!

Mike – See attached for the TAs for your 3 colleagues who are traveling in the next couple of days.

Natalya – In addition to Michael Scott, there has been another change for the group travel. Todd Jackson is now arriving on Mar 25 instead of Mar 24. See attached for details. Can you please ensure hotel reservations are made for them.

Thanks.
Surin McKenna
Admin Coordinator
Pacific Tsunami and Japan Earthquake Response Management Team
USAID/DCHA/OFDA
Rmtpactsu_ac@ofda.gov
202-712-0031

mmmm / 176

From: Friedman, Ara
Sent: Monday, March 21, 2011 5:03 PM

To: RMTPACTSU_AC
Cc: travel
Subject: TAs for NRC travelers tomorrow!

Hi Surin,

Please see attached for the approved TAs for Michael Scott, Alan Blamey and Todd Jackson. Manassas Travel has already received the TAs and should be issuing their tickets shortly.

I'm not sure if you know this already, but Todd Jackson changed his departure from Wednesday, March 23 to Thursday, March 24. He is still on the same flights arriving in Tokyo at 2:15 pm on Friday, March 25. I spoke to Mr. Jackson and he assured me that the DART was already informed of this change and he had already changed his itinerary with Manassas.

Please let us know if you have any questions. Thanks very much for your help in getting these travelers out so quickly!

Ara Friedman
Program Support Specialist
USAID/Office of Foreign Disaster Assistance
529 14th Street NW, Suite 700
Washington, D.C. 20045

(202) 661-9308

(b)(6)

(b)(6)

E2 Travel Authorization

21 Mar 2011 @ 16:03:18

PRIVACY ACT NOTICE: The following information is provided to comply with the Privacy Act of 1974 (P.S. 93-579). The information requested on the form is required under the provisions of 5 U.S.C. Chapter 57 (as amended), Executive Orders 11609 of July 22, 1971, and 1102 of March 27, 1962, for the purpose of facilitating authorization action and the request for advance of funds for travel and other expenses to be incurred under administrative. The information contained in this form will be used by the Federal agency officers and employees who have a need for such information in the performance of their duties. Information will be transferred to appropriate Federal, State, local, or foreign agencies when relevant to civil, criminal or regulatory investigations, or prosecutions. Failure to provide the information required will result in delay or suspension of the processing of this form.

Authorization Information

Document Number 9911A1808	Trip Status Open Voucher	Authorization Id 2849781	Type of Authorization Trip-by-Trip Authorization
Traveler MIKE SCOTT	Official Duty Station WASHINGTON, DC	Title	Travel Charge Card Holder No
Mailing Address (b)(6)	Office Phone 202-712-0039	Home Phone N/A	

Type of Travel Temporary Duty	Travel Purpose Invitational Travel: Serve on Pacific Tsunami DART	Estimated Dates of Travel 2011-03-22 thru 2011-04-14
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Authorized Itinerary

Cabin Class Business							
Arrive	Depart	Time	Location	Car	Hotel	Mode	Notes
2011-03-22	2011-03-22	N/A	WASHINGTON, DC	NONE	No	CP	
2011-03-23	2011-04-14	N/A	TOKYO CITY, JPN	NONE	No	CP	Temporary Duty, LDG \$231, M & IE \$209
2011-04-14	2011-04-14	N/A	WASHINGTON, DC	NONE	No	NONE	

PA-C = Government auto available and committed
 PA-NA = Government auto not available
 PA-NC = Government auto available and not committed

Authorization Expense Totals

Transport	Lodging	Meals & Incidentals	Car Rental	Local Transport	POV	Misc	Grand Total
4,500.00	5,082.00	4,911.50	0.00	0.00	0.00	546.50	15,040.00

Authorization Accounting Information

Accounting String	Object Code	CBA Amount	Travel Charge Card Amount	Traveler Amount	Auth Amount
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Accounting String

Object Code CBA Amount Travel Charge
Card Amount Traveler
Amount Auth
Amount

Segment Names: BBFY/EBFY/Fund/Treasury Symbol/Operating Unit/Program
Area/Distribution Code/Program Element/Program Sub-
Element/Team/Division/Benefiting Geo Area/Operating Unit Defined/Sub-Object
Code/Program Target/Post Code/Bureau Code/Accounting
Template/Commitment Document Type/Commitment Document
No/Commitment Line No/Bilateral Obl Doc Type/Bilateral Obl Doc No/Bilateral
Obl Line No

2011/NA/FD-X11/72X1035/DCHA/OFDA/A22/488-
W/A089/NA/NA/488/NA/2100801/NA/799/NA/2011 DCHA PROGRAM
FUNDS/TQ/00011TQ005271/1/NA/NA/NA

0.00 0.00 15040.00 15040.00

0.00 0.00 15040.00 15040.00

Authorization Expense Summary

Location	Expense Category	Expense Type	Amount	Expense Reimbursement Type
TOKYO CITY, JPN	Lodging	Lodging	5,082.00	Per diem
TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	4,911.50	Per diem
TOKYO CITY, JPN	Misc	Other Reimbursable Expenses Incurred	546.50	Per diem
TOKYO CITY, JPN	Transport	Airfare	4,500.00	Per diem

Authorization Expense Lines

Line #	Date	Location	Expense Category	Expense Type	Claim Amt	Expense Reimbursement Type	Reason
1	2011-03-22	TOKYO CITY, JPN	Transport	Airfare	4,500.00	Per diem	
2	2011-03-22	TOKYO CITY, JPN	Misc	Voucher Transaction Fee	14.00	Per diem	VTF
3	2011-03-22	TOKYO CITY, JPN	Misc	TMC Fee	31.95	Per diem	
4	2011-03-22	TOKYO CITY, JPN	Misc	Other Reimbursable Expenses Incurred	500.55	Per diem	All authorized expenses incurred on trip
5	2011-03-23	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
6	2011-03-23	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	156.75	Per diem	
7	2011-03-24	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
8	2011-03-24	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
9	2011-03-25	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
10	2011-03-25	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
11	2011-03-26	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
12	2011-03-26	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	

Line #	Date	Location	Expense Category	Expense Type	Claim Amt	Expense Reimbursement Type	Reason
13	2011-03-27	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
14	2011-03-27	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
15	2011-03-28	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
16	2011-03-28	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
17	2011-03-29	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
18	2011-03-29	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
19	2011-03-30	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
20	2011-03-30	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
21	2011-03-31	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
22	2011-03-31	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
23	2011-04-01	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
24	2011-04-01	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
25	2011-04-02	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
26	2011-04-02	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
27	2011-04-03	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
28	2011-04-03	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
29	2011-04-04	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
30	2011-04-04	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
31	2011-04-05	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
32	2011-04-05	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
33	2011-04-06	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
34	2011-04-06	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
35	2011-04-07	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
36	2011-04-07	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
37	2011-04-08	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
38	2011-04-08	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
39	2011-04-09	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
40	2011-04-09	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
41	2011-04-10	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
42	2011-04-10	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
43	2011-04-11	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
44	2011-04-11	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
45	2011-04-12	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
46	2011-04-12	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	

Line #	Date	Location	Expense Category	Expense Type	Claim Amt	Expense Reimbursement Type	Reason
47	2011-04-13	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
48	2011-04-13	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
49	2011-04-14	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	365.75	Per diem	

Authorization Remarks

Remark Details

Authorization Remarks - Trip ID: 2849781

Arranger - LISA M SCHAEFER

March 21, 2011 at 02:49 PM

Purpose: INVITATIONAL TRAVEL: Serve on Pacific Tsunami DART

A Lodging Plus per diem is authorized at the maximum daily rates. Lodging receipts are required. On the first and last days of travel, 75 percent of M and IE is authorized.

The following expenses are authorized: bottled water, business calls/internet, airport tax, ticket purchase, military transport, hotel tax, excess baggage, ATM/Travelers Check fees, most cost effective transportation - metro, shuttle, taxi, etc., in-country/regional travel, aircraft charter, hotel business center, and visa fees.

Traveler is authorized up to two checked bags, not to exceed airline weight allowance per bag. Charges levied by carriers on the first and/or second bag (within the airline weight limits) are allowable, excluding any charges levied as a result of excess weight. Receipts are required for any baggage payments.

Please charge airfare to the centrally-funded USAID/W travel Card.

Travel on military transport is Authorized -Air, Water and Ground-. On base billeting is authorized. Purchase of BX/PX, fuel and commissary privileges are authorized.

Remark Details

Business class for the inbound flight to Tokyo is authorized. Travel is over 14 hours and the traveler has to work the next day. Please see authorizing memo attached.

Administrative approval is given for authorized expenses incurred prior to this authorization.

A travel voucher must be submitted within 5 business days following completion of travel.

Receipts are required for all other expenses in excess of \$75.00.

Manassas Travel fees are authorized.

Arranger - LISA M SCHAEFER

March 21, 2011 at 03:32 PM

Travel on a non contract carrier to Tokyo, Japan is approved. A non contract fare offers a lower fare. The traveler will be joining the DART in Japan for emergency response activities and the non-contract flight allowed him to reach the disaster site earlier and is the most cost effective route. Based on the information provided above, DCHA/OFDA has concluded that the use of a non-contract carrier flight is more conducive to fulfilling this trips purpose. In this regard, this traveler may use American Airlines for one leg of this trip. Diane Carter (M/AS/TT) has determined that the non-contract carrier flight is practical for the Government. This is not a request for an exception to Fly America requirements. Fly America will take precedence in the use of contract carrier flights.

E2 Solutions - E2 Solutions

March 21, 2011 at 03:35 PM

System Generated Remark: Justification Code submitted by LISA M SCHAEFER for MIKE SCOTT - Justification for CABINCLASS - Business class: Travel in excess of 14 hours - TDY (B06)

Approver - LISA M SCHAEFER

March 21, 2011 at 03:43 PM

Remark Details

The TQ number in Phoenix is 00011TQ005271.

Authorization History

Date	Action
21MAR11 Mon 02:49PM	Status now New Authorization
21MAR11 Mon 02:49PM	Created by LISA M SCHAEFER for MIKE SCOTT
21MAR11 Mon 02:49PM	Arranger LISA M SCHAEFER updated the cabin class to Business Class
21MAR11 Mon 02:50PM	Booked Airfare/Common Carrier rate \$0.00 changed to \$8000.00 by SCHAEFER, LISA M for SCOTT, MIKE
21MAR11 Mon 03:33PM	Booked Airfare/Common Carrier rate \$8000.00 changed to \$4500.00 by SCHAEFER, LISA M for SCOTT, MIKE
21MAR11 Mon 03:35PM	Justification Code submitted by LISA M SCHAEFER for MIKE SCOTT - Justification for CABINCLASS - Business class: Travel in excess of 14 hours - TDY (B06)
21MAR11 Mon 03:35PM	Submitted to DCHA-OFDA-PS-LEVEL 1 approver CHAN, CAROL by LISA M SCHAEFER for MIKE SCOTT
21MAR11 Mon 03:35PM	Reservation is optional. LISA M SCHAEFER for MIKE SCOTT sent to approver with no Reservation.
21MAR11 Mon 03:35PM	Status changed to: Pending Authorization Approval
21MAR11 Mon 03:35PM	SCHAEFER, LISA M unlocked document: No approver specified.
21MAR11 Mon 03:39PM	BUCKLEY, SARAH D locked document for Approval.
21MAR11 Mon 03:41PM	Approver BUCKLEY, SARAH D concurred with justifications
21MAR11 Mon 03:41PM	Approved By DCHA-OFDA-PS-LEVEL 1 Approver BUCKLEY, SARAH D
21MAR11 Mon 03:41PM	Submitted to DCHA-OFDA-TRAVEL SPECIALIST by the System
21MAR11 Mon 03:41PM	SCHAEFER, LISA M locked document for Approval.
21MAR11 Mon 03:43PM	Approver SCHAEFER, LISA M concurred with justifications
21MAR11 Mon 03:43PM	Approved By DCHA-OFDA-TRAVEL SPECIALIST Approver SCHAEFER, LISA M
21MAR11 Mon 03:43PM	Submitted to M-MS-TRAVEL AND TRANSPORTATION DIVISION by the System
21MAR11 Mon 03:47PM	JOHNSON, GWENDOLYN locked document for Approval.
21MAR11 Mon 03:50PM	Approver JOHNSON, GWENDOLYN concurred with justifications
21MAR11 Mon 03:50PM	Approving Official GWENDOLYN JOHNSON authorized per diem at TOKYO CITY, JPN
21MAR11 Mon 03:50PM	Status changed to: Open Voucher
21MAR11 Mon 03:50PM	Approved By M-MS-TRAVEL AND TRANSPORTATION DIVISION Approver JOHNSON, GWENDOLYN
21MAR11 Mon 03:50PM	Agency successfully notified of event: TripAuthorizationApproved for trip 2849781
21MAR11 Mon 03:50PM	Obligation status changed to: Pending Obligation

Date	Action
21MAR11 Mon 03:50PM	Obligation status changed to: Obligation Accepted
21MAR11 Mon 03:51PM	MIKE SCOTT sent email request to USAID@MANASSASTRAVEL.COM. A copy of the email can be found with attached documents.
21MAR11 Mon 03:51PM	Approval Data Sent to Travel Agent via Email

Audit/Approver Information

Action	Official	Date / Time
Approved [DCHA-OFDA-PS-LEVEL 1]	BUCK1771[BUCKLEY,SARAH]	2011-03-21
Approved [DCHA-OFDA-TRAVEL SPECIALI]	SCHA9300[SCHAEFER,LISA]	2011-03-21
Approved [M-MS-TRAVEL AND TRANSPORT]	JOHN0664[JOHNSON,GWENDOLYN]	2011-03-21

Nguyen, Quynh

From: Nelson, Robert
Sent: Monday, March 21, 2011 11:07 AM
To: Nguyen, Quynh
Subject: Action: Use this version instead
Attachments: NRC QA (2).doc

Here's the 50 mile EPZ Q&A

NELSON

From: Leeds, Eric
Sent: Friday, March 18, 2011 5:53 PM
To: Lew, David
Cc: Nelson, Robert; McCree, Victor; Dean, Bill; Pederson, Cynthia; Collins, Elmo
Subject: FW: Use this version instead

Dave -

Attached is a start at responding to the Q on 50 miles. However, we need to add information about the issues at Fukushima that specifically led us to making that decision, including the lack of confirmed information, unavailability of on the ground and overhead monitoring that we would have here in the US, uncertainty in the conditions, etc etc, which lead the agency to take a more conservative position.

We'll continue to work it and get you what we can.

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

From: Milligan, Patricia
Sent: Friday, March 18, 2011 5:25 PM
To: Leeds, Eric
Subject: Use this version instead

From: Milligan, Patricia
Sent: Friday, March 18, 2011 4:46 PM
To: Leeds, Eric
Subject: Fw: Seismic Q&As March 17th 2am update

Sent from my NRC Blackberry
Patricia A. Milligan, CHP RPh

(b)(6)

From: Milligan, Patricia
To: Thaggard, Mark

Valentine, Nicholee

From: Jolicoeur, John
Sent: Monday, March 21, 2011 10:38 AM
To: Skarda, Raymond
Subject: Re: NRC Operations Center Watchbill for Japan Event

Not sure. My team coordinator has been working with us directly.

Sent from my NRC BlackBerry

John Jolicoeur

(b)(6)

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

From: Skarda, Raymond
To: Jolicoeur, John
Sent: Sun Mar 20 19:34:22 2011
Subject: FW: NRC Operations Center Watchbill for Japan Event

John,

Could you let me know if I my note below was sent to correc email for ops? I put into volunteer 11p-7a shifts as below. I am talking with Mike Salay tomorrow or Tues on his experience with this. If you think there is a better I very much appreciate recommendations or advice.

Hope you are holding up!

Ray

From: Skarda, Raymond
Sent: Sunday, March 20, 2011
To: Operations Center Activities Resource
Subject: FW: NRC Operations Center Watchbill for Japan Event

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

Ray Skarda

From: Gibson, Kathy
Sent: Saturday, March 19, 2011 4:17 PM
To: 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!

mmmm / 178

From: OST02 HOC

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

Nelson, Robert

From: Nelson, Robert
Sent: Monday, March 21, 2011 3:48 PM
To: Howe, Allen
Cc: Giitter, Joseph
Subject: RE: Ops center

I'm not on the Ops Center watch bill. At least for now, such an assignment would conflict with my office comm. role

NELSON

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

From: Howe, Allen
Sent: Monday, March 21, 2011 3:45 PM
To: Giitter, Joseph; Nelson, Robert
Subject: Ops center

Joe/Nelson

What is your ops center schedule? I am over here looking at support to the liaison team.

Allen

Allen Howe
Sent from NRC Blackberry

(b)(6)

mmmm/179

Wagner, Katie

From: Wagner, Katie
Sent: Tuesday, March 22, 2011 8:20 AM
To: Lee, Richard
Subject: RE: SOARCA data requested for briefing to Secretary of Energy

Richard,

Ok. Please let me know if there is anything I can do, ie. is there anyone specifically you would like me to follow up with?

Katie

From: Lee, Richard
Sent: Tuesday, March 22, 2011 8:17 AM
To: Wagner, Katie
Subject: FW: SOARCA data requested for briefing to Secretary of Energy

Katie:

FYI. We need to follow up with RES FO.

Richard

From: Elkins, Scott
Sent: Tuesday, March 22, 2011 8:14 AM
To: Sheron, Brian
Cc: Tinkler, Charles; Uhle, Jennifer; Gibson, Kathy; Lee, Richard; Santiago, Patricia
Subject: RE: SOARCA data requested for briefing to Secretary of Energy

Brian, DSA has no problem with this being released as long as the slides are marked OOU.

From: Sheron, Brian
Sent: Tuesday, March 22, 2011 7:33 AM
To: Elkins, Scott
Cc: Tinkler, Charles; Uhle, Jennifer; Gibson, Kathy
Subject: FW: SOARCA data requested for briefing to Secretary of Energy

You're acting. Any problem with SNL giving this to DOE?

From: Burns, Shawn [<mailto:spburns@sandia.gov>]
Sent: Tuesday, March 22, 2011 3:58 AM
To: Sheron, Brian; 'kathy.wagner@nrc.gov'
Cc: Santiago, Patricia; Chang, Richard; Gauntt, Randall O; Pickering, Susan Y; Tinkler, Charles
Subject: SOARCA data requested for briefing to Secretary of Energy

Brian and Kathy,

I prepared the attached to fulfill a request for information for a briefing to be given to the Secretary of Energy on Tuesday, March 22, 2011 regarding the Fukushima event. The slides reflect data taken directly from the Peach Bottom long term station blackout analysis that Sandia prepared for the SOARCA project and are intended to show various levels of core damage progression in this type of event as well as potential environmental releases. John Kelly (DOE/NE-7) sent Brian an e-mail regarding this request approximately 11:00 EDT on March 21.

I am requesting NRC approval to forward this information to Idaho National Laboratories so that it can be included in the briefing they are preparing for the Secretary. At this time I do not know what the scheduled time for the briefing is on the 22nd.

Best regards,

Shawn

~~~~~  
Shawn P. Burns, Ph.D., P.E.  
Manager, Risk and Reliability Analysis  
Department 6761

Sandia National Laboratories  
P.O. Box 5800  
Albuquerque, NM 87185-0748

Phone: (505)844-6200

Mobile: (b)(6)

Fax: (505)844-2829

e-mail: [spburns@sandia.gov](mailto:spburns@sandia.gov)

Web: <http://www.sandia.gov/ERN/nuclear-energy/index.html>

## **Wagner, Katie**

---

**From:** Wagner, Katie  
**Sent:** Tuesday, March 22, 2011 7:56 AM  
**To:** Lee, Richard  
**Subject:** RE: SOARCA data requested for briefing to Secretary of Energy

Is this "complete" now?

---

**From:** Lee, Richard  
**Sent:** Tuesday, March 22, 2011 7:52 AM  
**To:** Wagner, Katie  
**Subject:** FW: SOARCA data requested for briefing to Secretary of Energy

Hi, Katie:  
Please log this in. Thx.  
Richard

---

**From:** Lee, Richard  
**Sent:** Tuesday, March 22, 2011 7:51 AM  
**To:** Elkins, Scott  
**Subject:** RE: SOARCA data requested for briefing to Secretary of Energy

No problem at all. Please do.

---

**From:** Elkins, Scott  
**Sent:** Tuesday, March 22, 2011 7:39 AM  
**To:** Lee, Richard  
**Subject:** FW: SOARCA data requested for briefing to Secretary of Energy

Richard, I understand that you are the clearing house on what can be released to whom. Is there any reason this cannot be released to DOE?  
Thanks, Scott

---

**From:** Sheron, Brian  
**Sent:** Tuesday, March 22, 2011 7:33 AM  
**To:** Elkins, Scott  
**Cc:** Tinkler, Charles; Uhle, Jennifer; Gibson, Kathy  
**Subject:** FW: SOARCA data requested for briefing to Secretary of Energy

You're acting. Any problem with SNL giving this to DOE?

---

**From:** Burns, Shawn [<mailto:spburns@sandia.gov>]  
**Sent:** Tuesday, March 22, 2011 3:58 AM  
**To:** Sheron, Brian; 'kathy.wagner@nrc.gov'  
**Cc:** Santiago, Patricia; Chang, Richard; Gauntt, Randall O; Pickering, Susan Y; Tinkler, Charles  
**Subject:** SOARCA data requested for briefing to Secretary of Energy

Brian and Kathy,

I prepared the attached to fulfill a request for information for a briefing to be given to the Secretary of Energy on Tuesday, March 22, 2011 regarding the Fukushima event. The slides reflect data taken directly from the Peach Bottom long term station blackout analysis that Sandia prepared for the SOARCA project and are intended to show various levels of core damage progression in this

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type of event as well as potential environmental releases. John Kelly (DOE/NE-7) sent Brian an e-mail regarding this request at approximately 11:00 EDT on March 21.

I am requesting NRC approval to forward this information to Idaho National Laboratories so that it can be included in the briefing they are preparing for the Secretary. At this time I do not know what the scheduled time for the briefing is on the 22<sup>nd</sup>.

Best regards,

Shawn

~~~~~  
Shawn P. Burns, Ph.D., P.E.
Manager, Risk and Reliability Analysis
Department 6761

Sandia National Laboratories
P.O. Box 5800
Albuquerque, NM 87185-0748

Phone: (505)844-6200
Mobile: (b)(6)
Fax: (505)844-2829

e-mail: spburns@sandia.gov
Web: <http://www.sandia.gov/ERN/nuclear-energy/index.html>

From: HOO Hoc
Sent: Wednesday, April 20, 2011 12:13 AM
To: LIA07 Hoc; LIA08 Hoc; OST01 HOC
Subject: FW: Environmental Radioactivity Measurement Result in Japan (179)
Attachments: (English)20110419_16.pdf; (unofficial)(English)20110419_16.pdf; (English)20110419_17.pdf; (English)20110419_18.pdf; (English)20110419_19.pdf; (English)20110419_20.pdf; (English)20110419_21.pdf

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

From: (b)(6)
Sent: Wednesday, April 20, 2011 12:02 AM
To: (b)(6)
(b)(6)

Subject: Fw: Environmental Radioactivity Measurement Result in Japan (179)

Dear Sirs and Madams,

Please see attached the document.
My apologize for delaying.

Sincerely yours,
Kei EDA
EOC, Ministry of Education,Culture, Sports, Science & Technology (MEXT), Japan

Reading of environmental radioactivity level by prefecture[Fallout]
(4.18.9AM~4.19.9AM)

2011/4/19 19:00

(MBq/km²)

	Prefecture	Fallout		
		I-131	Cs-137	Remarks
1	Hokkaido(Sapporo)	Not Detectable	Not Detectable	
2	Aomori(Aomori)	Not Detectable	Not Detectable	
3	Iwate(Morioka)	Not Detectable	Not Detectable	
4	Miyagi	-	-	Not be measured because of the earthquake disaster damage
5	Akita(Akita)	Not Detectable	Not Detectable	
6	Yamagata(Yamagata)	26	9.8	
7	Fukushima(Fukushima)	-	-	Under Measurement
8	Ibaraki(Hitachinaka)	290	160	
9	Tochigi(Utsunomiya)	-	-	Under Measurement
10	Gunma(Maebashi)	93	24	
11	Saitama(Saitama)	368	137	
12	Chiba(Ichihara)	Not Detectable	130	
13	Tokyo(Shinjuku)	55.7	Not Detectable	
14	Kanagawa(Chigasaki)	Not Detectable	Not Detectable	
15	Niigata(Niigata)	67	15	
16	Toyama(Imizu)	2.4	Not Detectable	
17	Ishikawa(Kanazawa)	Not Detectable	Not Detectable	
18	Fukui(Fukui)	3.1	Not Detectable	
19	Yamanashi(Kofu)	Not Detectable	Not Detectable	
20	Nagano(Nagano)	Not Detectable	Not Detectable	
21	Gifu(Kakamigahara)	Not Detectable	Not Detectable	
22	Shizuoka(Omaezaki)	Not Detectable	Not Detectable	
23	Aichi(Nagoya)	Not Detectable	Not Detectable	
24	Mie(Yokkaichi)	30	Not Detectable	
25	Shiga(Otsu)	Not Detectable	Not Detectable	
26	Kyoto(Kyoto)	Not Detectable	Not Detectable	
27	Osaka(Osaka)	Not Detectable	Not Detectable	
28	Hyogo(Kobe)	Not Detectable	Not Detectable	
29	Nara(Nara)	-	-	on setting up the equipment
30	Wakayama(Wakayama)	24.8	Not Detectable	
31	Tottori(Tohhaku)	Not Detectable	Not Detectable	
32	Shimane(Matsue)	1.8	Not Detectable	
33	Okayama(Okayama)	15.8	Not Detectable	
34	Hiroshima(Hiroshima)	Not Detectable	Not Detectable	
35	Yamaguchi(Yamaguchi)	Not Detectable	Not Detectable	
36	Tokushima(Tokushima)	Not Detectable	Not Detectable	
37	Kagawa(Takamatsu)	Not Detectable	Not Detectable	
38	Ehime(Yawatahama)	Not Detectable	Not Detectable	
39	Kochi(Kochi)	4.4	2.4	
40	Fukuoka(Dazaifu)	Not Detectable	Not Detectable	
41	Saga(Saga)	Not Detectable	Not Detectable	
42	Nagasaki(Ohmura)	Not Detectable	Not Detectable	
43	Kumamoto(Uto)	Not Detectable	Not Detectable	
44	Oita(Oita)	Not Detectable	Not Detectable	
45	Miyazaki(Miyazaki)	Not Detectable	Not Detectable	
46	Kagoshima(Kagoshima)	Not Detectable	Not Detectable	
47	Okinawa(Nanjo)	Not Detectable	Not Detectable	

*The table was made by MEXT, based on the reports from prefectures

Readings at Monitoring Post out of 20 Km Zone of Fukushima Dai-ichi NPP

As of 19:00 April 19, 2011
Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Monitoring Outputs by MEXT

- 1 measured by Geiger-Müller counter
- 2 measured by ionization chamber type survey meter
- 3 measured by NaI scintillator detector
- 4 variation range of the measuring data in measuring time

Monitoring Post (length from NPP)	Monitoring Time	Reading (unit : $\mu\text{Sv/h}$)	測定位置	Weather	Reading by
Reading Point [1] Fukushima city Sugitsuma town (About 60km North/West)	2011/4/19 15:28	1.7 ^{*2}	N: 37° 44' 12.8" E: 140° 28' 02.8"	Rain	MEXT
Reading Point [1] Fukushima city Sugitsuma town (About 60km North/West)	2011/4/19 8:35	1.0 ^{*2}	N: 37° 44' 12.8" E: 140° 28' 02.8"	Rain	MEXT
Reading Point [2] Fukushima city Onami Takinoiri (About 55km North/West)	2011/4/19 9:10	1.8 ^{*2}	N: 37° 41' 12.7" E: 140° 33' 29.3"	Rain	MEXT
Reading Point [3] Date city Ryozen town Ishida Hikohei (About 45km North/West)	2011/4/19 9:59	2.9 ^{*2}	N: 37° 41' 12.7" E: 140° 33' 29.3"	Rain	MEXT
Reading Point [4] Date county Kawamata town oaza Tsurusawa oza Kawabata (About 50km North/West)	2011/4/19 13:32	0.8 ^{*1}	N: 37° 29' 24.2" E: 140° 34' 54.2"	Rain	MEXT
Reading Point [5] Soma city Nakanoteramae (About 45km North)	2011/4/19 10:52	0.9 ^{*2}	N: 37° 41' 12.7" E: 140° 33' 29.3"	Rain	MEXT
Reading Point [6] Minami Soma city Kashima ward Nishimachi (About 35km North)	2011/4/19 11:43	1.0 ^{*1}	N: 37° 29' 24.2" E: 140° 34' 54.2"	Rain	MEXT
Reading Point [7] Minami Soma city Kashima ward Terauchi Motoyashiki (About 35km North)	2011/4/19 11:50	1.3 ^{*2}	N: 37° 29' 24.2" E: 140° 34' 54.2"	Rain	MEXT
Reading Point [10] Nihonmatsu city Harimichi Nakajima (About 40km North/West)	2011/4/19 13:24	0.9 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [11] Nihonmatsu city Ota oza Shimoda (About 40km North/West)	2011/4/19 13:10	1.4 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [12] Tamura city Funehiki town Funehiki oza Ozawakawashiro (About 40km West)	2011/4/19 12:16	0.4 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [13] Tamura city Tokiwa town Nishimiki Yakata (About 40km West)	2011/4/19 12:04	0.4 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [14] Tamura city Tokiwa town Tokiwa Uchinachi (About 35km West)	2011/4/19 11:53	0.4 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [15] Tamura city Tokiwa town Yamane Kashima (About 35km West)	2011/4/19 11:29	0.3 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [20] Tamura city Funehiki town Nitate shimo (About 45km North/West)	2011/4/19 13:04	0.7 ^{*2}	N: 37° 29' 24.2" E: 140° 34' 54.2"	Rain	MEXT
Reading Point [21] Tamura city Funehiki town Kamitsushi Shiamichi (About 30km West/North/West)	2011/4/19 12:40	2.4 ^{*2}	N: 37° 45' 06.7" E: 140° 41' 29.2"	Rain	MEXT
Reading Point [22] Tamura city Funehiki town Kamitsushi Ushirota (About 35km West/North/West)	2011/4/19 12:50	0.6 ^{*1}	N: 37° 45' 06.7" E: 140° 41' 29.2"	Rain	MEXT
Reading Point [23] Tamura city Funehiki town Minamiusushi Suichu-uchi (About 35km West/North/West)	2011/4/19 12:56	0.9 ^{*2}	N: 37° 45' 06.7" E: 140° 41' 29.2"	Rain	MEXT
Reading Point [31] Futaba county Namie town Tsushima Nakaoki (About 30km West/North/West)	2011/4/19 10:19	8.9 ^{*2}	N: 37° 41' 12.7" E: 140° 33' 29.3"	Rain	MEXT
Reading Point [32] Futaba county Namie town Akougi Teshichiro (About 30km North/West)	2011/4/19 10:43	21.8 ^{*2}	N: 37° 35' 42.0" E: 140° 45' 14.5"	Rain	MEXT
Reading Point [33] Soma county Iitate village Nagadoro (About 30km North/West)	2011/4/19 10:57	9.6 ^{*2}	N: 37° 36' 34.6" E: 140° 45' 09.1"	Rain	MEXT
Reading Point [34] Futaba county Namie town Tsushima Taikougi (About 30km North/West)	2011/4/19 11:56	4.7 ^{*2}	N: 37° 45' 06.7" E: 140° 41' 29.2"	Rain	MEXT
Reading Point [36] Date county Kawamata town Yamakoya Onukari (About 40km North/West)	2011/4/19 10:04	2.6 ^{*2}	N: 37° 41' 12.7" E: 140° 33' 29.3"	Rain	MEXT
Reading Point [37] Date city Ryozen town Ishida Heijazawa (About 50km North/West)	2011/4/19 9:50	3.9 ^{*2}	N: 37° 41' 12.7" E: 140° 33' 29.3"	Rain	MEXT
Reading Point [38] Iwaki City Yotsukura town Shiraiwa Hokita (About 35km South)	2011/4/19 11:34	0.5 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [39] Soma city Yamakami Kaminamiki (About 45km North)	2011/4/19 10:19	0.9 ^{*2}	N: 37° 41' 12.7" E: 140° 33' 29.3"	Rain	MEXT
Reading Point [41] Tamura City Miyakoji town Hiyomichi (About 20km West)	2011/4/19 13:00	0.6 ^{*2}		Rain	Electric power company

- * 1 measured by Geiger-Müller counter
- * 2 measured by ionization chamber type survey meter
- * 3 measured by NaI scintillator detector
- * 4 variation range of the measuring data in measuring time

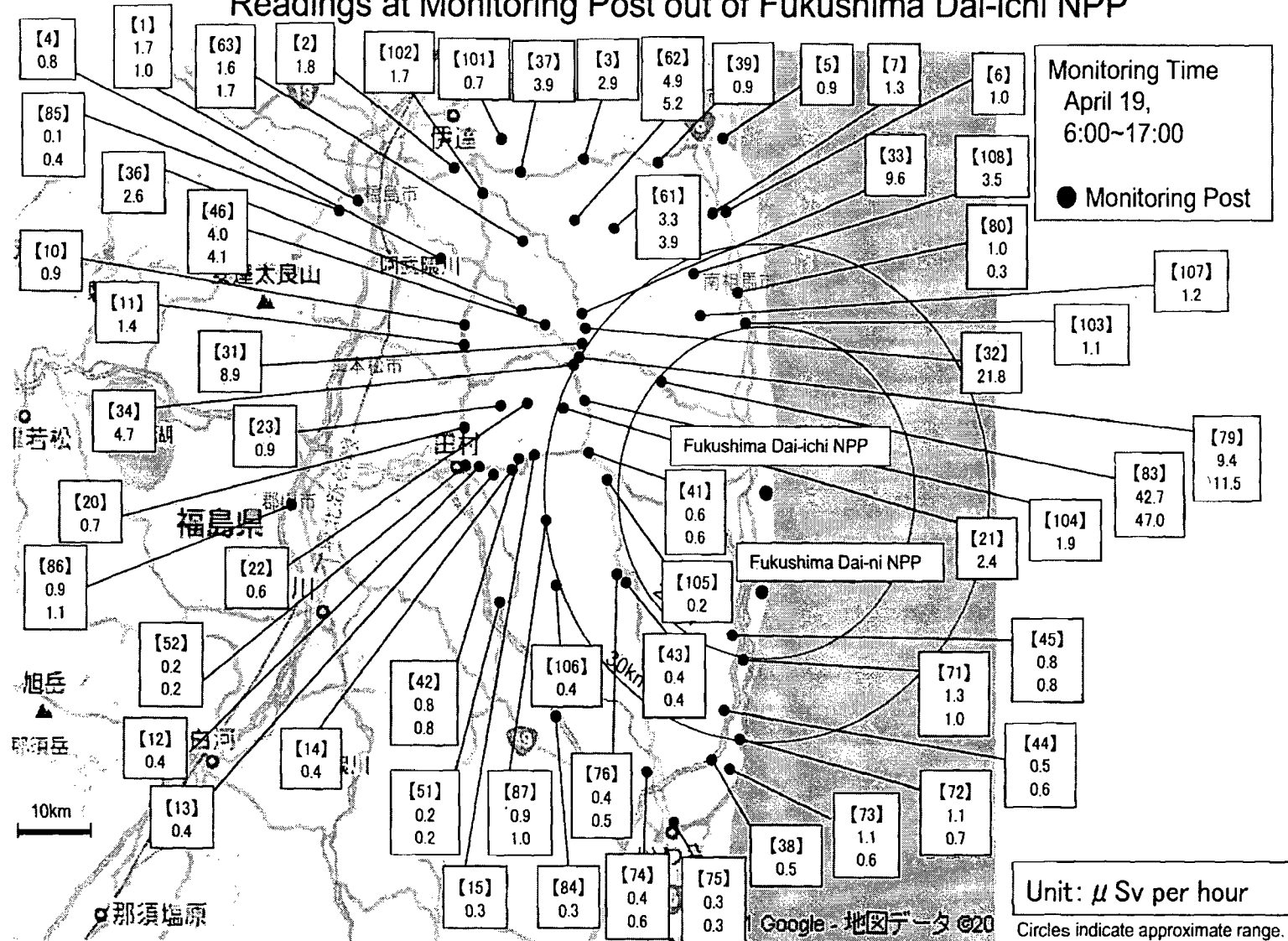
Monitoring Post (length from NPP)	Monitoring Time	Reading (unit : $\mu\text{Sv/h}$)	測定位置	Weather	Reading by
Reading Point [41] Tamura City Miyakoshi town Harumishi (About 20km West)	2011/4/19 8:30	0.8 * ¹		Rain	Electric power company
Reading Point [42] Tamura city Tokiya town Yamane Tomoka (About 30km West)	2011/4/19 13:00	0.8 * ¹		Rain	Electric power company
Reading Point [42] Tamura city Tokiya town Yamane Tomoka (About 30km West)	2011/4/19 8:50	0.8 * ¹		Rain	Electric power company
Reading Point [43] Futaba county Kawauchi village Shimokawauchi Miyawata (About 20km South/West)	2011/4/19 15:00	0.4 * ¹		Rain	Electric power company
Reading Point [43] Futaba county Kawauchi village Shimokawauchi Miyawata (About 20km South/West)	2011/4/19 11:00	0.4 * ¹		Rain	Electric power company
Reading Point [44] Iwaki city Ohisa town Ohisa Yanomozawa (About 30km South)	2011/4/19 13:00	0.5 * ¹		Rain	Electric power company
Reading Point [44] Iwaki city Ohisa town Ohisa Yanomozawa (About 30km South)	2011/4/19 10:00	0.8 * ¹		Rain	Electric power company
Reading Point [45] Futaba county Naraha town Yamadaoka Iwashihimori (About 20km South)	2011/4/19 13:51	0.8 * ¹		Rain	Electric power company
Reading Point [45] Futaba county Naraha town Yamadaoka Iwashihimori (About 20km South)	2011/4/19 8:44	0.8 * ¹		Rain	Electric power company
Reading Point [48] Date county Kawamata town Yamakya Mukaidayama (About 30km North/West)	2011/4/19 13:00	4.0 * ¹		Rain	Electric power company
Reading Point [48] Date county Kawamata town Yamakya Mukaidayama (About 30km North/West)	2011/4/19 10:10	4.1 * ¹		Rain	Electric power company
Reading Point [51] Tamura county Ono town Ononimachi Tatamawari (About 40km South/West)	2011/4/19 14:00	0.2 * ²		Rain	Fukushima Prefecture
Reading Point [51] Tamura county Ono town Ononimachi Tatamawari (About 40km South/West)	2011/4/19 10:54	0.2 * ²		Rain	Fukushima Prefecture
Reading Point [52] Tamura city Funahiki town Funahiki Babakawara (About 40km West)	2011/4/19 14:34	0.2 * ²		Rain	Fukushima Prefecture
Reading Point [52] Tamura city Funahiki town Funahiki Babakawara (About 40km West)	2011/4/19 13:05	0.2 * ²		Rain	Fukushima Prefecture
Reading Point [61] Soma county Iidate village Yanisawa (About 40km North/West)	2011/4/19 13:44	3.3 * ²		Rain	Fukushima Prefecture
Reading Point [61] Soma county Iidate village Yanisawa (About 40km North/West)	2011/4/19 12:18	3.8 * ²		Rain	Fukushima Prefecture
Reading Point [62] Soma county Iidate village Kusano Taishido (About 50km North/West)	2011/4/19 13:56	4.8 * ²		Rain	Fukushima Prefecture
Reading Point [62] Soma county Iidate village Kusano Taishido (About 40km North/West)	2011/4/19 12:10	5.2 * ²		Rain	Fukushima Prefecture
Reading Point [63] Soma county Iidate village Nimalbaashi (About 45km North/West)	2011/4/19 14:17	1.8 * ²		Rain	Fukushima Prefecture
Reading Point [63] Soma county Iidate village Nimalbaashi (About 45km North/West)	2011/4/19 11:12	1.7 * ²		Rain	Fukushima Prefecture
Reading Point [71] Futaba county Hirano town Shimokitaba Nawashirogao * (About 25km South)	2011/4/19 12:26	1.3 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [71] Futaba county Hirano town Shimokitaba Nawashirogao * (About 25km South)	2011/4/19 9:13	1.0 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	Police (counter NBC operations unit)
Reading Point [72] Iwaki city Hisanohama town Hisanohama aza Kitaramaki (About 30km South)	2011/4/19 12:08	1.1 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [72] Iwaki city Hisanohama town Hisanohama aza Kitaramaki (About 30km South)	2011/4/19 9:42	0.7 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	Police (counter NBC operations unit)
Reading Point [73] Iwaki city Yotsukura town (About 35km South)	2011/4/19 11:56	1.1 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [73] Iwaki city Yotsukura town (About 35km South)	2011/4/19 9:56	0.6 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	Police (counter NBC operations unit)
Reading Point [74] Iwaki city Ogawa town Takahagi (About 35km South)	2011/4/19 11:04	0.4 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [74] Iwaki city Ogawa town Takahagi (About 35km South)	2011/4/19 10:20	0.6 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	Police (counter NBC operations unit)
Reading Point [75] Iwaki city Uchigoumiyama town (About 45km South)	2011/4/19 10:42	0.3 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [75] Iwaki city Uchigoumiyama town (About 45km South)	2011/4/19 7:40	0.3 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	Police (counter NBC operations unit)
Reading Point [76] Futaba county Kawauchi village Kamikawauchi Hayawata * (About 20km South/West)	2011/4/19 11:28	0.4 * ²	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	Police (counter NBC operations unit)
Futaba county Kawauchi village			N: 37° 33' 03.2"		

- * 1 measured by Geiger-Müller counter
- * 2 measured by ionization chamber type survey meter
- * 3 measured by NaI scintillator detector
- * 4 variation range of the measuring data in measuring time

Monitoring Post (length from NPP)	Monitoring Time	Reading (unit: $\mu\text{Sv/h}$)	測定位置	Weather	Reading by
Reading Point [76] Kamikawauchi Hayawata* (About20kmSouth/West)	2011/4/19 11:28	0.5 ^{*2}	E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [79] Futaba county Namie town shimotsushima kayabuka (About30kmNorth/West)	2011/4/19 11:44	9.4 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	MEXT
Reading Point [79] Futaba county Namie town shimotsushima kayabuka (About30kmNorth/West)	2011/4/19 11:10	11.5 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	Police (counter NBC operations unit)
Reading Point [80] Minami Soma city Haramachi ward Takami town (About25kmNorth)	2011/4/19 12:12	1.0 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	MEXT
Reading Point [80] Minami Soma city Haramachi ward Takami town (About25kmNorth)	2011/4/19 8:10	0.3 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	Police (counter NBC operations unit)
Reading Point [83] Futaba county Namie town Akougi Kurugidaira (About20kmNorth/West)	2011/4/19 11:30	42.7 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	MEXT
Reading Point [83] Futaba county Namie town Akougi Kurugidaira (About20kmNorth/West)	2011/4/19 11:00	47.0 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	Police (counter NBC operations unit)
Reading Point [84] Iwaki city Miawa-town Seiso (About40kmSouth/West)	2011/4/19 9:59	0.3 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [85] Fukushima Arai Haraiiku (About80kmNorth/West)	2011/4/19 14:00	0.1 ^{*2}	N: 37° 42' 55.0" E: 140° 22' 58.0"	Rain	Ministry of Defense
Reading Point [85] Fukushima Arai Haraiiku (About80kmNorth/West)	2011/4/19 8:00	0.4 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	No Rain	Ministry of Defense
Reading Point [88] Koriyama Otsuki town Choemonbayaashi (About55kmWest)	2011/4/19 14:00	0.8 ^{*2}	N: 37° 23' 57.0" E: 140° 19' 35.0"	Rain	Ministry of Defense
Reading Point [88] Koriyama Otsuki town Choemonbayaashi (About55kmWest)	2011/4/19 8:00	1.1 ^{*2}	N: 37° 23' 57.0" E: 140° 19' 35.0"	Rain	Ministry of Defense
Reading Point [87] Futaba county Kawauchi village Kemikawauchi Hananouchi (About30kmWest/South/West)	2011/4/19 14:00	0.8 ^{*2}	N: 37° 23' 57.0" E: 140° 19' 35.0"	Rain	Ministry of Defense
Reading Point [87] Futaba county Kawauchi village Kemikawauchi Hananouchi (About30kmWest/South/West)	2011/4/19 8:00	1.0 ^{*2}	N: 37° 23' 57.0" E: 140° 19' 35.0"	No Rain	Ministry of Defense
Reading Point [101] Date city Ryozen town Oishi aza Minowa (About55kmNorth/West)	2011/4/19 9:32	0.7 ^{*2}	N: 37° 41' 12.7" E: 140° 33' 29.3"	Rain	MEXT
Reading Point [102] Date city Tsukidate town Tsukidate aza Machi (About50kmNorth/West)	2011/4/19 13:35	1.7 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	MEXT
Reading Point [103] Minami Soma city Haramachi ward taka aza Mamegasauchi (About20kmNorth)	2011/4/19 12:28	1.1 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	MEXT
Reading Point [104] Futaba county Katsurao village Oaza Ochiai aza Ochiai (About25kmWest/North/West)	2011/4/19 12:15	1.9 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	MEXT
Reading Point [105] Tamura city Miyakoji town Furumichi aza Teranomae (About20kmWest)	2011/4/19 11:11	0.2 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [106] Iwaki city Kawamae town Ojiroi aza Syokangoya (About30kmSouth/West)	2011/4/19 10:16	0.4 ^{*2}	N: 37° 41' 12.7" E: 140° 33' 29.3"	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [107] Minami Soma city Haramachi ward Baba aza Nakouchi (About25kmNorth/North/West)	2011/4/19 12:41	1.2 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	MEXT
Reading Point [108] Minami Soma city Haramachi ward Ohara Daihata (About30kmNorth/North/West)	2011/4/19 12:53	3.5 ^{*2}	N: 37° 33' 03.2" E: 140° 44' 25.0"	Rain	MEXT

*[71][76]: These are positioned in same area but a few hundred meters away.

Readings at Monitoring Post out of Fukushima Dai-ichi NPP



Readings at Monitoring Post out of 20 Km Zone of Fukushima Dai-ichi NPP

As of 19:00 April 19, 2011
Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Monitoring Outputs by MEXT

- * 1 measured by Geiger-Müller counter
- * 2 measured by ionization chamber type survey meter
- * 3 measured by NaI scintillator detector
- * 4 variation range of the measuring data in measuring time

Monitoring Post (length from NPP)	Monitoring Time	Reading (unit: $\mu\text{Sv/h}$)	Weather	Reading by
Reading Point [1] Fukushima city Sudama town (About 80km North/West)	2011/4/19 15:28	1.7 * ²	Rain	MEXT
Reading Point [1] Fukushima city Sugitama town (About 80km North/West)	2011/4/19 8:35	1.0 * ²	Rain	MEXT
Reading Point [2] Fukushima city Onemi Takinoiri (About 55km North/West)	2011/4/19 9:10	1.8 * ²	Rain	MEXT
Reading Point [3] Date city Ryozen town Ishida Hikohei (About 45km North/West)	2011/4/19 8:59	2.9 * ²	Rain	MEXT
Reading Point [4] Date county Kawamata town oaza Tsurusawa oza Kawabata (About 50km North/West)	2011/4/19 13:32	0.8 * ²	Rain	MEXT
Reading Point [5] Soma city Nakanoteramse (About 45km North)	2011/4/19 10:52	0.9 * ²	Rain	MEXT
Reading Point [6] Minami Soma city Kashima ward Nishimachi (About 35km North)	2011/4/19 11:43	1.0 * ²	Rain	MEXT
Reading Point [7] Minami Soma city Kashima ward Terauchi Motoyashiki (About 35km North)	2011/4/19 11:50	1.3 * ²	Rain	MEXT
Reading Point [10] Nihonmatsu city Harimichi Nakajima (About 40km North/West)	2011/4/19 13:24	0.9 * ²	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [11] Nihonmatsu city Ota oza Shimoda (About 40km North/West)	2011/4/19 13:10	1.4 * ²	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [12] Tamura city Funehiki town Funehiki oza Ozawakawashiro (About 40km West)	2011/4/19 12:16	0.4 * ²	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [13] Tamura city Tokiwa town Nishimuki Yakata (About 40km West)	2011/4/19 12:04	0.4 * ²	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [14] Tamura city Tokiwa town Tokiwa Uchimachi (About 35km West)	2011/4/19 11:53	0.4 * ²	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [15] Tamura city Tokiwa town Yamane Kashima (About 35km West)	2011/4/19 11:29	0.3 * ²	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [20] Tamura city Funehiki town Nitata shimo (About 45km North/West)	2011/4/19 13:04	0.7 * ²	Rain	MEXT
Reading Point [21] Tamura city Funehiki town Kamitsutsushi Shitamichi (About 30km West/North/West)	2011/4/19 12:40	2.4 * ²	Rain	MEXT
Reading Point [22] Tamura city Funehiki town Kamitsutsushi Ushirota (About 35km West/North/West)	2011/4/19 12:50	0.6 * ²	Rain	MEXT
Reading Point [23] Tamura city Funehiki town Minamiyoshi Suichir-uchi (About 35km West/North/West)	2011/4/19 12:56	0.9 * ²	Rain	MEXT
Reading Point [31] Futaba county Namie town Tsushima Nakaoki (About 30km West/North/West)	2011/4/19 10:19	8.9 * ²	Rain	MEXT
Reading Point [32] Futaba county Namie town Akougi Teshichiro (About 30km North/West)	2011/4/19 10:43	21.8 * ²	Rain	MEXT
Reading Point [33] Soma county Iitate village Negedoro (About 30km North/West)	2011/4/19 10:57	9.6 * ²	Rain	MEXT
Reading Point [34] Futaba county Namie town Tsushima Takougi (About 30km North/West)	2011/4/19 11:58	4.7 * ²	Rain	MEXT
Reading Point [36] Date county Kawamata town Yamakura Oonukari (About 40km North/West)	2011/4/19 10:04	2.6 * ²	Rain	MEXT
Reading Point [37] Date city Ryozen town Ishida Hozizawa (About 50km North/West)	2011/4/19 9:50	3.9 * ²	Rain	MEXT
Reading Point [38] Iwaki City Yotsukura town Shiraiwa Hokita (About 35km South)	2011/4/19 11:34	0.5 * ²	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [39] Soma city Yamakami Kaminamiki (About 45km North)	2011/4/19 10:19	0.9 * ²	Rain	MEXT

- * 1 measured by Geiger-Müller counter
- * 2 measured by ionization chamber type survey meter
- * 3 measured by NaI scintillator detector
- * 4 variation range of the measuring data in measuring time

Monitoring Post (length from NPP)	Monitoring Time	Reading (unit : $\mu\text{Sv/h}$)	Weather	Reading by
Reading Point [41] Tamura city Miyakoji town Hununishi (About 20km West)	2011/4/19 13:00	0.8 ^{*2}	Rain	Electric power company
Reading Point [41] Tamura city Miyakoji town Hununishi (About 20km West)	2011/4/19 8:30	0.8 ^{*2}	Rain	Electric power company
Reading Point [42] Tamura city Tokkwa town Yamane Tomioke (About 30km West)	2011/4/19 13:00	0.8 ^{*2}	Rain	Electric power company
Reading Point [42] Tamura city Tokkwa town Yamane Tomioke (About 30km West)	2011/4/19 9:50	0.8 ^{*2}	Rain	Electric power company
Reading Point [43] Futaba county Kawawuchi village Shimokawawuchi Miyawata (About 20km South/West)	2011/4/19 15:00	0.4 ^{*2}	Rain	Electric power company
Reading Point [43] Futaba county Kawawuchi village Shimokawawuchi Miyawata (About 20km South/West)	2011/4/19 11:00	0.4 ^{*2}	Rain	Electric power company
Reading Point [44] Iwaki city Ohisa town Ohisa Yanomazawa (About 30km South)	2011/4/19 13:00	0.5 ^{*2}	Rain	Electric power company
Reading Point [44] Iwaki city Ohisa town Ohisa Yanomazawa (About 30km South)	2011/4/19 10:00	0.8 ^{*2}	Rain	Electric power company
Reading Point [45] Futaba county Naraha town Yamadaoka Utakuhimori (About 20km South)	2011/4/19 13:51	0.8 ^{*2}	Rain	Electric power company
Reading Point [45] Futaba county Naraha town Yamadaoka Utakuhimori (About 20km South)	2011/4/19 8:44	0.8 ^{*2}	Rain	Electric power company
Reading Point [46] Date county Kawamata town Yamakawa Mukaidayama (About 30km North/West)	2011/4/19 13:00	4.0 ^{*2}	Rain	Electric power company
Reading Point [46] Date county Kawamata town Yamakawa Mukaidayama (About 30km North/West)	2011/4/19 10:10	4.1 ^{*2}	Rain	Electric power company
Reading Point [51] Tamura county Ono town Ononimachi Itemawad (About 40km South/West)	2011/4/19 14:00	0.2 ^{*3}	Rain	Fukushima Prefecture
Reading Point [51] Tamura county Ono town Ononimachi Itemawad (About 40km South/West)	2011/4/19 10:54	0.2 ^{*3}	Rain	Fukushima Prefecture
Reading Point [52] Tamura city Funahiki town Funahiki Babakawara (About 40km West)	2011/4/19 14:34	0.2 ^{*3}	Rain	Fukushima Prefecture
Reading Point [52] Tamura city Funahiki town Funahiki Babakawara (About 40km West)	2011/4/19 13:05	0.2 ^{*3}	Rain	Fukushima Prefecture
Reading Point [61] Soma county Iidate village Yadaizawa (About 40km North/West)	2011/4/19 13:44	3.3 ^{*3}	Rain	Fukushima Prefecture
Reading Point [61] Soma county Iidate village Yadaizawa (About 40km North/West)	2011/4/19 12:18	3.8 ^{*3}	Rain	Fukushima Prefecture
Reading Point [62] Soma county Iidate village Kusano Taishido (About 40km North/West)	2011/4/19 13:58	4.8 ^{*3}	Rain	Fukushima Prefecture
Reading Point [62] Soma county Iidate village Kusano Taishido (About 40km North/West)	2011/4/19 12:10	5.2 ^{*3}	Rain	Fukushima Prefecture
Reading Point [63] Soma county Iidate village Nimalhashi (About 45km North/West)	2011/4/19 14:17	1.6 ^{*3}	Rain	Fukushima Prefecture
Reading Point [63] Soma county Iidate village Nimalhashi (About 45km North/West)	2011/4/19 11:12	1.7 ^{*3}	Rain	Fukushima Prefecture
Reading Point [71] Futaba county Hirano town Shimokitaba Nawashirogao * (About 25km South)	2011/4/19 12:28	1.3 ^{*2}	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [71] Futaba county Hirano town Shimokitaba Nawashirogao * (About 25km South)	2011/4/19 9:13	1.0 ^{*2}	Rain	Police (counter NBC operations unit)
Reading Point [72] Iwaki city Hisanohama town Hisanohama aze Kitaramaki (About 30km South)	2011/4/19 12:08	1.1 ^{*2}	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [72] Iwaki city Hisanohama town Hisanohama aze Kitaramaki (About 30km South)	2011/4/19 9:42	0.7 ^{*2}	Rain	Police (counter NBC operations unit)
Reading Point [73] Iwaki city Yotsukura town (About 35km South)	2011/4/19 11:58	1.1 ^{*2}	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [73] Iwaki city Yotsukura town (About 35km South)	2011/4/19 9:56	0.6 ^{*2}	Rain	Police (counter NBC operations unit)
Reading Point [74] Iwaki city Ogawa town Takahagi (About 35km South)	2011/4/19 11:04	0.4 ^{*2}	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [74] Iwaki city Ogawa town Takahagi (About 35km South)	2011/4/19 10:20	0.6 ^{*2}	Rain	Police (counter NBC operations unit)

- * 1 measured by Geiger-Müller counter
 * 2 measured by ionization chamber type survey meter
 * 3 measured by NaI scintillator detector
 * 4 variation range of the measuring data in measuring time

Monitoring Post (length from NPP)	Monitoring Time	Reading (unit : $\mu\text{Sv/h}$)	Weather	Reading by
Reading Point [75] Iwaki city Uchigomiyamaya town (About 45km South)	2011/4/19 10:42	0.3 ^{*2}	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [75] Iwaki city Uchigomiyamaya town (About 45km South)	2011/4/19 7:40	0.3 ^{*2}	Rain	Police (counter NBC operations unit)
Reading Point [76] Futaba county Kawauchi village Kamikawauchi Hayawata * (About 20km South/West)	2011/4/19 11:28	0.4 ^{*2}	Rain	Police (counter NBC operations unit)
Reading Point [76] Futaba county Kawauchi village Kamikawauchi Hayawata * (About 20km South/West)	2011/4/19 11:28	0.5 ^{*2}	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [79] Futaba county Namie town shimotsushima kayabuka (About 30km North/West)	2011/4/19 11:44	8.4 ^{*2}	Rain	MEXT
Reading Point [79] Futaba county Namie town shimotsushima kayabuka (About 30km North/West)	2011/4/19 11:10	11.5 ^{*2}	Rain	Police (counter NBC operations unit)
Reading Point [80] Minami Soma city Haramachi ward Takami town (About 25km North)	2011/4/19 12:12	1.0 ^{*3}	Rain	MEXT
Reading Point [80] Minami Soma city Haramachi ward Takami town (About 25km North)	2011/4/19 8:10	0.3 ^{*2}	Rain	Police (counter NBC operations unit)
Reading Point [83] Futaba county Namie town Akougi Kunugidaira (About 20km North/West)	2011/4/19 11:30	42.7 ^{*2}	Rain	MEXT
Reading Point [83] Futaba county Namie town Akougi Kunugidaira (About 20km North/West)	2011/4/19 11:00	47.0 ^{*2}	Rain	Police (counter NBC operations unit)
Reading Point [84] Iwaki city Misawa town Saio (About 40km South/West)	2011/4/19 9:59	0.3 ^{*2}	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [85] Fukushima-shi Arai Harajiku (About 80km North/West)	2011/4/19 14:00	0.1 ^{*2}	Rain	Ministry of Defense
Reading Point [85] Fukushima-shi Arai Harajiku (About 80km North/West)	2011/4/19 8:00	0.4 ^{*2}	No Rain	Ministry of Defense
Reading Point [86] Koriyama-shi Otsuki town Choemonbayashi (About 55km West)	2011/4/19 14:00	0.8 ^{*2}	Rain	Ministry of Defense
Reading Point [86] Koriyama-shi Otsuki town Choemonbayashi (About 55km West)	2011/4/19 6:00	1.1 ^{*2}	Rain	Ministry of Defense
Reading Point [87] Futaba county Kawauchi village Kamikawauchi Hananouchi (About 30km West/South/West)	2011/4/19 14:00	0.8 ^{*2}	Rain	Ministry of Defense
Reading Point [87] Futaba county Kawauchi village Kamikawauchi Hananouchi (About 30km West/South/West)	2011/4/19 8:00	1.0 ^{*2}	No Rain	Ministry of Defense
Reading Point [101] Date city Ryosen town Oishi aza Minowa (About 55km North/West)	2011/4/19 9:32	0.7 ^{*2}	Rain	MEXT
Reading Point [102] Date city Tsukidate town Tsukidate aza Machi (About 50km North/West)	2011/4/19 13:35	1.7 ^{*2}	Rain	MEXT
Reading Point [103] Minami Soma city Haramachi ward taka aza Mamegawauchi (About 20km North)	2011/4/19 12:28	1.1 ^{*2}	Rain	MEXT
Reading Point [104] Futaba county Katsurao village Oaza Ochiai aza Ochiai (About 25km West/North/West)	2011/4/19 12:15	1.9 ^{*2}	Rain	MEXT
Reading Point [105] Tamura city Miyakoji town Furumichi aza Teranomae (About 20km West)	2011/4/19 11:11	0.2 ^{*2}	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [108] Iwaki city Kawamae town Ojioi aza Syokangoya (About 30km South/West)	2011/4/19 10:18	0.4 ^{*2}	Rain	JAEA (Japan Atomic Energy Agency)
Reading Point [107] Minami Soma city Haramachi ward Baba aza Nakouchi (About 25km North/North/West)	2011/4/19 12:41	1.2 ^{*2}	Rain	MEXT
Reading Point [108] Minami Soma city Haramachi ward Oaza Daihata (About 30km North/North/West)	2011/4/19 12:53	3.5 ^{*2}	Rain	MEXT

*[7]:[18]. These are positioned in same area but a few hundred meters away.

Monitoring data at Ibaraki prefecture (1/1)

MEXT

2011/4/19 19:00

 $\mu\text{Sv/h}$

Date	JAEA nuclear science research institute (Tokai-village in Ibaraki- prefecture)	JAEA Nuclear fuel cycle engineering laboratory (Tokai-village in Ibaraki- prefecture)	Yayoi in Tokyo University (Tokai-village in Ibaraki- prefecture)
4/19			
0:00	1.01	0.54	0.81
1:00	1.00	0.54	0.82
2:00	1.00	0.54	0.82
3:00	1.00	0.53	0.88
4:00	1.00	0.54	0.86
5:00	1.00	0.54	0.92
6:00	1.00	0.54	0.93
7:00	1.00	0.54	0.83
8:00	1.00	0.53	0.84
9:00	0.98	0.52	0.87
10:00	0.96	0.51	0.85
11:00	0.96	0.50	0.86
12:00	0.95	0.50	0.89
13:00	0.95	0.50	0.81
14:00	0.95	0.50	0.79
15:00	0.95	0.50	0.89
16:00	0.95	0.50	0.83
17:00	0.94	0.50	0.78
18:00	0.95	0.50	

※ The readings are measured once every hour from March 24th.

The readings of JAEA nuclear science research institute and JAEA Nuclear fuel cycle engineering laboratory are also put on their websites in below.

JAEA nuclear science research institute

<http://erms.jaea.go.jp/Chart.htm>

JAEA Nuclear fuel cycle engineering laboratory

http://www.jaea.go.jp/04/ztokai/kankyo/realtime/tbl_10mStPo01.html

2011/4/19 19:00

Reading of environmental radioactivity level by prefecture

(μSv/h)

		Reading of environmental radioactivity level by prefecture																														
		4/18															4/19															
Prefecture(City)		17-18	18-19	19-20	20-21	21-22	22-23	23-24	0-1	1-2	2-3	3-4	4-5	5-6	6-7	Usual Value Band																
1	Hokkaido(Sapporo)	0.028	0.028	0.029	0.029	0.029	0.029	0.029	0.028	0.028	0.029	0.028	0.028	0.029	0.028	0.02~0.105																
2	Aomori(Aomori)	0.027	0.027	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.017~0.102																
3	Iwate(Morioka)	0.023	0.023	0.023	0.023	0.023	0.023	0.023	0.024	0.024	0.024	0.025	0.025	0.025	0.024	0.014~0.084																
4	Miyagi(Sendai)	0.077	0.076	0.075	0.076	0.076	0.076	0.075	0.075	0.075	0.075	0.075	0.076	0.075	0.075	0.0176~0.0513																
5	Akita(Akita)	0.034	0.034	0.034	0.034	0.035	0.034	0.034	0.034	0.034	0.034	0.034	0.034	0.034	0.034	0.022~0.086																
6	Yamagata(Yamagata)	0.053	0.052	0.053	0.052	0.052	0.052	0.052	0.052	0.052	0.053	0.053	0.052	0.053	0.053	0.025~0.082																
7	Fukushima(Fukushima)	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	0.037~0.046																
8	Ibaraki(Mito)	0.133	0.132	0.132	0.132	0.132	0.132	0.132	0.132	0.133	0.132	0.132	0.132	0.133	0.133	0.036~0.056																
9	Tochigi(Utsunomiya)	0.066	0.066	0.066	0.066	0.066	0.066	0.067	0.067	0.067	0.067	0.067	0.068	0.069	0.069	0.030~0.067																
10	Gunma(Maebashi)	0.037	0.037	0.037	0.038	0.038	0.038	0.040	0.039	0.037	0.038	0.038	0.040	0.041	0.040	0.017~0.049																
11	Saitama(Saitama)	0.058	0.059	0.059	0.059	0.059	0.059	0.060	0.060	0.060	0.060	0.062	0.065	0.066	0.067	0.031~0.060																
12	Chiba(Ichihara)	0.051	0.052	0.052	0.052	0.052	0.053	0.054	0.054	0.052	0.052	0.052	0.054	0.058	0.063	0.022~0.044																
13	Tokyo(Shinjuku)	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.075	0.076	0.076	0.078	0.080	0.079	0.028~0.079																
14	Kanagawa(Chigasaki)	0.055	0.056	0.056	0.057	0.057	0.059	0.059	0.057	0.058	0.061	0.062	0.063	0.060	0.058	0.035~0.069																
15	Niigata(Niigata)	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.047	0.049	0.049	0.049	0.052	0.052	0.051	0.031~0.153																
16	Toyama(Imizu)	0.048	0.049	0.053	0.061	0.057	0.058	0.058	0.059	0.058	0.058	0.061	0.061	0.058	0.060	0.029~0.147																
17	Ishikawa(Kanazawa)	0.049	0.054	0.061	0.059	0.056	0.052	0.050	0.049	0.052	0.054	0.052	0.051	0.049	0.049	0.0291~0.1275																
18	Fukui(Fukui)	0.050	0.058	0.059	0.056	0.055	0.055	0.051	0.048	0.048	0.046	0.045	0.045	0.046	0.045	0.032~0.097																
19	Yamanashi(Kofu)	0.043	0.043	0.043	0.043	0.046	0.047	0.047	0.046	0.047	0.047	0.049	0.049	0.047	0.044	0.040~0.066																
20	Nagano(Nagano)	0.042	0.042	0.042	0.044	0.045	0.048	0.049	0.047	0.047	0.048	0.049	0.049	0.049	0.049	0.0299~0.0974																
21	Gifu(Kakamigahara)	0.061	0.062	0.064	0.067	0.068	0.068	0.067	0.068	0.067	0.063	0.062	0.063	0.062	0.061	0.057~0.110																
22	Shizuoka(Shizuoka)	0.037	0.037	0.037	0.040	0.044	0.045	0.045	0.046	0.045	0.045	0.044	0.039	0.038	0.038	0.0281~0.0765																
23	Aichi(Nagoya)	0.040	0.041	0.042	0.043	0.042	0.044	0.046	0.044	0.042	0.042	0.044	0.042	0.040	0.040	0.035~0.074																
24	Mie(Yokkaichi)	0.046	0.048	0.054	0.054	0.053	0.052	0.051	0.051	0.048	0.047	0.046	0.046	0.046	0.046	0.0416~0.0729																
25	Shiga(Otsu)	0.033	0.039	0.042	0.043	0.042	0.037	0.037	0.036	0.033	0.033	0.033	0.033	0.033	0.034	0.031~0.061																
26	Kyoto(Kyoto)	0.042	0.051	0.053	0.050	0.047	0.046	0.042	0.040	0.038	0.038	0.038	0.038	0.040	0.040	0.033~0.087																
27	Osaka(Osaka)	0.049	0.049	0.049	0.049	0.047	0.044	0.044	0.043	0.043	0.042	0.044	0.044	0.043	0.043	0.042~0.061																
28	Hyogo(Kobe)	0.042	0.042	0.043	0.042	0.039	0.038	0.037	0.037	0.037	0.042	0.042	0.039	0.037	0.037	0.035~0.076																
29	Nara(Nara)	0.051	0.055	0.056	0.056	0.052	0.052	0.052	0.051	0.049	0.048	0.048	0.047	0.048	0.048	0.046~0.080																
30	Wakayama(Wakayama)	0.041	0.042	0.038	0.034	0.032	0.031	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.031~0.056																
31	Tottori(Tohhaku)	0.071	0.066	0.064	0.063	0.063	0.063	0.063	0.064	0.064	0.064	0.064	0.065	0.065	0.066	0.036~0.110																
32	Shimane(Matsue)	0.045	0.045	0.049	0.047	0.049	0.048	0.046	0.046	0.052	0.055	0.051	0.050	0.047	0.046	0.037~0.131																
33	Okayama(Okayama)	0.054	0.051	0.050	0.049	0.049	0.050	0.050	0.051	0.051	0.049	0.049	0.049	0.050	0.050	0.043~0.104																
34	Hiroshima(Hiroshima)	0.047	0.047	0.047	0.047	0.046	0.047	0.046	0.046	0.047	0.047	0.048	0.050	0.048	0.047	0.035~0.069																
35	Yamaguchi(Yamaguchi)	0.094	0.094	0.093	0.093	0.093	0.094	0.094	0.094	0.095	0.095	0.095	0.095	0.096	0.103	0.064~0.128																
36	Tokushima(Tokushima)	0.045	0.044	0.040	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.039	0.037~0.067																
37	Kagawa(Takamatsu)	0.065	0.063	0.064	0.067	0.064	0.062	0.064	0.068	0.068	0.064	0.062	0.065	0.068	0.064	0.051~0.077																
38	Ehime(Matsuyama)	0.047	0.047	0.048	0.048	0.048	0.047	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.045~0.074																
39	Kochi(Kochi)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.026	0.026	0.026	0.026	0.027	0.027	0.027	0.019~0.054																
40	Fukuoka(Dazaifu)	0.036	0.036	0.036	0.036	0.037	0.036	0.036	0.038	0.040	0.038	0.043	0.046	0.042	0.038	0.034~0.079																
41	Saga(Saga)	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.041	0.041	0.040	0.037~0.086																
42	Nagasaki(Ohmura)	0.029	0.029	0.029	0.029	0.029	0.029	0.031	0.031	0.033	0.034	0.036	0.034	0.031	0.030	0.027~0.069																
43	Kumamoto(Uto)	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.028	0.028	0.028	0.029	0.027	0.027	0.027	0.021~0.067																
44	Oita(Oita)	0.049	0.050	0.050	0.049	0.050	0.050	0.049	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.048~0.085																
45	Miyazaki(Miyazaki)	0.026	0.027	0.026	0.027	0.027	0.026	0.026	0.026	0.027	0.027	0.027	0.027	0.027	0.026	0.0243~0.0664																
46	Kagoshima(Kagoshima)	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.037	0.037	0.037	0.036	0.035	0.0306~0.0943																
47	Okinawa(Uruma)	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.022	0.021	0.022	0.0133~0.0575																

*Figures for Miyagi Prefecture are measured by transportable monitoring post.

Moreover, the value of the fixed mount type monitoring post set up in Sendai City is described about the range of the value ordinary of the past.

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2011/4/19 19:00

Reading of environmental radioactivity level by prefecture

(μSv/h)

	Prefecture(City)	4/19										Usual Value Band
		7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	
1	Hokkaido(Sapporo)	0.028	0.028	0.028	0.029	0.028	0.029	0.028	0.028	0.028	0.028	0.02~0.105
2	Aomori(Aomori)	0.026	0.026	0.026	0.026	0.026	0.026	0.027	0.027	0.029	0.029	0.017~0.102
3	Iwate(Morioka)	0.024	0.023	0.024	0.026	0.027	0.030	0.031	0.030	0.026	0.026	0.014~0.084
4	Miyagi(Sendai)	0.074	0.075	0.077	0.076	0.076	0.077	0.076	0.075	0.074	0.076	0.0176~0.0513
5	Akita(Akita)	0.035	0.035	0.035	0.038	0.038	0.042	0.046	0.046	0.042	0.040	0.022~0.086
6	Yamagata(Yamagata)	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.052	0.053	0.053	0.025~0.082
7	Fukushima(Fukushima)	1.9	1.9	1.9	1.9	1.9	1.9	1.9				0.037~0.046
8	Ibaraki(Mito)	0.134	0.133	0.133	0.130	0.128	0.129	0.129	0.126	0.125	0.131	0.036~0.056
9	Tochigi(Utsunomiya)	0.070	0.070	0.068	0.068	0.067	0.066	0.067	0.067	0.069	0.071	0.030~0.067
10	Gunma(Maebashi)	0.040	0.038	0.037	0.037	0.041	0.043	0.046	0.046	0.051	0.053	0.017~0.049
11	Saitama(Saitama)	0.066	0.061	0.059	0.059	0.060	0.059	0.059	0.059	0.059	0.067	0.031~0.060
12	Chiba(Chihara)	0.060	0.054	0.051	0.050	0.050	0.050	0.050	0.050	0.050	0.050	0.022~0.044
13	Tokyo(Shinjuku)	0.076	0.074	0.074	0.074	0.074	0.074	0.075	0.074	0.073	0.073	0.028~0.079
14	Kanagawa(Chigasaki)	0.057	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.055	0.035~0.069
15	Niigata(Niigata)	0.054	0.053	0.050	0.052	0.056	0.062	0.064	0.061	0.059	0.055	0.031~0.153
16	Toyama(Imizu)	0.055	0.050	0.048	0.048	0.048	0.054	0.052	0.049	0.049	0.047	0.029~0.147
17	Ishikawa(Kanazawa)	0.048	0.047	0.047	0.047	0.050	0.052	0.053	0.049	0.048	0.047	0.0291~0.1275
18	Fukui(Fukui)	0.045	0.045	0.048	0.048	0.052	0.054	0.048	0.045	0.045	0.045	0.032~0.097
19	Yamanashi(Kofu)	0.044	0.046	0.046	0.044	0.043	0.043	0.043	0.043	0.047	0.046	0.040~0.066
20	Nagano(Nagano)	0.049	0.050	0.052	0.052	0.052	0.048	0.044	0.043	0.042	0.042	0.0299~0.0974
21	Gifu(Kakamigahara)	0.061	0.060	0.061	0.061	0.062	0.062	0.064	0.068	0.064	0.062	0.057~0.110
22	Shizuoka(Shizuoka)	0.040	0.039	0.037	0.038	0.038	0.038	0.038	0.038	0.038	0.038	0.0281~0.0785
23	Aichi(Nagoya)	0.039	0.039	0.039	0.040	0.042	0.043	0.041	0.042	0.051	0.045	0.035~0.074
24	Mie(Yokkaichi)	0.046	0.047	0.047	0.048	0.049	0.053	0.050	0.047	0.046	0.047	0.0416~0.0789
25	Shiga(Otsu)	0.034	0.035	0.041	0.041	0.041	0.039	0.035	0.033	0.033	0.036	0.031~0.061
26	Kyoto(Kyoto)	0.039	0.039	0.041	0.047	0.043	0.041	0.039	0.038	0.038	0.039	0.033~0.087
27	Osaka(Osaka)	0.043	0.043	0.043	0.043	0.043	0.043	0.043	0.042	0.043	0.045	0.042~0.061
28	Hyogo(Kobe)	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.039	0.041	0.035~0.076
29	Nara(Nara)	0.050	0.049	0.049	0.050	0.051	0.048	0.047	0.047	0.047	0.048	0.046~0.080
30	Wakayama(Wakayama)	0.036	0.036	0.033	0.032	0.031	0.031	0.031	0.032	0.033	0.032	0.031~0.056
31	Tottori(Tohhaku)	0.066	0.064	0.063	0.063	0.063	0.065	0.072	0.071	0.067	0.065	0.036~0.110
32	Shimane(Matsue)	0.046	0.046	0.046	0.047	0.050	0.047	0.046	0.046	0.049	0.046	0.037~0.131
33	Okayama(Okayama)	0.050	0.050	0.049	0.049	0.049	0.049	0.054	0.051	0.050	0.051	0.043~0.104
34	Hiroshima(Hiroshima)	0.048	0.047	0.047	0.046	0.046	0.046	0.046	0.047	0.047	0.046	0.035~0.069
35	Yamaguchi(Yamaguchi)	0.101	0.097	0.095	0.095	0.097	0.096	0.096	0.095	0.093	0.093	0.084~0.128
36	Tokushima(Tokushima)	0.038	0.038	0.038	0.037	0.038	0.037	0.038	0.037	0.037	0.037	0.037~0.067
37	Kagawa(Takamatsu)	0.057	0.057	0.062	0.059	0.055	0.054	0.055	0.054	0.054	0.055	0.051~0.077
38	Ehime(Matsuyama)	0.049	0.050	0.048	0.048	0.047	0.048	0.048	0.048	0.047	0.047	0.045~0.074
39	Kochi(Kochi)	0.027	0.026	0.025	0.025	0.025	0.025	0.024	0.024	0.024	0.024	0.019~0.054
40	Fukuoka(Dazaifu)	0.041	0.043	0.042	0.039	0.037	0.036	0.037	0.037	0.037	0.036	0.034~0.079
41	Saga(Saga)	0.041	0.041	0.042	0.043	0.041	0.040	0.040	0.039	0.040	0.040	0.037~0.086
42	Nagasaki(Ohmura)	0.030	0.030	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.029	0.027~0.069
43	Kumamoto(Uto)	0.027	0.027	0.027	0.027	0.027	0.028	0.028	0.028	0.027	0.027	0.021~0.067
44	Oita(Oita)	0.050	0.050	0.050	0.050	0.050	0.050	0.049	0.049	0.049	0.049	0.048~0.085
45	Miyazaki(Miyazaki)	0.027	0.026	0.026	0.026	0.026	0.026	0.026	0.027	0.027	0.026	0.0243~0.0664
46	Kagoshima(Kagoshima)	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.035	0.034	0.035	0.0306~0.0943
47	Okinawa(Uruma)	0.021	0.021	0.022	0.021	0.021	0.021	0.021	0.021	0.022	0.021	0.0133~0.0575

*Figures for Miyagi Prefecture are measured by transportable monitoring post.

Moreover, the value of the fixed mount type monitoring post set up in Sendai City is described about the range of the value ordinary of the past.

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figures were measured in Morioka (Fukushima City) as an alternative.

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Readings of the radiation rate with the cooperation of universities

Upper column: Reading of the integrated dose(24h)
Lower column: the reference value which was calculated as the number per one hour

Prefecture	Monitoring Point	City	4/18~4/19
Hokkaido	1	Muroran City	1 μ Sv (0.04 μ Sv/h)
	2	Obihiro City	1 μ Sv (0.04 μ Sv/h)
	3	Asahikawa City	2 μ Sv (0.08 μ Sv/h)
	4	Kitami City	2 μ Sv (0.08 μ Sv/h)
	5	Kushiro City	1 μ Sv (0.04 μ Sv/h)
	6	Hakodate City	1 μ Sv (0.04 μ Sv/h)
Aomori	7	Hirosaki City	1 μ Sv (0.04 μ Sv/h)
	8	Hachinohe City	1 μ Sv (0.04 μ Sv/h)
Miyagi	9	Sendai City	3 μ Sv (0.13 μ Sv/h)
Yamagata	10	Yonezawa City	2 μ Sv (0.08 μ Sv/h)
	11	Tsuruoka City	2 μ Sv (0.08 μ Sv/h)
Fukushima	12	Fukushima City	10 μ Sv (0.42 μ Sv/h)
Ibaraki	13	Tsukuba City	3 μ Sv (0.13 μ Sv/h)
Tochigi	14	Oyama City	3 μ Sv (0.13 μ Sv/h)
Gunma	15	Kiryu City	2 μ Sv (0.08 μ Sv/h)
Chiba	16	Chiba City	3 μ Sv (0.13 μ Sv/h)
	17	Kisarazu City	3 μ Sv (0.13 μ Sv/h)
Tokyo	18	Bunkyo Ward	2 μ Sv (0.08 μ Sv/h)
	19	Fuchu City	2 μ Sv (0.08 μ Sv/h)
	20	Meguro Ward	2 μ Sv (0.08 μ Sv/h)
	21	Minato Ward	3 μ Sv (0.13 μ Sv/h)
	22	Hachioji City	2 μ Sv (0.08 μ Sv/h)
Kanagawa	23	Yokohama City	2 μ Sv (0.08 μ Sv/h)
Niigata	24	Nagaoka City	2 μ Sv (0.08 μ Sv/h)
Nagano	25	Matsumoto City	3 μ Sv (0.13 μ Sv/h)
	26	Ueda City	3 μ Sv (0.13 μ Sv/h)

Toyama	27	Takaoka City	2 μ Sv (0.08 μ Sv/h)
Ishikawa	28	Nobi City	2 μ Sv (0.08 μ Sv/h)
Fukui	29	Eiheiji Town	2 μ Sv (0.08 μ Sv/h)
Gifu	30	Gifu City	2 μ Sv (0.08 μ Sv/h)
Shizuoka	31	Hamamatsu City	2 μ Sv (0.08 μ Sv/h)
	32	Numazu City	2 μ Sv (0.08 μ Sv/h)
Aichi	33	Toyohashi City	2 μ Sv (0.08 μ Sv/h)
Mie	34	Tsu City	2 μ Sv (0.08 μ Sv/h)
Shiga	35	Hikone City	2 μ Sv (0.08 μ Sv/h)
Kyoto	36	Uji City	2 μ Sv (0.08 μ Sv/h)
Osaka	37	Suita City	2 μ Sv (0.08 μ Sv/h)
Hyogo	38	Akashi City	2 μ Sv (0.08 μ Sv/h)
Nara	39	Ikoma City	2 μ Sv (0.08 μ Sv/h)
Wakayama	40	Gobo City	3 μ Sv (0.13 μ Sv/h)
Tottori	41	Tottori City	2 μ Sv (0.08 μ Sv/h)
Okayama	42	Tsuyama City	2 μ Sv (0.08 μ Sv/h)
Hiroshima	43	Higashi-Hiroshima City	2 μ Sv (0.08 μ Sv/h)
Yamaguchi	44	Ube City	2 μ Sv (0.08 μ Sv/h)
Tokushima	45	Anan City	2 μ Sv (0.08 μ Sv/h)
Kagawa	46	Mitoyo City	2 μ Sv (0.08 μ Sv/h)
Ehime	47	Niihama City	2 μ Sv (0.08 μ Sv/h)
Kochi	48	Nangoku City	2 μ Sv (0.08 μ Sv/h)
Fukuoka	49	Fukuoka City	Less than 1 μ Sv
Nagasaki	50	Nagasaki City	2 μ Sv (0.08 μ Sv/h)
Kumamoto	51	Kumamoto City	1 μ Sv (0.04 μ Sv/h)
Miyazaki	52	Miyakonojo City	1 μ Sv (0.04 μ Sv/h)
Kagoshima	53	Kirishima City	1 μ Sv (0.04 μ Sv/h)
Okinawa	54	Nishihara Town	2 μ Sv (0.08 μ Sv/h)

* We have measured the integrated dose(24h) from around 2PM to the next day.

* Readings of lower column are the reference value because of the lower limit of the pocket dosimeter (1 μ Sv)

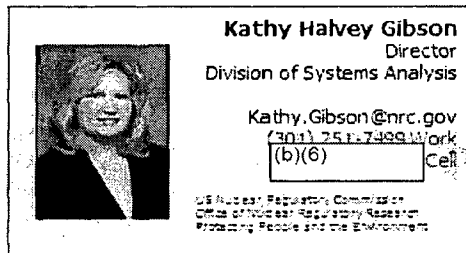
Lee, Richard

From: Lee, Richard
Sent: Wednesday, April 20, 2011 5:32 PM
To: Wagner, Katie
Subject: FW: RPT on Safety and Security of Commercial Nuclear Fuel Storage
Attachments: Kathy Halvey Gibson.vcf; image001.jpg

Katie:
Please log this in.
Thx, Richard

From: Gibson, Kathy
Sent: Wednesday, April 20, 2011 5:17 PM
To: Tinkler, Charles; Schaperow, Jason; Lee, Richard
Cc: Santiago, Patricia
Subject: FW: RPT on Safety and Security of Commercial Nuclear Fuel Storage

Who has this report and how can we get it to NSIR for sending to FBI? Is this the one Rosemary has? We also need to make a recommendation to Brian on whether FBI has a need to know. Based on the description in the last email below, I'd say they do. Your views?



From: Uhle, Jennifer
Sent: Wednesday, April 20, 2011 4:51 PM
To: Scott, Michael; Gibson, Kathy
Subject: FW: RPT on Safety and Security of Commercial Nuclear Fuel Storage

Please get Charlie or Jason to talk to Mike Layton and get NSIR a copy of the report so they can interface with these types of people.

Thanks,

Jennifer

From: Layton, Michael
Sent: Wednesday, April 20, 2011 4:41 PM
To: Uhle, Jennifer; Dorman, Dan; Holahan, Patricia
Cc: Sheron, Brian
Subject: RE: RPT on Safety and Security of Commercial Nuclear Fuel Storage

Actually . . . This is the third inquiry in recent weeks for a copy of the classified report, one from a senate staffer, one from DNDO and this from FBI. I checked and NSIR does not have a copy of the report. NMSS has a copy and RES has the

mmmm/18B

full files and copies of the report. This was done in Farouk's Division at the time. Charlie Tinkler has access to the information in RES. A paper copy of the report was provided to the senate staffer by courier, working through OCA.

If there is an electronic version of the report on CD, we can certainly transmit through HSDN or SIPRnet.

The one question that is circulating on the DNDO request is what would RES like to see from the cleared individuals from DNDO to demonstrate their need-to-know for the NAS report? We're looking to set up a briefing for them next week on other things NRC has done for spent fuel safety and security to put the report in context, rather than just give them a 2006 dated report.

Any insights on need-to-know would be appreciated.

MCL

From: Uhle, Jennifer
Sent: Wednesday, April 20, 2011 4:25 PM
To: Dorman, Dan; Holahan, Patricia; Layton, Michael
Cc: Sheron, Brian
Subject: FW: RPT on Safety and Security of Commercial Nuclear Fuel Storage

Brian, NSIR is the agency contact for FBI. This report was discussed in the BRC briefing. Dan and NSIR have a copy and NSIR has access to SIPR so they can forward if they believe FBI has a need to know. So, I am emailing this request to them. Dan Dorman may also have the document because he reviewed it the BRC briefing. NSIR or Dan, can you cc me and Brian when you contact FBI?

Thanks,

Jennifer

From: Sheron, Brian
Sent: Wednesday, April 20, 2011 4:01 PM
To: Uhle, Jennifer
Subject: Fw: RPT on Safety and Security of Commercial Nuclear Fuel Storage

See below. I'm not sure I've seen this report. Can you get some background info on it (did we prepare it? Which division? Purpose? Can we release to FBI? etc.).

From: Starke, Patrick <Patrick.Starke@ic.fbi.gov>
To: Sheron, Brian
Cc: Decker, Debra K. <Debra.Decker@ic.fbi.gov>; Applegarth, Claire E. <Claire.Applegarth@ic.fbi.gov>
Sent: Wed Apr 20 15:36:05 2011
Subject: RPT on Safety and Security of Commercial Nuclear Fuel Storage

Director Sheron,

I am the Program Manager for the FBI WMD Directorate's Infrastructure Counterterrorism Program. We are in the process of conducting a risk analysis across our mission set to help inform business decisions on asset allocation and terrorism countermeasures development. We believe that the classified version of the 2006 report published by the National Academies of Sciences, which we understand that you sponsored, entitled "Safety and Security of Commercial Nuclear Fuel Storage" could be of tremendous value to us in conducting our analysis. That said, would it be possible for us to get our hands on the report? My SIPR address is included with my contact information below if that is the preferred method to pass it to us. I'm happy to answer any questions you may have in regard to this request.

Your time and consideration in this matter are greatly appreciated.

Respectfully,

Patrick J Starke

Program Manager,

Infrastructure CT, FBI WMD Directorate

Phone: [O] (202)324-5811, [Cell] (b)(6)

Email: patrick.starke@ic.fbi.gov

SIPR: pstarke@fbi.sgov.gov

From: Leeds, Eric
To: Ryan, Michelle
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN
Date: Tuesday, March 22, 2011 7:49:00 AM

Thank you Michelle!

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

From: Ryan, Michelle
Sent: Monday, March 21, 2011 5:59 PM
To: Leeds, Eric; Virgilio, Rosetta
Cc: Meighan, Sean; Schwarz, Sherry; Turtill, Richard; Rivera, Alison; Grobe, Jack; Ruland, William; Boger, Bruce; Ellmers, Glenn
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Eric,
The NGA website indicates that the following regarding the upcoming April Policy Institute: The Policy Institute is exclusively for **senior energy advisors and/or policy directors** and will focus on concrete strategies for how to advance energy solutions that reduce costs, promote economic development and address environmental goals.

We will follow-up with NGA regarding the use of slides and time dedicated to Q &A.

Thanks
Michelle

Michelle Ryan
Federal, State, and Tribal Liaison Project Manager, USNRC
Division of Intergovernmental Liaison and Rulemaking (DILR)
Intergovernmental Liaison Branch (ILB)
Michelle.Ryan@nrc.gov
Phone: (301) 415-1071

From: Leeds, Eric
Sent: Monday, March 21, 2011 5:46 PM
To: Virgilio, Rosetta
Cc: Meighan, Sean; Schwarz, Sherry; Turtill, Richard; Ryan, Michelle; Rivera, Alison; Grobe, Jack; Ruland, William; Boger, Bruce; Ellmers, Glenn
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Thanks Rosetta! I'll need your help to better define the audience for me – who are these folks, how

mmmm/184

technical, any nuclear background, etc. I saw I have 10 to 15 minutes to present? And then I guess I can questions? That's fine, I just want to try to nail it down.

Can I use slides/pictures like Bill B. did for the staff on Friday? His presentation was well received by the staff.

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

From: Virgilio, Rosetta
Sent: Monday, March 21, 2011 5:29 PM
To: Leeds, Eric
Cc: Meighan, Sean; Schwarz, Sherry; Turtill, Richard; Ryan, Michelle; Rivera, Alison
Subject: Fw: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Eric - Please see below and attached relative to the National Governors' Association invitation to NRC to participate in an April 4, panel presentation before Governor Energy Advisors in Crystal City from 1:45-4:15 pm. The panel session is entitled Energy Technology 101; NGA is interested in hearing about the event in Japan and the implications for US plants.

Sherry Schwarz has put this appointment on your calendar.

I will be happy to work with you and your staff on this.

Rosetta

Sent from an NRC Blackberry
Rosetta O. Virgilio
(b)(6)

From: Dierkers, Gregory <gdierkers@NGA.ORG>
To: Virgilio, Rosetta
Sent: Mon Mar 21 16:14:15 2011
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Thank you Rosetta. Attached is the agenda for the April 4th meeting. We would look for a technical expert to join us on a panel at 1:45pm to 4:15pm on April 4th in Crystal City.

Please let me know if I can be of further assistance.

Greg Dierkers
Program Director - Energy and Transportation
NGA Center for Best Practices
Environment, Energy and Transportation Division
202-624-7789
gdierkers@nga.org

From: Virgilio, Rosetta [mailto:Rosetta.Virgilio@nrc.gov]
Sent: Monday, March 21, 2011 4:07 PM
To: Dierkers, Gregory
Subject: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Hi, Greg: I apologize for the late notice, but our staff indicate they are unable to support a meeting this week, but would make time available for the April 4 meeting. Please do keep me posted about those details.

I am not currently in the office (b)(6) but am monitoring my email.

Rosetta Virgilio

Sent from an NRC Blackberry
Rosetta O. Virgilio
(b)(6)

From: Dierkers, Gregory <gdierkers@NGA.ORG>
To: Virgilio, Rosetta
Sent: Mon Mar 21 12:22:27 2011
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Let me check but I think we are flexible pending your availability.

Greg

From: Virgilio, Rosetta [mailto:Rosetta.Virgilio@nrc.gov]
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To: Dierkers, Gregory
Subject: Re: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Hello, Greg - Do you have any more detail regarding 3/22 or 3/23 meeting , i.e., date/ time of day?

Sent from an NRC Blackberry
Rosetta O. Virgilio
(b)(6)

From: Virgilio, Rosetta
To: gdierkers@nga.org <gdierkers@nga.org>
Sent: Fri Mar 18 15:13:22 2011
Subject: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

Hello, Greg – Just wanted to touch base and let you know that things are not looking good for NRC participation in next week's NGA webinar; however, I am pursuing the April 4 date, which may be more doable.

As I indicated yesterday, the NRC staff will brief the Commission Monday, March 21, 2011, at 9:00 a.m. regarding NRC's response to recent nuclear events in Japan. The meeting is public and will be held at NRC Headquarters at 11555 Rockville Pike, Commissioners' Conference Room, in Rockville, Maryland.

The meeting can also be viewed via Webcast at: <http://www.nrc.gov/public-involve/public-meetings/webcast-live.html>

Please feel free to share this information with your contacts.

Rosetta O. Virgilio
Senior Liaison Project Manager
Intergovernmental Liaison Branch
U.S. Nuclear Regulatory Commission
11545 Rockville Pike - T-8F42
Rockville, MD 20852-2738
301-415-2367
Rosetta.Virgilio@nrc.gov

From: Virgilio, Rosetta
To: 'gdierkers@NGA.ORG' <gdierkers@NGA.ORG>
Sent: Thu Mar 17 17:03:28 2011
Subject: Re: NGA Center NRC expert speaker requests

Thank you, Greg; I will followup and get back to you.

Sent from an NRC Blackberry
Rosetta O. Virgilio

(b)(6)

From: Dierkers, Gregory <gdierkers@NGA.ORG>
To: Virgilio, Rosetta
Cc: Gander, Sue <sgander@NGA.ORG>; MacLellan, Thomas <TMacLellan@NGA.ORG>; Ferro, Carmen <CFerro@NGA.ORG>
Sent: Thu Mar 17 16:36:04 2011
Subject: NGA Center NRC expert speaker requests

Hi Rosetta,

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next week and a conference in early April -- to brief governors' advisors on the Japanese situation and the implications for US plants. The events are:

1) **A webinar with governors' security and energy advisors.** NGA Center staff is planning to host a conference call next week (Tuesday 3/21 or Wednesday 3/22) to provide senior state officials with an update on the Japan situation and to answer questions as to the operations of US plants, including regulations, plant security/safety, and the emergency preparedness efforts at the US nuclear fleet. We would ask that an NRC expert join the webinar remotely; the webinar would last for 1 hour.

2) **An in-person speaker at a governors' energy advisors meeting.** NGA Center's *Governors' Energy Advisors Policy Institute* on April 4th in Arlington, Virginia. The focus of the April 4th Institute is to provide a 'Technology 101' briefing for governors senior energy advisors. We would invite the NRC to attend in-person on April 4th from 1:45pm to 4:15pm. We would ask for a 10-15 minute presentation on the situation in Japan, the state of nuclear technology and regulations in the US, and the implications for states from the Japanese crisis. Attached is a draft agenda.

Thanks for considering both of these requests.

Sincerely,

Greg Dierkers
Program Director – Energy and Transportation
NGA Center for Best Practices
Environment, Energy and Transportation Division
202-624-7789
gdierkers@nga.org

From: Leeds, Eric
To: Turtill, Richard; Virgilio, Rosetta
Cc: Ryan, Michelle
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN
Date: Tuesday, March 22, 2011 7:49:00 AM

Thanks, Everybody!

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

From: Turtill, Richard
Sent: Monday, March 21, 2011 5:56 PM
To: Virgilio, Rosetta
Cc: Ryan, Michelle; Leeds, Eric
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN
Importance: High

Rosetta:

You had to (b)(6) Please let Michelle and I work this issue with Eric. Eric will be in good hands. Thank you!

Rich

From: Leeds, Eric
Sent: Monday, March 21, 2011 5:46 PM
To: Virgilio, Rosetta
Cc: Meighan, Sean; Schwarz, Sherry; Turtill, Richard; Ryan, Michelle; Rivera, Alison; Grobe, Jack; Ruland, William; Boger, Bruce; Ellmers, Glenn
Subject: RE: NRC PUBLIC MEETING 9:00 AM MONDAY, MARCH 21, 2011: NRC's RESPONSE TO RECENT NUCLEAR EVENTS IN JAPAN

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Can I use slides/pictures like Bill B. did for the staff on Friday? His presentation was well received by the staff.

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Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
301-415-1270

From: Virgilio, Rosetta

mmmm/185

Sent: Monday, March 21, 2011 5:29 PM

To: Leeds, Eric

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Rosetta

Sent from an NRC Blackberry

Rosetta O. Virgilio

(b)(6)

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Please let me know if I can be of further assistance.

Greg Dierkers

Program Director – Energy and Transportation

NGA Center for Best Practices

Environment, Energy and Transportation Division

202-624-7789

gdierkers@nga.org

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Rosetta Virgilio

Sent from an NRC Blackberry

Rosetta O. Virgilio

(b)(6)

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Please feel free to share this information with your contacts.

Rosetta O. Virgilio
Senior Liaison Project Manager
Intergovernmental Liaison Branch
U.S. Nuclear Regulatory Commission
11545 Rockville Pike - T-8F42
Rockville, MD 20852-2738
301-415-2367
Rosetta.Virgilio@nrc.gov

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Rosetta O. Virgilio

(b)(6)

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To: Virgilio, Rosetta
Cc: Gander, Sue <sgander@NGA.ORG>; MacLellan, Thomas <TMaclellan@NGA.ORG>; Ferro, Carmen <CFerro@NGA.ORG>
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Thanks for considering both of these requests.

Sincerely,

Greg Dierkers
Program Director – Energy and Transportation
NGA Center for Best Practices
Environment, Energy and Transportation Division
202-624-7789
gdierkers@nga.org

Nelson, Robert

From: Nelson, Robert
Sent: Tuesday, March 22, 2011 2:43 PM
To: LIA06 Hoc; Burnell, Scott
Cc: Harrington, Holly; Meighan, Sean; Nguyen, Quynh; Croteau, Rick
Subject: Action: Review of Draft Q&As
Attachments: questions and answers 3-18_ERO.docx; image001.png

Attached are a set of Qs & As for review. Many of these were submitted by the regions to support upcoming public meetings. The first one that I know of is Robinson EOC meeting on 3/24. Therefore, we request approval tomorrow.

Liaison Team – Please advise if you need to be involved. If so, the same deadline applies.

R. A. Nelson

Robert A. Nelson
Deputy Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation



E-mail: robert.nelson@nrc.gov | Office: (301) 415-1453 | Cell: (b)(6) | Fax: (301) 415-2102

From: Markley, Michael
Sent: Tuesday, March 22, 2011 2:00 PM
To: Nelson, Robert
Subject: Q&As - Attached

Attached.

mmmm/186

Weaver, Tonna

From: Nelson, Robert
Sent: Tuesday, March 22, 2011 12:17 PM
To: Roberts, Darrell; Lara, Julio; Kennedy, Kriss; Croteau, Rick; LIA06 Hoc; Dickson, Billy; Wilson, George; Westreich, Barry; 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; Quay, Theodore; Ruland, William; Skeen, David; Thomas, Brian; Broaddus, Doug; Campbell, Stephen; Carlson, Robert; Chernoff, Harold; Kulesa, Gloria; Markley, Michael; Pascarelli, Robert; Salgado, Nancy; Simms, Sophonia; Wall, Scott
Cc: West, Steven; Shear, Gary; Hay, Michael; Meighan, Sean; Nguyen, Quynh; Oesterle, Eric; Thomas, Eric; Chernoff, Harold; Miller, Ed
Subject: FYI: OBE, SSE, maximum flooding level, and protection level for each operating reactor site
Attachments: Plant OBEsSSEnFlood Levels.pdf

All:

The attached pdf file provides a table of OBE, SSE, maximum flooding level, and protection level for each operating reactor site. This table consolidates information from the plant FSARs. This table is primarily intended for internal use by NRC staff. This information is deemed reliable, but has not been independently validated by the licensees.

The values for maximum flooding level represent the highest level for the site without regard to the source (e.g., riverine, hurricane, or tsunami). Where tidal and wave run-up influences are described in the FSAR, these values have been combined with other projections to derive a maximum flood level. It should also be noted that this table only reflects external flooding sources.

In a similar fashion the protection level reflects FSAR descriptions of the lowest level at which safety-related equipment is protected. The margin column provides the simple arithmetic difference between the maximum flooding level and the protection level columns. The comments column provides important information such as instances where watertight doors are significantly relied on for safety-related equipment protection.

Please direct any questions or corrections to:

Harold.Chernoff@nrc.gov

Robert A. Nelson
Robert A. Nelson
Deputy Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation



E-mail: robert.nelson@nrc.gov | Office: (301) 415-1453 | Cell: (b)(6) | Fax: (301) 415-2102

From: Ali, Syed
Sent: Tuesday, March 22, 2011 9:28 AM
To: LIA03 Hoc; Dorman, Dan; Scott, Michael; Blamey, Alan; Giessner, John; Taylor, Robert; Jackson, Todd; Miller, Marie; Sheikh, Abdul; Way, Ralph; Ramsey, Jack; Bloom, Steven
Cc: LIA02 Hoc
Subject: RE: Instructions for NRC Deployees

Please see below.

Thanks,
Syed Ali

Biographical Sketch for Syed Ali

Dr. Syed Ali serves as Senior Technical Advisor to the Director of the Division of Engineering (DE), with broad responsibilities in civil and structural engineering, and related generic safety issues. He was the technical lead for the structural aspects of the aircraft impact assessments for operating plants and new reactor designs. The assessments informed the Part 52 rulemaking associated with consideration of aircraft impacts for new power reactor designs and contributed to the development of the regulatory guidance and inspection procedures for the assessment of the effects of aircraft impact. He is also the Project Manager and technical lead for the project on U.S.-Japanese collaboration on seismic issues; the IMPACT project in cooperation with the Technical Research Center of Finland (VTT); and aircraft impact assessment research to support the Committee on the Safety of Nuclear Installations (CSNI) of Nuclear Energy Agency (NEA) project on improving robustness assessment methodologies for structures impacted by missiles.

Dr. Ali has been with the NRC since 1993. He worked in NRR from 1993-2002, and in RES from 200-present. Before joining the NRC, Dr. Ali worked for the major architect-engineering firms United Engineers and Stone and Webster Engineering. He was involved in the analysis and design of nuclear power plant structures, mechanical components, and equipment. Dr. Ali also held teaching positions at various universities such as Washington University, Drexel University and Temple University.

Dr. Ali graduated from University of Pennsylvania with a Ph. D in Civil Engineering in (b)(6)

mmmm / 188

Thorp, John

From: Sigmon, Rebecca
Sent: Tuesday, March 22, 2011 11:46 AM
To: Thomas, Eric
Cc: Thorp, John
Subject: RE: Thoughts on Sharepoint Portal
Attachments: Fukushima Daiichi #3 Simplified Timeline.docx

Attached is a simplified version of the Unit 3 timeline I'd already made, up-to-date as of last Friday afternoon, let me know what you'd like relative to what's on here (more qualitative description of what's happening?, NRC actions and opinions of what's happening? JAIF updates on plant statuses?). I think we're at about the limit of what we can get from the Japanese websites. The NEI/IAEA sites have good information though not necessarily times. If you forward me the HOO updates, I can attempt to coordinate the information that we have with what's available from NEI and IAEA, and combine it with the times and updates as given by the Japanese. The NISA press releases give times for every notification or action they've taken, they're just not necessarily clear on the plant/unit involved or even necessarily in chronological order, which adds a bit to the challenge. But I think it can be done without too much heartache. Depending on the level of thought desired I could have a draft of all 4 units at this level, or 1-2 units at a deeper level done this afternoon.

Rebecca Sigmon
Reactor Systems Engineer
NRR/DIRS/IOEB
Operating Experience Branch
(301) 415-4018
Rebecca.Sigmon@nrc.gov

From: Thomas, Eric
Sent: Tuesday, March 22, 2011 11:13 AM
To: Sigmon, Rebecca
Subject: FW: Thoughts on Sharepoint Portal

Eric Thomas
U.S. Nuclear Regulatory Commission
NRR/DIRS/IOEB
OWFN-7E24
eric.thomas@nrc.gov
301-415-6772 (office)
(b)(6) (mobile)

From: Thomas, Eric
Sent: Tuesday, March 22, 2011 11:07 AM
To: Nelson, Robert
Cc: Oesterle, Eric; Nguyen, Quynh; Meighan, Sean
Subject: Thoughts on Sharepoint Portal

Gents,

Some thoughts on what we could add to the portal:

1. Link to the Operating Experience COMM that we have been updating.

mmmmmm/189

2. 1-pager listing a table with design information for each Fukushima Daiichi unit
3. A document that gets updated each day and includes status for each of the 6 units at Daiichi
4. Timelines for Units 1-4 since the beginning of the event

Any thoughts? I was working at home yesterday so I don't know what was discussed. However I did watch the all-hands last week and from talking to folks in my division I think some of the information above would 'scratch the itch' of staff members who aren't getting over to the HOC regularly.

Eric

Eric Thomas

U.S. Nuclear Regulatory Commission

NRR/DIRS/IOEB

OWFN-7E24

eric.thomas@nrc.gov

301-415-6772 (office)

(b)(6) (mobile)

Fukushima Daiichi #3 – Simplified Timeline

3/11/2011

1446 Automatic shutdown due to earthquake, loss of offsite power (TEPCO)

1541 Loss of emergency AC power, declaration of "1st Level Emergency" – Article 10 (TEPCO)

2200 Evacuation ordered within 3 km (TEPCO)

2400 Status Update (TEPCO):
Unit 3 shutdown and cooled by RCIC
No known leakage from RCS into primary containment

3/12/2011

0600 Increasing levels of radiation measured by monitoring car, and one radiation monitoring post shows radiation levels greater than normal (TEPCO)

0700 Evacuation ordered out to 10 km (TEPCO)

1100 Status Update (TEPCO):
Unit 3 shutdown with water injection by RCIC
Preparations being made to vent containment
No known RCS leakage inside containment

1300 Preparing to implement government-mandated pressure relief of containment (TEPCO)

1500 One employee reported to have received 100 mSv exposure (10 Rem) (TEPCO)

1536 *Hydrogen explosion at Unit 1* (TEPCO)

1617 Article 15 "Radiation Disaster Measure" declared due to radiation levels at site boundary exceeding limits (TEPCO)

1911 Evacuation order extended out to 20 km (TEPCO)

3/13/2011

0510 Injection by HPCI shutdown. Attempts made to resume injection with RCIC were unsuccessful. Inability to confirm water injection to core causes declaration of Article 15 for Unit 3 (TEPCO)

0841 Venting of Unit 3 containment completed following government order; plans to lower containment pressure by spraying cancelled (TEPCO)

0856 Radiation levels at the site boundary, which had been decreasing, increased again above the limit, causing a renewed declaration of Article 15 "Radiation Disaster Measure" (TEPCO)

0908 Freshwater injection to reactor vessel commenced (NISA)

0925 Reactor safety relief valve manually opened to reduce reactor pressure. This was immediately followed by injection of water and boric acid into the reactor vessel (TEPCO)

1312 Freshwater injection to reactor vessel shifted to seawater injection (NISA)

1400 Increasing reactor pressure and decreasing reactor level; attempting to inject seawater into reactor (TEPCO)

1500 Inability to raise water level in reactor raises possibility of potential for hydrogen explosion at Unit 3 (TEPCO)

2100 Coordinating with authorities to determine how to cool spent fuel pool (TEPCO)

3/14/2011

0110 Injection of seawater halted due to depletion of seawater in pit (NISA)

0320 Seawater injection restarted (NISA)

0650 Containment vessel pressure increased to 530 kPa, then gradually decreased back down to 490 kPa (TEPCO)

1101 Hydrogen explosion at Unit 3, reactor containment vessel believed to be intact (TEPCO)

1101 Hydrogen explosion blew the roof off of the reactor building, but does not appear to have damaged the primary containment vessel (NISA)

3/15/2011

0900 Radiation level (NISA)
MP6 11,930 uSv

1100 Shelter-in-place ordered for residents between 20 and 30 km (NISA)

3/16/2011

0830 Fog-like steam determined to be coming from the reactor building (TEPCO)

1400 Evacuation of workers not directly involved in seawater injection operations (TEPCO)

1700 Radiation level at main gate 750 uSv (NEI)

3/17/2011

0400 Seawater injection in progress (NISA)

0615 Pressure of suppression chamber noted to have temporarily increased (TEPCO)

0900 Preparations being made in coordination with Japanese Self-Defense Force to discharge water to cool the spent fuel pool (TEPCO)

Scott, Michael

From: Scott, Michael
Sent: Tuesday, March 22, 2011 9:33 AM
To: (b)(6)
Subject: FW: TAs for NRC travelers tomorrow!
Attachments: Scott-TA-Japan-March 2011.pdf; Instructions for NRC Deployees; Travel Reservation March 22 for SCOTT.PDF; Travel Reservation March 22 for MICHAEL LEE SCOTT; Travel Reservation March 22 for SCOTT.PDF

From: RMTPACTSU_ELNRC [mailto:RMTPACTSU_ELNRC@ofda.gov]

Sent: Monday, March 21, 2011 9:33 PM

To: Scott, Michael

Subject: FW: TAs for NRC travelers tomorrow!

Hi Scott,

I believe that you should already have the first attached travel authorization from the NRC Ops Center, but I'm sending it along just in case. The approvals appear to be on pages 5 and 7. Per the second attached email, NRC staff deploying to Japan should report to their hotel, get rest, report to the US Embassy in the morning. I also found your travel reservations attached to two additional email (third and fourth attachments). I'll call you in a little bit.

I hope this helps! Travel safely! ☺

Cheers,
Leigh

From: RMTPACTSU_ELNRC

Sent: Monday, March 21, 2011 5:16 PM

To: LIA11.Hoc@nrc.gov; LIA01.Hoc@nrc.gov; LIA02 Hoc (LIA02.Hoc@nrc.gov); LIA07.Hoc@nrc.gov; lia08.hoc@nrc.gov

Cc: et07.hoc@nrc.gov

Subject: FW: TAs for NRC travelers tomorrow!

FYI

From: RMTPACTSU_AC

Sent: Monday, March 21, 2011 5:13 PM

To: RMTPACTSU_ELNRC; Johnson, Natalya (DCHA/OFDA) [USAID] (njohnson@USAID.GOV); Johnson, Natalya

Cc: RMTPACTSU_DMO

Subject: FW: TAs for NRC travelers tomorrow!

Mike – See attached for the TAs for your 3 colleagues who are traveling in the next couple of days.

Natalya – In addition to Michael Scott, there has been another change for the group travel. Todd Jackson is now arriving on Mar 25 instead of Mar 24. See attached for details. Can you please ensure hotel reservations are made for them?

Thanks.

Surin McKenna

Admin Coordinator

Pacific Tsunami and Japan Earthquake Response Management Team

USAID/DCHA/OFDA

mmmm/190

Rmtpactsu_ac@ofda.gov
202-712-0031

From: Friedman, Ara
Sent: Monday, March 21, 2011 5:03 PM
To: RMTPACTSU_AC
Cc: travel
Subject: TAs for NRC travelers tomorrow!

Hi Surin,

Please see attached for the approved TAs for Michael Scott, Alan Blamey and Todd Jackson. Manassas Travel has already received the TAs and should be issuing their tickets shortly.

I'm not sure if you know this already, but Todd Jackson changed his departure from Wednesday, March 23 to Thursday, March 24. He is still on the same flights arriving in Tokyo at 2:15 pm on Friday, March 25. I spoke to Mr. Jackson and he assured me that the DART was already informed of this change and he had already changed his itinerary with Manassas.

Please let us know if you have any questions. Thanks very much for your help in getting these travelers out so quickly!

Ara Friedman
Program Support Specialist
USAID/Office of Foreign Disaster Assistance
529 14th Street NW, Suite 700
Washington, D.C. 20045
(202) 661-9308

(b)(6)

(bb)

Scott, Michael

From: RMTPACTSU_ELNRC [RMTPACTSU_ELNRC@ofda.gov]
Sent: Tuesday, March 22, 2011 11:03 AM
To: Scott, Michael
Subject: FW: TA for Michael Scott
Attachments: Scott-TA Amendment 1-Japan-March 2011.pdf

FYI. Katie Johnson is calling Mike to close the loop on this.

Surin McKenna
Admin Coordinator
Pacific Tsunami and Japan Earthquake Response Management Team
USAID/DCHA/OFDA
Rmtpactsu_ac@ofda.gov
202-712-0031

From: Friedman, Ara
Sent: Tuesday, March 22, 2011 10:30 AM
To: RMTPACTSU_AC
Cc: travel; USAID@MANASSASTRAVEL.COM
Subject: TA for Michael Scott

Hi Surin,

Please see attached for approved TA for Michael Scott leaving for Japan today. Manassas Travel will issue his ticket shortly. Please let us know if you have any questions. Thanks!

Ara Friedman
Program Support Specialist
USAID/Office of Foreign Disaster Assistance
529 14th Street NW, Suite 700
Washington, D.C. 20045
(202) 661-9308
(b)(6) (bb)

mmm / 191

E2 Travel Authorization

22 Mar 2011 @ 09:32:43

PRIVACY ACT NOTICE: The following information is provided to comply with the Privacy Act of 1974 (P.S. 93-579). The information requested on the form is required under the provisions of 5 U.S.C. Chapter 57 (as amended), Executive Orders 11609 of July 22, 1971, and 1102 of March 27, 1962, for the purpose of facilitating authorization action and the request for advance of funds for travel and other expenses to be incurred under administrative. The information contained in this form will be used by the Federal agency officers and employees who have a need for such information in the performance of their duties. Information will be transferred to appropriate Federal, State, local, or foreign agencies when relevant to civil, criminal or regulatory investigations, or prosecutions. Failure to provide the information required will result in delay or suspension of the processing of this form.

Authorization Information

Document Number 9911A1808	Trip Status Open Voucher	Authorization Id 2849781-1	Type of Authorization Trip-by-Trip Authorization
Traveler MIKE SCOTT	Official Duty Station WASHINGTON, DC	Title *	Travel Charge Card Holder No
Mailing Address (b)(6)	Office Phone 202-712-0039	Home Phone N/A	

Type of Travel Temporary Duty	Travel Purpose Invitational Travel: Serve on Pacific Tsunami DART	Estimated Dates of Travel 2011-03-22 thru 2011-04-14
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Authorized Itinerary

Cabin Class Business

Arrive	Depart	Time	Location	Car	Hotel	Mode	Notes
2011-03-22	2011-03-22	N/A	WASHINGTON, DC	NONE	No	CP	
2011-03-23	2011-04-14	N/A	TOKYO CITY, JPN	NONE	No	CP	Temporary Duty, LDG \$231, M & IE \$209
2011-04-14	2011-04-14	N/A	WASHINGTON, DC	NONE	No	NONE	

PA-C = Government auto available and committed
 PA-NA = Government auto not available
 PA-NC = Government auto available and not committed

Authorization Expense Totals

Transport	Lodging	Meals & Incidentals	Car Rental	Local Transport	POV	Misc	Grand Total
8,500.00	5,082.00	4,911.50	0.00	0.00	0.00	546.50	19,040.00

Authorization Accounting Information

Accounting String	Object Code	CBA Amount	Travel Charge Card Amount	Traveler Amount	Auth Amount
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Accounting String:

Object Code

CBA Amount

Travel Charge
Card AmountTraveler
AmountAuth.
Amount

Segment Names: BBFY/EBFY/Fund/Treasury Symbol/Operating Unit/Program
Area/Distribution Code/Program Element/Program Sub-
Element/Team/Division/Benefiting Geo Area/Operating Unit Defined/Sub-Object
Code/Program Target/Post Code/Bureau Code/Accounting
Template/Commitment Document Type/Commitment Document
No/Commitment Line No/Bilateral Obl Doc Type/Bilateral Obl Doc No/Bilateral
Obl Line No

2011/NA/FD-X11/72X1035/DCHA/OFDA/A22/488-
W/A089/NA/NA/488/NA/2100801/NA/799/NA/2011 DCHA PROGRAM
FUNDS/TQ/00011TQ005271/1/NA/NA/NA

0.00

0.00

19040.00

19040.00

0.00

0.00

19040.00

19040.00

Authorization Expense Summary

Location	Expense Category	Expense Type	Amount	Expense Reimbursement Type
TOKYO CITY, JPN	Lodging	Lodging	5,082.00	Per diem
TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	4,911.50	Per diem
TOKYO CITY, JPN	Misc	Other Reimbursable Expenses Incurred	546.50	Per diem
TOKYO CITY, JPN	Transport	Airfare	8,500.00	Per diem

Authorization Expense Lines

Line #	Date	Location	Expense Category	Expense Type	Claim Amt	Expense Reimbursement Type	Reason
1	2011-03-22	TOKYO CITY, JPN	Transport	Airfare	8,500.00	Per diem	
2	2011-03-22	TOKYO CITY, JPN	Misc	Voucher Transaction Fee	14.00	Per diem	VTF
3	2011-03-22	TOKYO CITY, JPN	Misc	TMC Fee	31.95	Per diem	
4	2011-03-22	TOKYO CITY, JPN	Misc	Other Reimbursable Expenses Incurred	500.55	Per diem	All authorized expenses incurred on trip
5	2011-03-23	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
6	2011-03-23	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	156.75	Per diem	
7	2011-03-24	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
8	2011-03-24	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
9	2011-03-25	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
10	2011-03-25	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
11	2011-03-26	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
12	2011-03-26	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	

Line #	Date	Location	Expense Category	Expense Type	Claim Amt	Expense Reimbursement Type	Reason
13	2011-03-27	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
14	2011-03-27	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
15	2011-03-28	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
16	2011-03-28	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
17	2011-03-29	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
18	2011-03-29	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
19	2011-03-30	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
20	2011-03-30	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
21	2011-03-31	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
22	2011-03-31	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
23	2011-04-01	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
24	2011-04-01	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
25	2011-04-02	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
26	2011-04-02	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
27	2011-04-03	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
28	2011-04-03	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
29	2011-04-04	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
30	2011-04-04	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
31	2011-04-05	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
32	2011-04-05	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
33	2011-04-06	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
34	2011-04-06	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
35	2011-04-07	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
36	2011-04-07	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
37	2011-04-08	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
38	2011-04-08	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
39	2011-04-09	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
40	2011-04-09	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
41	2011-04-10	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
42	2011-04-10	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
43	2011-04-11	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
44	2011-04-11	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	
45	2011-04-12	TOKYO CITY, JPN	Lodging	Lodging	231.00	Per diem	
46	2011-04-12	TOKYO CITY, JPN	Meals & Incidentals	Meals Per diem	209.00	Per diem	

Line #	Date	Location	Expense Category	Expense Type	Claim Amt	Expense Reimbursement Type	Reason
47	2011-04-13	TOKYO CITY, JPN	Lodging	Lodging	231.00	Perdiem	
48	2011-04-13	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	209.00	Perdiem	
49	2011-04-14	TOKYO CITY, JPN	Meals & Incidentals	Meals Perdiem	365.75	Perdiem	

Authorization Remarks

Remark Details

Authorization Remarks - Trip ID: 2849781

Arranger - LISA M SCHAEFER

March 21, 2011 at 02:49 PM

Purpose: INVITATIONAL TRAVEL: Serve on Pacific Tsunami DART

A Lodging Plus per diem is authorized at the maximum daily rates. Lodging receipts are required. On the first and last days of travel, 75 percent of M and IE is authorized.

The following expenses are authorized: bottled water, business calls/internet, airport tax, ticket purchase, military transport, hotel tax, excess baggage, ATM/Travelers Check fees, most cost effective transportation - metro, shuttle, taxi, etc., in-country/regional travel, aircraft charter, hotel business center, and visa fees.

Traveler is authorized up to two checked bags, not to exceed airline weight allowance per bag. Charges levied by carriers on the first and/or second bag (within the airline weight limits) are allowable, excluding any charges levied as a result of excess weight. Receipts are required for any baggage payments.

Please charge airfare to the centrally-funded USAID/W travel Card.

Travel on military transport is Authorized -Air, Water and Ground-. On base billeting is authorized. Purchase of BX/PX, fuel and commissary privileges are authorized.

Remark Details

Business class for the inbound flight to Tokyo is authorized. Travel is over 14 hours and the traveler has to work the next day. Please see authorizing memo attached.

Administrative approval is given for authorized expenses incurred prior to this authorization.

A travel voucher must be submitted within 5 business days following completion of travel.

Receipts are required for all other expenses in excess of \$75.00.

Manassas Travel fees are authorized.

Arranger - LISA M SCHAEFER

March 21, 2011 at 03:32 PM

Travel on a non contract carrier to Tokyo, Japan is approved. A non contract fare offers a lower fare. The traveler will be joining the DART in Japan for emergency response activities and the non-contract flight allowed him to reach the disaster site earlier and is the most cost effective route. Based on the information provided above, DCHA/OFDA has concluded that the use of a non-contract carrier flight is more conducive to fulfilling this trips purpose. In this regard, this traveler may use American Airlines for one leg of this trip. Diane Carter (M/AS/TT) has determined that the non-contract carrier flight is practical for the Government. This is not a request for an exception to Fly America requirements. Fly America will take precedence in the use of contract carrier flights.

E2 Solutions - E2 Solutions

March 21, 2011 at 03:35 PM

System Generated Remark: Justification Code submitted by LISA M SCHAEFER for MIKE SCOTT - Justification for CABINCLASS - Business class: Travel in excess of 14 hours - TDY (B06)

Approver - LISA M SCHAEFER

March 21, 2011 at 03:43 PM

Remark Details

The TQ number in Phoenix is 00011TQ005271.

Authorization Remarks - Trip ID: 2849781-1

Arranger - LISA M SCHAEFER

March 21, 2011 at 04:47 PM

TA 00011TQ005271 is hereby amended to show a change in itinerary. The non-contract flight was unavailable so the traveler will be traveling on the contract carrier.

An additional \$4,000 is needed to cover the additional costs of the flight.

All other conditions remain the same.

Approver - ARA R FRIEDMAN

March 22, 2011 at 08:22 AM

The TQ number in Phoenix remains 00011TQ005271 with one amendment.

Authorization History

Date	Action
21MAR11 Mon 02:49PM	Status now New Authorization
21MAR11 Mon 02:49PM	Created by LISA M SCHAEFER for MIKE SCOTT
21MAR11 Mon 02:49PM	Arranger LISA M SCHAEFER updated the cabin class to Business Class
21MAR11 Mon 02:50PM	Booked Airfare/Common Carrier rate \$0.00 changed to \$8000.00 by SCHAEFER, LISA M for SCOTT, MIKE
21MAR11 Mon 03:33PM	Booked Airfare/Common Carrier rate \$8000.00 changed to \$4500.00 by SCHAEFER, LISA M for SCOTT, MIKE
21MAR11 Mon 03:35PM	Justification Code submitted by LISA M SCHAEFER for MIKE SCOTT - Justification for CABINCLASS - Business class: Travel in excess of 14 hours - TDY (B06)
21MAR11 Mon 03:35PM	Submitted to DCHA-OFDA-PS-LEVEL 1 approver CHAN, CAROL by LISA M SCHAEFER for MIKE SCOTT
21MAR11 Mon 03:35PM	Reservation is optional, LISA M SCHAEFER for MIKE SCOTT sent to approver with no Reservation.
21MAR11 Mon 03:35PM	Status changed to: Pending Authorization Approval

Date	Action
21MAR11 Mon 03:35PM	SCHAEFER, LISA M unlocked document: No approver specified.
21MAR11 Mon 03:39PM	BUCKLEY, SARAH D locked document for Approval.
21MAR11 Mon 03:41PM	Approver BUCKLEY, SARAH D concurred with justifications
21MAR11 Mon 03:41PM	Approved By DCHA-OFDA-PS-LEVEL 1 Approver BUCKLEY, SARAH D
21MAR11 Mon 03:41PM	Submitted to DCHA-OFDA-TRAVEL SPECIALIST by the System
21MAR11 Mon 03:41PM	SCHAEFER, LISA M locked document for Approval.
21MAR11 Mon 03:43PM	Approver SCHAEFER, LISA M concurred with justifications
21MAR11 Mon 03:43PM	Approved By DCHA-OFDA-TRAVEL SPECIALIST Approver SCHAEFER, LISA M
21MAR11 Mon 03:43PM	Submitted to M-MS-TRAVEL AND TRANSPORTATION DIVISION by the System
21MAR11 Mon 03:47PM	JOHNSON, GWENDOLYN locked document for Approval.
21MAR11 Mon 03:50PM	Approver JOHNSON, GWENDOLYN concurred with justifications
21MAR11 Mon 03:50PM	Approving Official GWENDOLYN JOHNSON authorized per diem at TOKYO CITY, JPN
21MAR11 Mon 03:50PM	Status changed to: Open Voucher
21MAR11 Mon 03:50PM	Approved By M-MS-TRAVEL AND TRANSPORTATION DIVISION Approver JOHNSON, GWENDOLYN
21MAR11 Mon 03:50PM	Agency successfully notified of event: TripAuthorizationApproved for trip 2849781
21MAR11 Mon 03:50PM	Obligation status changed to: Pending Obligation
21MAR11 Mon 03:50PM	Obligation status changed to: Obligation Accepted
21MAR11 Mon 03:51PM	MIKE SCOTT sent email request to USAID@MANASSASTRAVEL.COM. A copy of the email can be found with attached documents.
21MAR11 Mon 03:51PM	Approval Data Sent to Travel Agent via Email
21MAR11 Mon 04:45PM	Amended to 2849781-1 by LISA M SCHAEFER for MIKE SCOTT
21MAR11 Mon 04:45PM	Status changed to: New Authorization
21MAR11 Mon 04:45PM	Booked Airfare/Common Carrier rate \$4500.00 changed to \$8500.00 by SCHAEFER, LISA M for SCOTT, MIKE
21MAR11 Mon 04:49PM	Submitted to DCHA-OFDA-PS-LEVEL 1 approver CHAN, CAROL by LISA M SCHAEFER for MIKE SCOTT
21MAR11 Mon 04:49PM	Reservation is optional, LISA M SCHAEFER for MIKE SCOTT sent to approver with no Reservation.
21MAR11 Mon 04:49PM	Status changed to: Pending Authorization Approval
21MAR11 Mon 04:49PM	SCHAEFER, LISA M unlocked document: No approver specified.
21MAR11 Mon 04:59PM	BUCKLEY, SARAH D locked document for Approval.
21MAR11 Mon 05:00PM	Approver BUCKLEY, SARAH D concurred with justifications
21MAR11 Mon 05:00PM	Approved By DCHA-OFDA-PS-LEVEL 1 Approver BUCKLEY, SARAH D

Date	Action
21MAR11 Mon 05:00PM	Submitted to DCHA-OFDA-TRAVEL SPECIALIST by the System
22MAR11 Tue 08:21AM	FRIEDMAN, ARA R locked document for Approval.
22MAR11 Tue 08:22AM	Approver FRIEDMAN, ARA R concurred with justifications
22MAR11 Tue 08:22AM	Approved By DCHA-OFDA-TRAVEL SPECIALIST Approver FRIEDMAN, ARA R
22MAR11 Tue 08:22AM	Submitted to M-MS-TRAVEL AND TRANSPORTATION DIVISION by the System
22MAR11 Tue 09:03AM	JOHNSON, GWENDOLYN locked document for Approval.
22MAR11 Tue 09:23AM	Approver JOHNSON, GWENDOLYN concurred with justifications
22MAR11 Tue 09:23AM	Approving Official GWENDOLYN JOHNSON authorized per diem at TOKYO CITY, JPN
22MAR11 Tue 09:23AM	Status changed to: Open Voucher
22MAR11 Tue 09:23AM	Approved By M-MS-TRAVEL AND TRANSPORTATION DIVISION Approver JOHNSON, GWENDOLYN
22MAR11 Tue 09:23AM	Agency successfully notified of event: TripAuthorizationApproved for trip 2849781-1
22MAR11 Tue 09:23AM	Obligation status changed to: Pending Obligation
22MAR11 Tue 09:23AM	Obligation status changed to: Obligation Accepted
22MAR11 Tue 09:26AM	MIKE SCOTT sent email request to USAID@MANASSASTRAVEL.COM. A copy of the email can be found with attached documents.
22MAR11 Tue 09:26AM	Approval Data Sent to Travel Agent via Email

Audit/Approver Information

Action	Official	Date/Time
Approved [DCHA-OFDA-PS-LEVEL 1]	BUCK1771[BUCKLEY,SARAH]	2011-03-21
Approved [DCHA-OFDA-TRAVEL SPECIALI]	FRIE9308[FRIEDMAN,ARA]	2011-03-22
Approved [M-MS-TRAVEL AND TRANSPORT]	JOHN0664[JOHNSON,GWENDOLYN]	2011-03-22

Nelson, Robert

From: Nelson, Robert
Sent: Tuesday, March 22, 2011 12:59 PM
To: Crutchley, Julie
Subject: RE: OUR NUCLEAR FACILITIES

Thanks. We'll add it to our long list of Qs. Don't expect an immediate response.

NELSON

From: Crutchley, Julie
Sent: Tuesday, March 22, 2011 12:41 PM
To: Nelson, Robert
Cc: Wilhelm, Martha; Murphy, Martin; James, Lois; Petrosino, Joseph
Subject: FW: OUR NUCLEAR FACILITIES

Good afternoon, Nelson - I'm forwarding this to you as NRR's Japanese Event contact.

Thanks,
Julie

From: Brown, Carrie
Sent: Tuesday, March 22, 2011 8:48 AM
To: Petrosino, Joseph
Subject: FW: OUR NUCLEAR FACILITIES

Hi Joe,

The following email is not an allegation, rather a question. Is there a standard response for these types of questions since the incident in Japan. Will someone from NRR answer the question? Thanks!

Carrie

From: anthony cirenza (b)(6)
Sent: Saturday, March 19, 2011 3:03 PM
To: Brown, Carrie
Subject: OUR NUCLEAR FACILITIES

To Whom It May concern,

After observing what has been taking place in the Japan disaster. My concern is the safety measures that presently exist in our Nuclear facilities. It appears that the use of water is used to cool a plant during an emergency. Are we presently equipped with sufficient water volume,? ie, Extra large pipes, and pumping stations to meet the need during unforeseen emergencies? Whereby, Sufficient water and sand/sludge can be readily available at every plant facility upon demand, when necessary. Just a thought that entered this Senior. I will identify myself, for Security Reasons. Thanking you in advance for any answer you may have to this Query.

Respectfully,

ANTHONY CIRENZA, MAJ, USAF RET.

King, Mark

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

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)

(b)(6) (mobile)

mmmm/193

From: Tregoning, Robert
To: Klein, Paul; Taylor, Robert
Cc: Csontos, Aladar; Hardies, Robert; Makar, Gregory
Subject: RE: Staff Comments on Issues Related to Sea Water in a BWR Plant
Date: Tuesday, March 22, 2011 11:58:59 AM

Rob/Paul:

Paul did a good job of summarizing the discussion. I just have a couple of items that you may want to add based on our call this morning.

1. Heat exchanger plugging with salt is more likely if recirculation is restored prior to flushing the system to remove as much as salt water as possible. This caveat could be added to Paul's summary to clarify.
2. We did not perform a check on any of the calculations in this document and recommend that all calculations be verified (if they haven't already) by an independent or additional party.
3. The write-up may also want to address the maximum level that the salt accumulation could reach before possibly impacting either the salt water injection process or rate or the core cooling efficiency.

Rob

Robert Tregoning
Technical Advisor for Materials
US Nuclear Regulatory Commission
21 Church Street, M/S CS-5A24
Rockville, MD 20850
ph: 301-251-7662
mobile: (b)(6)
fax: 301-251-7425

From: Klein, Paul
Sent: Tuesday, March 22, 2011 11:38 AM
To: Taylor, Robert
Cc: Tregoning, Robert; Csontos, Aladar; Hardies, Robert; Makar, Gregory; Klein, Paul
Subject: Staff Comments on Issues Related to Sea Water in a BWR Plant

Rob,

In the interest of timeliness I am forwarding a summary of our phone call discussion this morning. Since the team has not reviewed this document, I ask all on distribution to review and make any additional comments as needed. Thanks for the rapid support this morning!

Paul

Paul Klein
USNRC

mmmm/19H

301-415-4030

Nelson, Robert

From: Nelson, Robert
Sent: Wednesday, March 23, 2011 3:09 PM
To: ExtensionRequest, EDO
Cc: FAST Resource; Cox, Linda; Wittick, Brian; Sanfilippo, Nathan; Boska, John; Markley, Michael; Salgado, Nancy
Subject: Extension Request
Attachments: image001.png

Green Ticket: G20110195

Current Due Date: April 2, 2011

Action: Draft a response to the letter dated March 18, 2011, from the Attorney General of New York State on seismic concerns with the Indian Point reactors, for signature by the EDO.

Request: Please extend the due date to April 28, 2011.

Reason for request: G20110195 requires coordination based on similar letters, including from Members of Congress, that have recently been received by the NRC. It requires input from the Office of Research (specific to the GI-199 program) and the Office of New Reactors. It also requires a review by OGC. For these reasons, additional time is needed to coordinate the response.

Robert A. Nelson

Robert A. Nelson
NRR External Communications Coordinator, Japan Event Response
Deputy Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation



E-mail: robert.nelson@nrc.gov | Office: (301) 415-1453 | Cell: (b)(6) | Fax: (301) 415-2102

mmmm/195

Status of Japan Requests Pending (as of 4pm, Tue. April 19)

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/21/2011	Ops Center (PMT)	None given.	Jason Schaperow (x7452) Charlie Tinkler (x7496)	SPB/DSA	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	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.	Pending
3/25/2011	K. Gibson for Michael Layton of NSIR	301-251-7499	Charlie Tinkler (x7496) or Jason Schaperow (x7452)	SPB/DSA	Request support in briefing Dr. Albert about spent fuel storage.	Determine who will brief Dr. Albert and when the briefing will occur.	Pending
3/28/2011	Robert Taylor (an employee currently in Japan)	NRC Robert.Taylor@nrc.gov	Richard Lee x7526	FSTB	Assist Rob Taylor with the Unit 4 pool criticality issue. ***Update as of 3/30***: Waiting for information from R. Taylor.	Assist Rob Taylor with the Unit 4 pool criticality issue. ***Update as of 3/30***: Waiting for information from R. Taylor.	Pending
3/29/2011	Scott Burnell	301-415-8204	Jason Schaperow x7452	SPB	Request for a contact for any spent-fuel related projects (not necessarily Japan-specific).	Request for a contact for any spent-fuel related projects (not necessarily Japan-specific).	Pending
4/1/2011	Jason Petti of SNL	jppet@sandia.gov	TBD	DE?	Ben Spencer was contacted by a staffer for Congressman Waxman regarding a NUREG Ben and Jason Petti authored (NUREG/CR-6920). The staffer was requesting to speak with someone about the findings. Request for advice on how to proceed.	Request for advice on how to proceed to an inquiry from a staffer for Congressman Waxman.	Pending
3/31/2011	Ops Center (PMT)	Email: PMT09 Hoc	Jason Schaperow (x7453) Charlie Tinkler (x7496)	SPB/DSA	Use MELCOR to calculate source terms that would be related to the scenarios used in previous RASCAL runs that were sent to NARAC. Note: This request is due 4/08.	Use MELCOR to calculate source terms. Note: This request is due 4/08.	Pending

mmmm/1/19/11

Status of Japan Related Requests - Pending

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
4/4/2011	Kathy Gibson	301-251-7499	Ken Armstrong x7551	SPB	Participate in the coordination meeting with DRA at 4pm on 4/4 to prepare for a briefing for Commissioner Apostolakis on spent fuel pool safety and security. The briefing for Commissioner Apostolakis may be later this month. ***Update as of 4/5***: Prepare slides and brief Commissioner Apostolakis on April 29, 2011, at 10:00 a.m.	Participate in the coordination meeting with DRA at 4pm on 4/4 to prepare for a briefing for Commissioner Apostolakis on spent fuel pool safety and security. ***Update as of 4/5***: Prepare slides and brief Commissioner Apostolakis on April 29, 2011, at 10:00 a.m.	Pending
4/14/2011	Ops Center (RST)	Email: RST09 Hoc	Annie Kammerer (x7695) Jon Ake (x7626)	DE	Answer question about the earthquake design basis for Fukushima.	Answer question about the earthquake design basis for Fukushima.	Pending
4/13/2011	NEI	axm@nei.org	Richard Lee (x7526) Charlie Tinkler (x7496)	FSTB/DSA	NEI has added additional rational and repeated their request for the release of documents (original request was on 4/8).	Release the documents or deny the request.	Pending

Status of Japan Related Requests - Other

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/15/2011	Larry Humphries	Sandia on behalf of GRS	Hossein Esmaili x7554	FSTB	Determine if the deck can be sent to the requestor. Note: the deck contains proprietary information therefore the request was denied.	Determine if the deck can be sent to the requestor. Note: the deck contains proprietary information therefore the request was denied.	Request Denied
3/17/2011	Kathy Gibson/Ops Center	301-251-7982	Ops Center 301-816-5100 Pat Santiago x7482	SPB	To provide information on preliminary MACCS code calculations to Ops Center.	Forward email to Ops Center (HOO.HOC@nrc.gov).	Request Withdrawn
3/17/2011	NEI	None given.	Ghani Zigh x7505	DSA	Requested a list of reports that a relevant to SFP zirc fire.	Decide what to release and to whom.	Request Denied
3/20/2011	J. Uhle (RST Director) at Ops Center for I Jennifer.Uhle@nrc.gov		Jason Schaperow x7452	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.	On Hold
3/21/2011	Naval Reactors	None given.	Jason Schaperow (x7452) Charlie Tinkler (x7496)	SPB/DSA	Additional requests have been received. These are being put on hold. Discussed with Brian Sheron.	Additional requests have been received.	On Hold
3/22/2011	Brian Sheron	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.	Duplicate

Status of Japan Related Requests - Other

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/22/2011	Brian Sheron	301-251-7400	Richard Lee x7526	FSTB	Participate in conference calls with the Science Counsel assembled from academia and the national labs to "think outside the box" about ways to help the Japanese cope with the Fukushima disaster. Note: These calls have been occurring on a daily basis. ***Update as of 3/28***: Input given to items discussed by the DOE Science Council on 3/27.	Participate in conference calls (including one at 12:30pm on Wed., 3/23). Note: These calls have been occurring on a daily basis. ***Update as of 3/28***: Input given to items discussed by the DOE Science Council on 3/27.	Ongoing
3/24/2011	Ops Center (LIA01 Hoc)	Email: LIA01 Hoc	Richard Lee x7526	FSTB	Review and forward to DOE information on robotic assets (RAPTOR system) for Japan. Note: Information was forwarded to DOE. No further action from NRC will be take at this time.	Review and forward to DOE information on robotic assets (RAPTOR system) for Japan. Note: Information was forwarded to DOE. No further action from NRC will be take at this time.	Duplicate
4/8/2011	Alex Marion of NEI	axm@nei.org	Richard Lee (x7526) Charlie Tinkler (x7496)	FSTB/DSA	NEI requested that two additional documents be released to them.	The request for one document was denied. Since the second report was not an NRC report, NEI was directed to contact the originating organization to obtain the second report.	Request Denied

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/16/2011	Victor Frid	Swedish Emer. Response Center 468-799-4295	Sud Basu x7521	NARB	To discuss Mark-1 liner failure and obtain a copy of NUREG/CR-6025.	Return call. Also, determine if a copy of NUREG/CR-6025 could be sent.	Completed
3/17/2011	Tony Nakanishi	301-415-3211	Ops Center 301-816-5100 Jason Schaperow x7452	SPB	To send information on the use of sand/water for the Unit 4 SFP.	Forward email to Ops Center (HOO.HOC@nrc.gov).	Completed
3/17/2011	Arthur Motta	atm2@psu.edu	Harold Scott x7557	FSTB	To provide information about the basis for the Chairman's testimony on the condition of the unit 4 spent fuel pool and the conditions of the pressure vessels of these reactors.	Send response (sent by Harold Scott). Forward email to Ops Center (HOO.HOC@nrc.gov) for informational purposes.	Completed
3/17/2011	Ops Center RST	RST01.hoc@nrc.gov	Jason Schaperow x7452	SPB	Request for b.5.b air oxidation in BWRs report and slides.	Provide slides and the ML number for the report to Ops center. Forward email to Ops Center (RST01.hoc@nrc.gov).	Completed
3/17/2011	Ops Center RST	RST01.hoc@nrc.gov	Ghani Zigh x7505	DSA	Request for the name(s) of RES staff who can distinguish between zirconium fire, oil fire, steam explosion, etc. from a thermal image of the Japanese reactors and spent fuel pools.	Check with Mark Salley and Sandia to see who might have these skills and provide name(s) to Kathy Gibson. Forward information to Ops Center. (RST01.hoc@nrc.gov).	Completed
3/17/2011	Bernard Clement	bernard.clement@irsn.fr Tel + 33 4 42 19 94 70	Charlie Tinkler x7496	DSA	IRSN requested SNL to send calculations so Clement can compare his calculation for SFP #4 in Japan.	Forward reports from Richard Lee to Charlie Tinkler and Jeff Dehn (POC for international).	Completed
3/17/2011	Diane Jackson	Tel.: +33 (0)145 24 10 55, Diane.Jackson@oecd.org	Richard Chang x7980	SPB	OECD requested SOARCA results for Peach Bottom (specifically the SOARCA Appendix).	Send draft SOARCA Appendix if this decision is OK'ed.	Completed
3/17/2011	Wayne Marquino	wayne.marquino@ge.com, (910) 819-6444	Richard Lee x7526	FSTB	GE requested Sandia SFP reports to aid in Fukushima recovery.	Send OUO Sandia SFP reports after consulting with OGC.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/17/2011	Ops Center	HOO.HOC@nrc.gov	Charlie Tinkler and Ghani Zigh x7496 x7505	DSA	Operations Center requested an expert in spent fuel pool fires to contact the Reactor Safety Team to talk to RST and Chuck Casto (NRC's team lead in Japan).	Arrange a conference call to discuss SFP fires.	Completed
3/17/2011	Joseph Glitter	301-415-1453	Pat Santiago x7982	SPB	NRR requested that RES edit a Q&As script for Eric Leeds.	Edit the Q&A document. Note: M. Scott suggested that DRA validate or change the words regarding L-3.	Completed
3/17/2011	Janice Dunn Lee for NHK	NEA Janice.DUNNLEE@oec d.org	Int'l Project Team x7672	IPT	NHK-TV would like to obtain FOOTAGE and REPORT of the 2000, Oct 23 experiment the OECD had requested Sandia to conduct.	Determine if the footage and report can be released.	Completed
3/17/2011	Peter Lyons	DOE Peter.lyons@Nuclear.E nergy.gov	Terry Brock x7487	HEB	E-mail a copy of the pie chart that shows the sources of radiation to the average U.S. citizen (the one in the recent NAS presentation).	E-mail a copy of the pie chart that shows the sources of radiation to the average U.S. citizen (the one in the recent NAS presentation).	Completed
3/17/2011	Brian Sheron	301-251-7400	Richard Lee and Mike Salay x7526 x7543	FSTB	Provide support to Office Director of RES on the issue of salt water injection which came up during his meeting on 3/17 with Secretary Chu.	Respond to the following: While there are obvious questions about how salt might affect coolability of the core (clogging coolant channels, etc., a question was raised about how the salt might affect the Cesium release. Do we have any info on what the effect might be? Note: Info was also sent to RST and PMT.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/18/2011	OPS Center RST	None given.	Richard Lee x7526	FSTB	Provide assets to evaluate potential criticality for input to an option paper that the Ops Center will forward to the NRC teams at the U.S. Embassy in Tokyo to provide U.S. advice to the Japanese team on managing the Fukushima crisis.	Option paper that the Ops Center will forward to the NRC teams at the U.S. Embassy in Tokyo to provide U.S. advice to the Japanese team on managing the Fukushima crisis. Note: Additional input from John Wagner of ORNL was also forwarded to the RST.	Completed
3/18/2011	Scott Burnell	301-415-8204	Charlie Tinkler (x7496) DSA or Ghani Zigh (x7505)		Request for assistance in coordinating spent fuel studies to respond to a Science Magazine reporter. Deadline was 1pm EST (but had already passed on receipt of email).	Publicly available reports on spent fuel pool incidents.	Completed
3/18/2011	Commissioner Magwood's office	Rebecca.Tadesse@nrc.gov	Ghani Zigh x7505 Pat Santiago x7982	SPB/DSA	Brian Sheron was requested to provide a SFP report to Commissioner Magwood's office.	Provide SFP report(s) and associated information.	Completed
3/21/2011	Brian McDermott	301-415-2334	Ghani Zigh x7505 Jason Schaperow x7452	SPB	Provide information about what the chemistry of the emissions during a zirc fire. It was requested that this be done sometime on March 21st, preferably before lunch.	Provide information about what the chemistry of the emissions during a zirc fire.	Completed
3/21/2011	Brian Sheron	Brian.Sheron@nrc.gov	Mourad Aissa x7511	FSTB	To evaluate the risk benefit of pulling spent fuel out of the SFP as soon as the specific assembly heat load permits. ***UPDATE as of 3/23***: An initial response was sent to B. Sheron on 3/23. B. Sheron requested additional information and a briefing once that information is obtained.	To evaluate the risk benefit of pulling spent fuel out of the SFP as soon as the specific assembly heat load permits. ***UPDATE as of 3/23***: An initial response was sent to B. Sheron on 3/23. B. Sheron requested additional information and a briefing once that information is obtained.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/21/2011	Scott Burnell	301-415-8204	Doris Lewis	HEB	To provide the most recent exposure data on the U.S. workforce for BWRs.	Information on where to obtain the latest REIRS reports and assistance in obtaining those reports.	Completed
3/21/2011	Christian Vandecasteele	Federal Agency for Nuclear Control (Colleague on the Committee on Radiation Protection and Public Health Committee) Christian.VANDECASTE ELE@FANC.FGOV.BE	Steve Schaffer	HEB	Information on the contamination in air measured in North America in order to be able to reply with figures to the press inquiring about the consequences in Europe of ongoing releases in Japan. Specifically data or addresses of websites where official information can be found, possibly as tables or graphs.	Information on the contamination in air measured in North America. Specifically data or addresses of websites where official information can be found, possibly as tables or graphs.	Completed
3/17/2011	Edward Lazo	Edward.LAZO@oecd.org	Stephanie Bush-Goddard x7528	HEB	Request for information on whether the [US] government has made recommendations with regard to [US] citizens in Japan, with regard to food or goods coming from Japan, with regard to [US] citizens going to Japan. Also requesting information regarding [other] [US] published governmental positions.	Information regarding published U.S. governmental positions.	Completed
3/21/2011	DOE/Sandia for Secretary of Energy	spburns@sandia.gov	Richard Chang (x7980)	SPB	DOE/Sandia would like NRC approval to share slides based on SOARCA with the Secretary of Energy. Brian has been asked for permission by DOE.	NRC approval to share slides based on SOARCA with the Secretary of Energy.	Completed
3/22/2011	Brian Sheron for NEI	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).	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/22/2011	S. Durbin for DOE/NE (Patrick Scwab)	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.	Completed
3/22/2011	Scott Burnell for M. Soraghan	301-415-8204	Richard Lee (x7526) Kevin Coyne (x7586)	FSTB/DRA	Answer the following questions: First, has there been any update (from NUREG-1776) to these numbers? "Coping time in hours" – is that the amount of battery power? And is it the amount the plant has, or is required to have? "Loss of Power events" – if a combined plant with two reactors lists two events, did each shut down for a total of four? Also, is there updated figures for the "loss of power events?"	Answer questions from M. Soraghan.	Completed
3/22/2011	Eugene Dacus (CA) for a congressional staffer	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.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/22/2011	Brian Sheron on behalf of Cathy Haney	301-251-7400	Charlie Tinkler x7496 Jason Schaperow x7452	SPB/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.	Completed
					Update as of 3/24 J. Schaperow will attend the briefing.	***Update as of 3/24*** J. Schaperow will attend the briefing.	

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/23/2011	Ops Center (RST)	Email: RST01 Hoc	Richard Lee x7526	FSTB	<p>To investigate the topics related to queries 1, 3, and 4 from the NRC Site Team located over in Japan.</p> <p>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.</p> <p>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?</p> <p>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.</p>	Respond with answers to the 3 questions raised.	Completed
3/23/2011	Ops Center (LIA01 Hoc) for Defense Thr	Email: LIA01 Hoc	Richard Lee x7526	FSTB	Review the items in the email sent by the Defense Threat Reduction Agency (DTRA) Watch Officer and reply.	Email reply to Ops Center.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/23/2011	Per F. Peterson	peterson@nuc.berkeley.edu	Stephanie Bush-Goddard x7528	HEB	Provide thoughts on measuring I-131 in Japanese and U.S. West Coast populations (to collect a large data set) possibly with DOE assistance.	Provide thoughts on measuring I-131 in Japanese and U.S. West Coast populations (to collect a large data set) possibly with DOE assistance.	Completed
3/23/2011	Scott Burnell	301-415-8204	Kathy Gibson x7499 Richard Lee x7526	DSA	Give a name of someone to go over appendix B from NUREG-1776 with Scott Burnell on short notice and answer questions related to Station Black-Out.	Give a name of someone to go over appendix B from NUREG-1776 with Scott Burnell on short notice and answer questions related to Station Black-Out.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/23/2011	Ops Center (RST01 Hoc)	Email: RST01 Hoc	Richard Lee x7526	FSTB	<p>Answer the following questions in coordination with FSME/other divisions of RES:</p> <p>-Regarding the best type of enclosure for the plant, does NRC have any thoughts? Do we have any regulations applicable to this condition or thoughts on the role of the regulatory authority in this decision?</p> <p>-What licensing requirements apply to decommissioning and regulatory review of the decommissioning plan?</p> <p>-What should the Japanese be considering with respect to criticality prevention and decay heat removal during the entombment period?</p> <p>-The NRC's TMI fact sheet notes that the first manned entry into the Unit 2 reactor building occurred after a venting of Krypton in July 1980 (16 months after the accident). What actions occurred during those 16 months that could inform their planning?"</p>	Send a response to questions.	Completed
3/22/2011	Ops Center/Jim Gilmer	Email: RST09 Hoc James.Gilmer@nrc.gov x7522	Joe Staudenmeier	CDB	<p>Assistance in Estimating Salt Buildup and Internals Blockage for Japanese BWR/4, relating to developing a TRACE model.</p> <p>Note: J. Staudenmeier had responded to two requests as of EOB on 3/23.</p>	<p>Assistance in Estimating Salt Buildup and Internals Blockage for Japanese BWR/4, relating to developing a TRACE model.</p> <p>Note: J. Staudenmeier had responded to two requests as of EOB on 3/23.</p>	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/23/2011	Tomasz Kozlowski	tomasz@safety.sci.kth.se	Chris Hoxie x7562	CDB	Request for any BWR-3 and/or Mark I documentation that is publicly available. Also MELCOR input for BWR-3 that could be made available; the requester would like to do some simulations of Fukushima.	Request for any BWR-3 and/or Mark I documentation that is publicly available. Also MELCOR input for BWR-3 that could be made available.	Completed
3/24/2011	Ops Center (LIA01 Hoc)	Email: LIA01 Hoc	Richard Lee x7526	FSTB	Review and forward to DOE information on robotic assets for Japan. Note: Information was forwarded to DOE. No further action from NRC will be take at this time.	Review and forward to DOE information on robotic assets for Japan. Note: Information was forwarded to DOE. No further action from NRC will be take at this time.	Completed
3/24/2011	Jason Petti of Sandia for IAEA	jppet@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. ***Update as of 3/30***: DE was asked to lead, also SNL asked B. Sheron for information.	Determine if Sandia should help answer IAEA's questions. ***Update as of 3/30***: DE was asked to lead, also SNL asked B. Sheron for information.	Completed
3/24/2011	John Holdren	(b)(6)	Stephanie Bush-Goddard x7528	HEB	Review information on OSTP analysis and layperson's summary of standards applicable to I-131 in drinking water.	Review information on OSTP analysis and layperson's summary of standards applicable to I-131 in drinking water.	Completed
3/24/2011	House Energy & Commerce Comm.	None given.	Jason Schaperow x7452	SPB	Brief House E&C Comm. on Friday, 3/25 at 2pm.	Brief House E&C Comm. on Friday, 3/25 at 2pm.	Completed
3/26/2011	Info. sent proactively to Ops Center & D	Email: RST01 Hoc Email: Kelly, John E (NE)	Richard Lee x7526	FSTB	Send information on the preliminary analysis of postulated Fuel Coolant Interaction (FCI) for Fukushima.	Send information on the preliminary analysis of postulated Fuel Coolant Interaction (FCI) for Fukushima.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/28/2011	Information sent proactively	Email: RST01 Hoc	Richard Lee x7526	FSTB	Send information on fire concerns from D. Powers to Ops Center and DOE Science Council.	Send information on fire concerns from D. Powers to Ops Center and DOE Science Council.	Completed
3/28/2011	Steven Arndt	301-415-6505	C. Tinkler (x7496) D. Marksberry (x7593) J. Schaperow (x7452)	DSA/DRA/	Call S. Arndt ~11am to discuss MELCOR Calculations on Unit #4 SFP source term. There seems to be some confusion as to which calculation is being used. Note: Related to 3/21 request from Ops Center (PMT).	Call S. Arndt ~11am to discuss MELCOR Calculations on Unit #4 SFP source term. Note: Related to 3/21 request from Ops Center (PMT).	Completed
3/27/2011	Brian Sheron	Brian.Sheron@nrc.gov	Pat Santiago	SPB	Answer question as to whether NRC took into account probable delays in evacuation because many exit routes would be damaged due to a low probability earthquake.	Answer question as to whether NRC took into account probable delays in evacuation because many exit routes would be damaged due to a low probability earthquake.	Completed
3/28/2011	Eugene Dacus for Jeff Baran (House E&C Eugene.Dacus@nrc.gov)	v	Richard Chang x7980	SPB	Request for a link to the SOARCA slides or an electronic version of those slides by the afternoon of 3/28.	Link to the SOARCA slides or an electronic version of those slides by the afternoon of 3/28.	Completed
3/28/2011	Tom Michener of PNNL	509-375-2162	Ghani Zigh x7505	DSA	Send a copy of the report done at SNL on pool fires.	Send a copy of the report done at SNL on pool fires.	Completed
3/29/2011	None	None given.	Richard Lee x7526	FSTB	Provide brief trip report from Per Peterson on DOE trip to Milestone yesterday is provided to DSA staff for information purposes.	Provide report to DSA staff for information purposes.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/29/2011	Frederick Brown (Ops Center)	Email: RST06 Hoc	Charlie Tinkler x7496	DSA	Given the known, or assumed, status of the three units and four pools, determine what realistic scenarios exist for energetic dispersion of high quantities of radioactive material that would result in mobile plumes. Note: Similar to U.S. Ambassador's request on 3/29.	Given the known, or assumed, status of the three units and four pools, determine what realistic scenarios exist for energetic dispersion of high quantities of radioactive material that would result in mobile plumes. Note: Similar to U.S. Ambassador's request on 3/29.	Completed
3/29/2011	Frederick Brown (Ops Center)	Email: RST06 Hoc	Mary Drouin x7574	DRA	Given the assumed condition of the three units and four pools, generate basic event trees for the coming weeks/months if possible. The purpose is to identify key success criteria and to help identify key decision points/risk factors to be balanced.	Given the assumed condition of the three units and four pools, generate basic event trees for the coming weeks/months if possible.	Completed
3/30/2011	Tony Huffert (Ops Center for US. Amba	Email: PMT01 Hoc Duplicate Request received from: PMT02 Hoc	Jaşon Schaperow (x7453) Charlie Tinkler (x7496)	SPB/DSA	Provide assistance in developing a realistic, up-to-date estimation of plant conditions and source terms for dose projections. Note: Similar to Frederick Brown's first request on 3/29.	Provide assistance in developing a realistic, up-to-date estimation of plant conditions and source terms for dose projections. Note: Similar to Frederick Brown's first request on 3/29.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
3/30/2011	EDO	Not given.	Michelle Flanagan x7547	FSTB	Draft a letter and prepare a concurrence package for the Chairman to respond to R. Caron's suggestion.	***Update as of 4/14***: Concurrence package with draft response (from the Chairman) to R. Caron's suggestion to use helium for cooling prepped and currently awaiting concurrence in the RES Front Office.	Completed
3/30/2011	Gregory Bowman	301-415-2939	Mourad Aissa x7511	FSTB	Provide a response to EDO staff on Comm. Ostendorff's office's questions on MOX (indirectly related to the use of MOX in Fukushima).	A short two-page overview document was provided.	Completed
3/31/2011	Ops Center (RST)	Email: RST01 Hoc	Jason Schaperow (x7452) Charlie Tinkler (x7496)	SPB/DSA	Answer the following question: Make determinations (time and measures) that would result in an energetic release no longer being a realistic possibility. How long until decay heat is not a factor?	Answer the following question: Make determinations (time and measures) that would result in an energetic release no longer being a realistic possibility. How long until decay heat is not a factor?	Completed
3/31/2011	Brian Sheron for Ops Center	Ops Center Email: ET02 Hoc	Jason Schaperow (x7452) Charlie Tinkler (x7496)	SPB/DSA	Determine how well does the scenario described in a Japanese article agrees or disagrees with the SOARCA scenario for PB.	Determine how well does the scenario described in a Japanese article agrees or disagrees with the SOARCA scenario for PB.	Completed
3/31/2011	Ops Center	Email: RST07 Hoc	Jason Schaperow (x7453) Charlie Tinkler (x7496)	SPB/DSA	Give thoughts on whether the plants could withstand a station blackout (or other interruption) for 12-24 hours without the prospect of major consequences (e.g. an energetic release).	Give thoughts on whether the plants could withstand a station blackout (or other interruption) for 12-24 hours without the prospect of major consequences (e.g. an energetic release).	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
4/1/2011	Steven Arndt for Ops Center (RST)	Provide information to RST at RST01.hoc@nrc.gov Request emailed from RST06 Hoc.	Richard Lee x7526	FSTB	Peer review of INPO recommendation (by Dana Powers or someone else that has been looking at the sump clogging issues). Provide peer review comments and recommendations, if any to RST by 1400, 4 April 2011 (EST). Provide information to RST at RST01.hoc@nrc.gov.	Provide peer review comments and recommendations, if any to RST by 1400, 4 April 2011 (EST). Provide information to RST at RST01.hoc@nrc.gov	Completed
4/1/2011	Brett Rini for Ops Center (RST)	OPS Email: RST01 Hoc	Rosemary Hogan x7634	DE/SGSEB	Support the Ops Center in preparing for a call with PACOM on April 1st by answering the following question: What information/assessment does NRC have wrt concrete durability under sustained high heat pressure?	Support the Ops Center in preparing for a call with PACOM on April 1st by answering the following question: What information/assessment does NRC have wrt concrete durability under sustained high heat pressure?	Completed
4/1/2011	Scott Burnell	301-415-8204	Bill Ott x7407 Mark Fuhrmann x7472	DRA/ETB	Identify a staff member to contact a reporter trying to find information, studies, etc on how contamination would behave in a marine environment.	Identify a staff member to contact a reporter trying to find information, studies, etc on how contamination would behave in a marine environment.	Completed
4/1/2011	Kathy Gibson for Cynthia Jones of the O	Cynthia.Jones@nrc.gov	Richard Lee	FSTB	Review the Congressional Research Service (CRS) draft document on the Japanese event.	Review the Congressional Research Service (CRS) draft document on the Japanese event.	Completed
4/4/2011	Ops Center (PMT) for John Nasstrom of	Email: PMT11 Hoc LLNL Contact: Nasstrom1@llnl.gov	Jason Schaperow (x7453) Charlie Tinkler (x7496)	SPB/DSA	Participate in conference call on 4/4 at 11am with NARAC on new prediction requests.	Participate in conference call on 4/4 at 11am with NARAC on new prediction requests.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
4/4/2011	None.	None given.	Richard Lee x7526	FSTB	Notified the RST that the N2 inerting system was delivered to the Fukushima site (Monday – Japanese time) and that TEPCO will begin inerting the drywell of the Fukushima Unit 1 commencing Tuesday (Japanese time). SOURCE (Japan Atomic Energy Commission) Mike Salay (in Japan) confirmed that TEPCO plans to do this [Monday].	Notify RST of specific activities in Japan.	Completed
4/5/2011	Brian Sheron	301-415-7400	Kevin Coyne x7586 Richard Chang x7980	DRA/DSA	Prepare background bullets on SOARCA and level 3 PRA within a couple of hours to prepare for a hearing.	Prepare background bullets on SOARCA and level 3 PRA within a couple of hours to prepare for a hearing.	Completed
3/30/2011	Gregory Bowman of the EDO	301-251-2939	Pat Santiago x7982	SPB	Commissioner Magwood's office was interested in seeing the SNL fire test, specifically viewing CDs or DVDs.	Provide SNL fire test CDs or DVDs.	Completed
4/5/2011	Joe Golla of NRR	301-415-1002	Richard Lee x7526 Katie Wagner x7917	FSTB	Joe Golla of NRR called and asked for a contact to answer some questions on Severe Accident Procedures.	Call J. Golla with the name of a contact.	Completed
3/28/2011	Ops Center (Eva Brown)	Email: RST07 and RST01	Mirela Gavrilas x7556 Jose Pires x7696	DE	Answer questions regarding saltwater corrosion and containment design pressure.	Response to questions regarding saltwater corrosion and containment design pressure.	Completed
3/17/2011	Ops Center	None given.	Herman Graves	DE	Respond to questions about concrete and sand properties.	Response to questions about concrete and sand properties. Note a table was developed and provided.	Completed
4/6/2011	Ops Center (PMT)	Email: PMT11 Hoc, PMT02 Hoc	Pat Santiago x7982	SPB	Request for descriptions of the MELCOR and MACCS programs.	Sent NUREG – 1925 (which include descriptions) for their use.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
4/6/2011	Ops Center (T. Huffert of PMT)	None given.	Carlos Navarro x7485	SPB	Request for the file format for met data to enter into MACCS. Organizations are requiring this information to support folks in Japan using MELCOR and MACCS.	Send file format for met data to enter into MACCS.	Completed
4/5/2011	Tom Blount	301-415-5710	Don Helton x7594	DRA	Find a contact to answer questions raised by a reporter in Japan for the Wall Street Journal regarding SAMGs. Answer questions if appropriate.	Find a contact to answer questions raised by a reporter in Japan for the Wall Street Journal regarding SAMGs. Answer questions if appropriate.	Completed
4/6/2011	Scott Burnell for OPA	301-415-8204	Richard Chang x7980	SPB	Work with Beth Hayden to provide talking points ASAP to help OPA handle questions from a USA Today reporter on SOARCA, etc. Note: K. Gibson to review responses before going to OPA.	Provide talking points ASAP working with Beth Hayden. Note: K. Gibson to review responses before going to OPA.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
4/7/2011	Shawn Burns of Sandia for Sen. Bingama	spburns@sandia.gov	Jason Schaperow (x7452) Charlie Tinkler (x7496)	SPB/DSA	Sandia received a request from U.S. Senator Jeff Bingaman's personal staff relating to the spent nuclear fuel fire experiments and associated analyses conducted by Sandia for the NRC in 2007. Sandia formally requested NRC permission to release this information to Senator Bingaman's office for the purpose of allowing the Senator and his staff to understand one aspect of the ongoing event at the Fukushima Dai-ichi nuclear power reactor site in Japan.	Determine if it is appropriate to send spent nuclear fuel fire experiments and associated analyses conducted by Sandia for the NRC in 2007 and if so send the analyses and supporting materials. Note the following has been completed: One-pager has been reviewed by Jason, the suggested revision has been incorporated by SNL; Richard's e-mail revised the one pager to the OCA Director (Schmidt) and requested OCA to send it to the staffs of Sen. Bingaman and Sen. Udall and also advised Senator Bingaman's staff to request info. directly from NRC and not from NRC contractor(s).	Completed
4/7/2011	None.	Info. sent to Email: RST01 Hoc	Richard Lee x7526	FSTB	Updated Fukushima plots and presentations from J. Rempe were sent to the Ops Center proactively.	Updated Fukushima plots and presentations from J. Rempe were sent to the Ops Center proactively.	Completed
3/24/2011	OPA	301-415-8205	Robert Roche	DE	Translate Q&As into Spanish for the NRC public website.	Translate Q&As into Spanish for the NRC public website.	Completed
4/7/2011	Ops Center (RST)	Email: RST09 Hoc	Richard Lee x7526 Hossein Esmaili x7554	FSTB	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.	Completed
4/8/2011	Kathy Gibson (from Ops Center)	Email: PMT09 Hoc	Richard Lee x7526 Katie Wagner x7917	FSTB	Forward a list of questions from PACOM so it can be determined where they came from.	List of questions from PACOM forwarded to PMT09 Hoc.	Completed

Status of Japan Related Requests - Complete

Date	Requestor	Requestor Info	Staff Contact	Branch	Scope of Request	Deliverable	Status
4/8/2011	Kathy Gibson (from Ops Center)	301-251-7499	Richard Lee x7526 Katie Wagner x7917	FSTB	Send information to the RST regarding the exothermic reaction with silicon from sand slurry.	Information sent to the RST regarding the exothermic reaction with silicon from sand slurry on 4/13.	Completed
4/8/2011	Roger Rihm of the EDO	301-415-1717	Mourad Aissa x7511 Richard Lee x7526	FSTB	Request for assistance with some Qs and As for Senator Boxer regarding MOX fuel.	Mourad and Richard provided assistance with Q&A wording on 4/8.	Completed
4/11/2011	Ops Center (RST)	Email: RST01 Hoc	Richard Lee x7526	FSTB	Provide information on spent fuel pool decay heat.	Ian Gauld replied with information.	Completed
4/8/2011	Roger Rihm of the EDO	Roger.Rihm@nrc.gov	Pat Santiago x7982	SPB	Respond to questions about SOARCA or other studies that examined dual units.	Response to questions provided to Mike Scott to provide to R. Rihm.	Completed
4/14/2011	Donnie Harrison	301-415-2470	Tina Ghosh	SPB	Provide information regarding the industry initiative for Mark III and ice condenser plants to install backup power to their igniters.	Information provided on 4/14.	Completed
4/17/2011	Ops Center for INPO	Email: RST01 Hoc	Michael Case (x7619)	DE	Search for a post-TMI era paper that addresses pending instrument failures that occurred at TMI following the accident.	Link to a site from which the paper can be obtained.	Completed

Wagner, Katie

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 10:01 AM
To: Lee, Richard
Subject: RE: Station blackout questions

Richard – Item #32 complete (<http://portal.nrc.gov/edo/res/DSA/Shared%20Documents/JPN-Status-Request.aspx>)? - Katie

From: Lee, Richard
Sent: Wednesday, March 23, 2011 7:57 AM
To: Burnell, Scott
Cc: Elkins, Scott; Gibson, Kathy; Wagner, Katie; Coyne, Kevin
Subject: RE: Station blackout questions

Hi, Scott:

Attached is the NRC response to the question received.

Best regards,
Richard

From: Burnell, Scott
Sent: Tuesday, March 22, 2011 12:02 PM
To: Gibson, Kathy; Wagner, Katie
Cc: Elkins, Scott; Lee, Richard
Subject: RE: Station blackout questions

Kathy;

Thanks for that – the reporter's also aware of NUREG/CR-6890

<http://www.nrc.gov/reading-rm/doc-collections/nuregs/contract/cr6890/>

So apparently there's even newer research – might come from a different RES division, I haven't looked at the document yet. Thanks again!

Scott

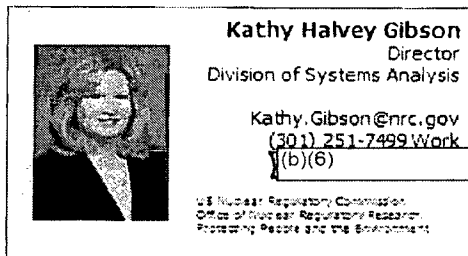
From: Gibson, Kathy
Sent: Tuesday, March 22, 2011 11:56 AM
To: Burnell, Scott; Wagner, Katie
Cc: Elkins, Scott; Lee, Richard
Subject: RE: Station blackout questions

Scott,
Katie Wagner is our POC for information requests. I am cc'ing her on this response.

She will follow-up with our staff to get responses back to you. I am not personally aware of this report or our role in it, so this will take some digging. Not sure how quickly we can respond. As you can imagine we are continuously getting requests for information from domestic as well as international people, so we will add this one to the list.

Katie will keep you informed of our progress.

Thanks,
Kathy



From: Burnell, Scott
Sent: Tuesday, March 22, 2011 9:49 AM
To: Gibson, Kathy; Scott, Michael
Cc: Elkins, Scott
Subject: FW: Station blackout questions
Importance: High

Kathy, Mike;

I'm thinking NUREG-1776 (Regulatory Effectiveness of the Station Blackout Rule) was done by the predecessor to your division, probably under Scott's branch. I need help answering the reporter's four questions below. Thanks very much.

Scott

From: Mike Soraghan [<mailto:msoraghan@eenews.net>]
Sent: Thursday, March 17, 2011 6:06 PM
To: Burnell, Scott
Subject: Station blackout questions

Mr. Burnell,

Thank you for taking my call a moment ago. I am looking at doing a story on station black out, with a little on seismic, that looks at all u.s. plants.

My simplest question is whether there is a list of the design basis each of the 104 reactors must meet in terms of what magnitude earthquake they must be able to withstand. I've been told that's not likely, so I'm pulling the information from news reports.

I have the 2000 report (attached) "Regulatory Effectiveness of the Station Blackout Rule." I've been looking at this, particularly the plant-by-plant chart, and I'm seeking some guidance.

First, has there been any update to these numbers?

"Coping time in hours" - Is that the amount of battery power? And is it the amount the plant has, or is required to have?

"Loss of Power events" - If a combined plant with two reactors lists two events, did each shut down for a total of four?

Also, Is there updated figures for the "loss of power events?"

Thank you,

Mike Soraghan

Reporter

msoraghan@eenews.net

202-446-0423 (desk)

(b)(6) (cell) =

202-709-3699 (Google Voice)

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From: Lawson, Joe
Sent: Wednesday, March 23, 2011 1:51 PM
To: ET07 Hoc
Subject: RE: pictures

Sally,

I really do not. Rick told me they were given to him by the Japanese regulatory agency. If you would like to call him you can try his cell at (b)(6) or the conference room at the embassy at (b)(6)

Joe

From: ET07 Hoc
Sent: Wednesday, March 23, 2011 1:46 PM
To: Lawson, Joe
Subject: RE: pictures

Joe,

Do you have any indication of when these pictures were taken? NRC ET would like this information.

Thank you,

Sally Billings
Status Officer
NRC Executive Team

From: joe.lawson@nrc.gov [mailto:delivery@yousendit.com]
Sent: Wednesday, March 23, 2011 1:23 PM
To: ET07 Hoc
Subject: pictures

joe.lawson@nrc.gov has sent you the following via YouSendIt

31 files were sent to you:

[Download](#)

IMG_3226.JPG
IMG_3196.JPG
IMG_3197.JPG
IMG_3198.JPG
IMG_3199.JPG
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IMG_3225.JPG

Size: 303.25 MB Files will be available for download until April 06, 2011 10:23 PDT.

If the above link does not work, you can paste the following address into your browser:
<https://rcpt.yousendit.com/1076393345/a861c3647c40c5980137fd301c134ea9>



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Wagner, Katie

From: Wagner, Katie
Sent: Wednesday, March 23, 2011 4:35 PM
To: Gibson, Kathy
Cc: Lee, Richard
Subject: RE: Ops Center Action Item for Ticketing
Attachments: Materials selection for Entombment - Issue Table.doc

Kathy,

Should I forward the attached table and Richard's response to George Deegan and Larry Camper in FSME?

Thanks, Katie

From: Lee, Richard
Sent: Wednesday, March 23, 2011 4:02 PM
To: Wagner, Katie
Cc: Gibson, Kathy
Subject: RE: Ops Center Action Item for Ticketing

Katie:

These are all long term related activities.

Most of the questions are related to decommissioning and entombment. If decommissioning is in FSME, then let them answer the question. Criteria for materials selection for entombment (developed by ORNL) is attached.

For the TMI-2, we need to go back ask someone on this. Would not be able to answer this for awhile.

Richard

Regarding the best type of enclosure for the plant, does NRC have any thoughts? Do we have any regulations applicable to this condition or thoughts on the role of the regulatory authority in this decision?

-What licensing requirements apply to decommissioning and regulatory review of the decommissioning plan?

-What should the Japanese be considering with respect to criticality prevention and decay heat removal during the entombment period?

-The NRC's TMI fact sheet notes that the first manned entry into the Unit 2 reactor building occurred after a venting of Krypton in July 1980 (16 months after the accident). What actions occurred during those 16 months that could inform their planning?"

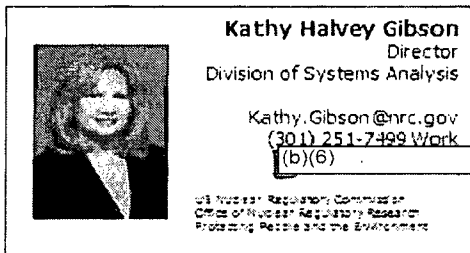
From: Wagner, Katie
Sent: Wednesday, March 23, 2011 3:47 PM
To: Lee, Richard
Subject: FW: Ops Center Action Item for Ticketing

mmmm/199

Most recent I have on this. . . they want answers by 1800 tonight

From: Gibson, Kathy
Sent: Wednesday, March 23, 2011 1:53 PM
To: Lee, Richard; Wagner, Katie
Subject: FW: Ops Center Action Item for Ticketing

More info



From: Bowman, Gregory
Sent: Wednesday, March 23, 2011 1:45 PM
To: Richards, Stuart
Cc: Case, Michael; Gibson, Kathy; Scott, Michael; Rini, Brett
Subject: RE: Ops Center Action Item for Ticketing

Sorry if my e-mail wasn't clear...we only need a response to the four questions from the 11:23 am e-mail from RST01 Hoc.

I would recommend coordinating with George Deegan and Larry Camper in FSME. I was CC'd on the attached e-mail from Larry a little while ago, and it looks like they might be best equipped to cover most (or all) of the questions.

From: Richards, Stuart
Sent: Wednesday, March 23, 2011 1:07 PM
To: Bowman, Gregory
Cc: Case, Michael; Gibson, Kathy; Scott, Michael
Subject: RE: Ops Center Action Item for Ticketing
Importance: High

Greg

Are we trying to respond to all of the issues in Dan Dorman's e-mail, or just the items highlighted in the 11:23 am e-mail from RST01 Hoc ?

Thanks
Stu

From: Bowman, Gregory
Sent: Wednesday, March 23, 2011 12:08 PM
To: Case, Michael; Richards, Stuart; Gibson, Kathy; Scott, Michael
Subject: FW: Ops Center Action Item for Ticketing
Importance: High

FYI – I just sent this information request from the Ops Center to Brett. I sent it to him because I wasn't sure which division in RES would be the right one to help with this, but I figured I'd pass it along to you, as well, given that the Ops Center is looking for a response by the end of the day.

From: Bowman, Gregory
Sent: Wednesday, March 23, 2011 11:51 AM
To: Rini, Brett; Deegan, George
Cc: Frazier, Alan; Brock, Kathryn
Subject: FW: Ops Center Action Item for Ticketing
Importance: High

Brett and George,

We got the request below from the Ops Center. We think there should be one coordinated response back to the Ops Center from RES and FSME, but none of us are sure which division would be best able to respond. Can you help with this? Note that the Ops Center has asked for a response by 18:00 tonight.

Greg

From: RST01 Hoc
Sent: Wednesday, March 23, 2011 11:23 AM
To: Andersen, James; Muesle, Mary
Cc: Brown, Frederick
Subject: Ops Center Action Item for Ticketing

Jim and Mary,

Per Fred Brown, RST Director here in the Ops Center, Please ticket the following item to RES and FSME:

"Respond to Dan Dorman's email on long-term issue questions from Japan. Provide responses or estimates of when the responses can be expected to Dan by 18:00 EDT. If additional information is needed, let the site team know of any questions that can be brought back to NISA.

-Regarding the best type of enclosure for the plant, does NRC have any thoughts? Do we have any regulations applicable to this condition or thoughts on the role of the regulatory authority in this decision?

-What licensing requirements apply to decommissioning and regulatory review of the decommissioning plan?

-What should the Japanese be considering with respect to criticality prevention and decay heat removal during the entombment period?

-The NRC's TMI fact sheet notes that the first manned entry into the Unit 2 reactor building occurred after a venting of Krypton in July 1980 (16 months after the accident). What actions occurred during those 16 months that could inform their planning?"

Dan Dorman's email pasted below:

From: Dorman, Dan
Sent: Tuesday, March 22, 2011 3:05 AM
To: OST01 HOC; Casto, Greg; Monninger, John; ET07 Hoc
Subject: RE:

Additional tasks from meeting with NISA et al this morning. Lower priority than the Cabinet level issues we just discussed on the phone, but any responses available by 1800 EDT on 3/22 would be greatly appreciated along with an

estimate of when the remainder may be expected. If you need additional info, please identify any questions we can bring back to NISA (keeping in mind please that their plant data is also very limited, i.e., keep your data expectations modest).

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.

NISA is beginning to look at long term issues and has the following Qs in this area (note some of these may only apply to Japan's regulatory framework, but if we have insights from our post-TMI actions they would be greatly appreciated):

6. Regarding the best type of enclosure for the plant, does NRC have any thoughts? Do we have any regulations applicable to this condition or thoughts on the role of the regulatory authority in this decision?
7. What licensing requirements apply to decommissioning and regulatory review of the decommissioning plan?
8. What should they be considering with respect to criticality prevention and decay heat removal during the entombment period?
9. The NRC's TMI Fact Sheet notes that the first manned entry into the Unit 2 reactor building occurred after a venting of Krypton in July 1980 (16 months after the accident). What actions occurred during those 16 months that could inform their planning?

Regarding the spent fuel pools, NISA asserted that the Unit 1 SFP is above TAF with over 20 days margin due to low decay heat. They are not injecting to the Unit 1 SFP. For Unit 2, they are injecting seawater to the SFP via installed piping. For Units 3 and 4, they are spraying from pumper trucks within the RBs to put water on the top of the pools (In response to a question, they indicated that these sprays were put in place after the explosive events in those buildings.) Based on this information, NISA is assuming that the SFPs are all below 100C. The team here has questions relative to the latter buildings and other information available, for example, lack of visual evidence of steaming on Unit 4. We would appreciate HQ's thoughts on the SFPs and apparent inconsistencies with the status provided by NISA.

Dan Dorman

Thanks,
Eric Thomas
RST Coordinator

Premise for table: If there is some likelihood that entombment of the spent fuel pools will be considered and we have time to get input from experts, we should develop a set of relevant characteristics to support selecting the optimal material to be used.

DRAFT table to support material selection

Issue	Importance	Desired characteristic to consider	Near or longer term concern
Thermal	High	Maximum thermal conductivity; water or substance that supports convection best	Both
Chemical reactions with fuel/clad	High	Minimize to extent possible, no exothermic reactions	Both
Criticality safety	Medium to Low	maximize neutron absorption to extent possible; inclusion of Boron	Both
Confinement	High to Medium	Maximize confinement of contamination	Both
Post-crisis clean-up	Medium to High	Potential for airborne contamination; structural integrity	Long
Post-crisis integrity	Medium to High	Potential to continue maintaining functionality	Long
Structural	High	Minimize weight, particularly if structural integrity of pool walls and supporting structures are in question	Both
Radiation dose	Medium to Low	Maximize gamma and, to a lesser extent, neutron attenuation	Both

Lee, Richard

From: Santiago, Patricia
Sent: Wednesday, April 20, 2011 10:41 AM
To: Tinkler, Charles; Wagner, Katie
Cc: Gibson, Kathy; Lee, Richard; Armstrong, Kenneth
Subject: Re: Sharepoint Site pending actions

A good idea but do we keep it open in this table or develop a plan for this activity. What are your views on how this relates to any changes to the SOARCA parameters and study before we issue the report.

We are being asked to include a discussion on spent fuel pools in the current schedule as well which we meet on today to define

Thanks

Sent from an NRC BlackBerry
Patricia Santiago
(b)(6)

From: Tinkler, Charles
To: Santiago, Patricia; Wagner, Katie
Cc: Gibson, Kathy; Lee, Richard
Sent: Wed Apr 20 10:29:28 2011
Subject: RE: Sharepoint Site pending actions

I think we should continue assessing Japan events solely for our own interests and purposes – in order to address how the potential differences between SOARCA modeling and Japan experience would affect our SOARCA predictions.

From: Santiago, Patricia
Sent: Tuesday, April 19, 2011 5:43 PM
To: Wagner, Katie
Cc: Tinkler, Charles; Gibson, Kathy; Lee, Richard
Subject: Sharepoint Site pending actions

Hi Katie

I gave Charlie the pending list to mark up and didn't get any further comments. I recommend closing the actions and may have told Kathy that we have completed all so we can begin SOARCA again pending the SF pool issues and April 29 briefing items.

Charlie if you think actions on the Japan work matrix listed as pending should remain open, please let Katie know. We can keep any work you want as open but I did close all for Jason after speaking with him and most included your name as well.

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: Uhle, Jennifer
Sent: Wednesday, April 20, 2011 10:58 AM
To: Lee, Richard
Subject: FW: meeting today at 14:15 to discuss agenda for today's Working Group meeting

Richard, see email below. Do you know why NRC is involved in the muon tomography? J

From: Sheron, Brian
Sent: Wednesday, April 20, 2011 10:57 AM
To: Uhle, Jennifer
Subject: Re: meeting today at 14:15 to discuss agenda for today's Working Group meeting

Beat's me. This is Dick Garwin's brainchild. Maybe Richard Lee can shed light on it. He's been participating on the DOE Science Council telephone meetings.

From: Uhle, Jennifer
To: Sheron, Brian
Sent: Wed Apr 20 10:44:37 2011
Subject: FW: meeting today at 14:15 to discuss agenda for today's Working Group meeting

Why are Bruce Boger and Glenn Tracy on the email list for this meeting to talk about muon tomography.

From: Tracy, Glenn
Sent: Wednesday, April 20, 2011 10:25 AM
To: Uhle, Jennifer
Subject: Re: meeting today at 14:15 to discuss agenda for today's Working Group meeting

No idea, Jenn. Never seen this before. Do not understand context or why Bruce and I were cc'd. Just want watch on now to ensure it is looked into with Chuck's team and we have cognizance. Will be in for swings in early afternoon. I was away yesterday with family.

From: Uhle, Jennifer
To: Tracy, Glenn
Sent: Wed Apr 20 10:22:36 2011
Subject: RE: meeting today at 14:15 to discuss agenda for today's Working Group meeting

Glenn, is this a suggestion from the DOE's think tank. I know RES has been on the daily phone calls with the think tank. How is NRC involved? I am not getting a lot of context from the email.

Thanks,

Jennifer

From: Tracy, Glenn
Sent: Wednesday, April 20, 2011 10:14 AM
To: Zimmerman, Roy; OST01 HOC; Uhle, Jennifer
Cc: Boger, Bruce
Subject: Fw: meeting today at 14:15 to discuss agenda for today's Working Group meeting

I see this email/meeting on my bberry and simply wanted to ensure all have cognizance of content besides Bruce and I. I was out of office yesterday. I will be in early afternoon for watch. Thanks.

From: (b)(6)

To: (b)(6)

(b)(6)

Sent: Wed Apr 20 00:18:42 2011

Subject: Re: meeting today at 14:15 to discuss agenda for today's Working Group meeting

Muon Tomography...we should have some thoughts on it by tomorrow to send your way, but given KEK's expertise in this area, how urgent is US capabilities in core imaging to GOJ? How soon does GOJ and TEPCO envision use of core imaging technologies? If this is a real request, please add to the formal lists. Best - Jay

From: Wall, Marc M <WallMM@state.gov>

To: Cipullo, Timothy L <CipulloTL@state.gov>; Aaron Leong <(b)(6)> AwanRX; Berger, William (RDMA/OFDA) <wberger@usaid.gov>; Bruce Boger <Bruce.Boger@nrc.gov>; Cherry, Ron; Glenn Tracy <Glenn.Tracy@nrc.gov>; Howard, E. Bruce <HowardEB@state.gov>; James McKenna <(b)(6)> Tilden, Jay; Steve Garchow <Steve.Garchow@nrc.gov>; Spurlock, Kenneth CAPT USN MDAO

(b)(6)

Sent: Tue Apr 19 23:48:29 2011

Subject: RE: meeting today at 14:15 to discuss agenda for today's Working Group meeting

Are the lead blankets a donation?

Should we mention where we are on:

- A proposal for ocean water monitoring
- Robot training
- Emergency communications channel
- Subgroup on radiation monitoring priorities

Any other issues to raise?

Marc

This email is UNCLASSIFIED.

From: Cipullo, Timothy L

Sent: Wednesday, April 20, 2011 12:17 PM

To: 'Aaron Leong'; Awan, Riaz X (Sofia - DOE); Berger, William (RDMA/OFDA); 'Bruce Boger'; Cherry, Ronald C; 'Glenn Tracy'; Howard, E. Bruce; 'James McKenna'; 'Jay Tilden'; 'Steve Garchow'; Wall, Marc M; 'Spurlock, Kenneth CAPT USN MDAO'

Subject: meeting today at 14:15 to discuss agenda for today's Working Group meeting

Importance: High

Attached is a draft agenda for this afternoon's Working Group meeting with the GOJ. Please share this with others in your section who will be attending and look it over to see if we need to add any items.

We will plan to meet at 14:15 in Marc Wall's office in the Economic Section, 5F to discuss the agenda and who will raise which issues at our 15:00 Working Group meeting.

Regards,

Tim

This email is UNCLASSIFIED.

Nelson, Robert

From: Nelson, Robert
Sent: Wednesday, March 23, 2011 9:32 AM
To: Markley, Michael; Oesterle, Eric
Cc: Quay, Theodore; Bonaccorso, Amy; Saah, Lauren
Subject: Action: OPA Phone Message

See below. Please check with Amy Bonaccorso to get background. Then, coordinate with the below POCs as needed to prepare a response. As always, clear the response with OPA. Obviously, any security info would need to be very high level.

DE POC: George Wilson
DCI POC: Bob Wolfgang
NSIR: Kevin Williams or Joe Anderson

NELSON

From: Quay, Theodore
Sent: Wednesday, March 23, 2011 8:10 AM
To: Nelson, Robert
Cc: Blount, Tom; McGinty, Tim
Subject: FW: OPA Phone Message

As discussed a few minutes ago, here is the e-mail.

From: Wilson, George
Sent: Wednesday, March 23, 2011 3:34 AM
To: Quay, Theodore
Cc: McGinty, Tim; Blount, Tom; Saah, Lauren
Subject: Re: OPA Phone Message

Part of answer would go to EEEB the other to DCI, but I do not remember anything put into place after 9/ 11. You would need to verify security orders via NSIR also

Sent from nrc blackberry
George wilson

(b)(6)

From: Quay, Theodore
To: Wilson, George
Cc: McGinty, Tim; Blount, Tom; Saah, Lauren
Sent: Tue Mar 22 14:39:11 2011
Subject: FW: OPA Phone Message

Who has diesels that can answer the question?

From: Saah, Lauren
Sent: Tuesday, March 22, 2011 2:35 PM
To: McGinty, Tim; Blount, Tom; Quay, Theodore
Subject: OPA Phone Message

Amy Bonaccorso received a question she needs assistance responding to:

What NRC guidelines, legislation, or regulations were instituted after 9-11 to secure diesel generators at nuclear sites.

If someone could email her back with an answer, or the appropriate person to answer that would be great

Thanks!
Lauren

Nelson, Robert

From: Nelson, Robert
Sent: Wednesday, March 23, 2011 8:46 AM
To: Oesterle, Eric; Markley, Michael
Subject: RE: Action: Review of Draft Q&As
Attachments: image001.png

Thanks. Let me know when we can go final.

NELSON

From: Oesterle, Eric
Sent: Wednesday, March 23, 2011 8:45 AM
To: Nelson, Robert; Markley, Michael
Subject: RE: Action: Review of Draft Q&As

I've incorporated the changes suggested by Scott Burnell and am following up with the Japan Desk Officer in OIP with regard to the question on sharing info post 9/11 enhancements.

From: Nelson, Robert
Sent: Wednesday, March 23, 2011 8:43 AM
To: Markley, Michael; Oesterle, Eric
Subject: RE: Action: Review of Draft Q&As

Thanks.

NELSON

From: Markley, Michael
Sent: Wednesday, March 23, 2011 8:19 AM
To: Nelson, Robert; Oesterle, Eric
Subject: RE: Action: Review of Draft Q&As

From my view, they came through pretty well with a limited number of value-added enhancements and no major defects. We will get them finalized this morning.

From: Nelson, Robert
Sent: Wednesday, March 23, 2011 7:57 AM
To: Markley, Michael; Oesterle, Eric
Subject: FW: Action: Review of Draft Q&As

NELSON

From: Burnell, Scott
Sent: Tuesday, March 22, 2011 4:46 PM
To: Nelson, Robert; LIA06 Hoc
Cc: Harrington, Holly; Meighan, Sean; Nguyen, Quynh; Croteau, Rick
Subject: RE: Action: Review of Draft Q&As

mmmm/203

I edited the Q&A using "Track Changes" in Word. Just a quick look, but what I've edited is necessary – important question for OIP in there too.

From: Nelson, Robert
Sent: Tuesday, March 22, 2011 2:43 PM
To: LIA06 Hoc; Burnell, Scott
Cc: Harrington, Holly; Meighan, Sean; Nguyen, Quynh; Croteau, Rick
Subject: Action: Review of Draft Q&As

Attached are a set of Qs & As for review. Many of these were submitted by the regions to support upcoming publics meetings. The first one that I know of is Robinson EOC meeting on 3/24. Therefore, we request approval tomorrow.

Liaison Team – Please advise if you need to be involved. If so, the same deadline applies.

Robert A. Nelson

Robert A. Nelson
Deputy Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation



E-mail: robert.nelson@nrc.gov | Office: (301) 415-1453 | Cell: (b)(6) | Fax: (301) 415-2102

From: Markley, Michael
Sent: Tuesday, March 22, 2011 2:00 PM
To: Nelson, Robert
Subject: Q&As - Attached

Attached.

Murphy, Andrew

From: Kammerer, Annie
Sent: Wednesday, March 23, 2011 3:15 AM
To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc
Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Glitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Niles; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffry; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Eliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan, Vincent; Bergman, Thomas; Webb, Michael; Manoly, Kamal; Khanna, Meena; Screnci, Diane; Thomas, Eric; Nguyen, Quynh; Meighan, Sean; FOIA Response.hoc Resource; Bens, Michelle
Subject: Seismic Q&As March 22th 10pm update
Attachments: Diablo Canyon Q&As.pdf; SONGS Q&As.pdf; Seismic Questions for Incident Response 3-22-11 10 pm.pdf

All,

Attached please find an updated set of Q&As. I also included some new Q&As for SONGS and Diablo Canyon, just in case anyone is interested.

This version has an expanded set of definitions and new sections on station blackout, spent fuel, flooding and some other topics. It also has fewer duplicate questions.

Let me also pass on a tidbit of info. According to TEPCO (via an NEI press release), the tsunami at Fukushima was 14 meters and the design tsunami level was 5.7 meters. The reactors and backup power sources were at 10 meters and at 13 meters. Ouch.

Cheers,
Annie

From: Kammerer, Annie
Sent: Sunday, March 20, 2011 11:00 PM
To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc
Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Glitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Niles; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffry; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Eliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan, Vincent; Bergman, Thomas; Webb, Michael; Manoly, Kamal; Khanna, Meena; Screnci, Diane; Thomas, Eric; Nguyen, Quynh; Meighan, Sean; FOIA Response.hoc Resource; Bens, Michelle
Subject: Seismic Q&As March 20th 8pm update

All,

Here's today's version. It includes updates on related topics for tomorrow's briefing. Also, some of the sections have been streamlined and some (though not all) of the answers have been updated.

The biggest news from the seismic team's perspective is that starting tomorrow a very bright young risk analyst (Michelle Bensi) who recently joined us from UC Berkeley (my beloved alma mater) will be helping with the compilation of this document. That will allow our team to spend more time cleaning and streamlining it; which inevitably will make it more user friendly...and shorter! Starting with tomorrow's version her name will start to show up on the front.

Best of luck to everyone with the briefing tomorrow!

Annie

From: Kammerer, Annie

Sent: Saturday, March 19, 2011 9:00 AM

To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc

Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Gitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Niles; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffry; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Eliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan, Vincent; Bergman, Thomas; Webb, Michael; Manoly, Kamal; Khanna, Meena; Screnci, Diane; Thomas, Eric; Nguyen, Quynh; Meighan, Sean; FOIAResource.hoc@nrc.gov

Subject: Seismic Q&As March 19th 8am update

All,

Here is today's updated version. Lot of new fact sheets have been prepared for various briefings and for Monday's public meeting!

However, the big news of the day is that we just sent off a 6 page, 22 question, much better edited version for a public Q&A set. It's all in OPA's capable hands now. I think it's pretty good...but then I'm biased.

Cheers,
Annie

From: Kammerer, Annie

Sent: Friday, March 18, 2011 6:51 AM

To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc

Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Gitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Niles; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffry; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Eliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan,

Vincent; Bergman, Thomas; Webb, Michael; Manoly, Kamal; Khanna, Meena; Screnci, Diane;
Thomas, Eric; Nguyen, Quynh; Meighan, Sean
Subject: RE: Seismic Q&As March 18th 5am update

All,

Please see the updated version of the Seismic Q&As.

Among today's highlights:

*We added a Terms and Definitions section at the end of the document. (We know that an acronyms list would be helpful too, but it will have to wait a little) *The "additional information" section has been split into tables, plots, and fact sheets *A high-level draft fact sheet on NRC's seismic regulations has been added *We added a section to track outstanding questions that have come in from congress. This will support those who get the tickets in the short terms (most likely NRR). The questions will be moved to the appropriate sections long term (as long as they are not duplicates.)

I'm sure we all agree this has been a crazy week!. We're hoping that the weekend workload is lighter (if only because we won't get as many email from in house) and we can clean up this document and fill in some of the missing answers in preparation for the news story changing. We're trying hard to get out in front of the next wave.

Cheers,
Annie

From: Kammerer, Annie

Sent: Thursday, March 17, 2011 2:36 AM

To: Kammerer, Annie; Hiland, Patrick; Skeen, David; Case, Michael; RST01 Hoc

Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Giitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Chokshi, Niles; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Giitter, Joseph; Howe, Allen; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Munson, Clifford; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael; Orders, William; Santiago, Patricia; Snodderly, Michael; Baggett, Steven; Sosa, Belkys; Davis, Roger; Franovich, Mike; Castleman, Patrick; Sharkey, Jeffry; Boska, John; Ma, John; Tegeler, Bret; Patel, Pravin; Shams, Mohamed; Morris, Scott; Brenner, Eliot; Harrington, Holly; Seber, Dogan; Ledford, Joey; Johnson, Michael; Virgilio, Martin; Holahan, Vincent; Bergman, Thomas
Subject: Seismic Q&As March 17th 2am update All,

As promised, a sharepoint site has been set up where our friends in NRR will be posting the latest version of the Seismic Q&A document on an ongoing basis. If someone would prefer to use the sharepoint site, instead of being on this distribution list, please let me know...
<http://portal.nrc.gov/edo/nrr/NRR%20TA/FAQ%20Related%20to%20Events%20Occuring%20in%20Japan/Fo rms/AllItems.aspx>

This latest update has a number of new questions (not many with answers today, but we are working hard). A high priority question we are working on is "how many plants are near a mapped active fault". We're focusing on anything within 50 miles. We're also pulling relevant questions from the congressional inquiries we just received; and will also give these high priority to support any needs by NRR.

Many new figures and some draft fact sheets have added to the "additional information" section. These include the NRO half of a tsunami fact sheet...a description of the tsunami research is still to come from RES.

Some good news: Yesterday's version seems to have been widely forwarded around the agency. So, we are also starting to get some excellent questions from staff looking forward. This is allowing us to feel that we are finally getting out in front of things to a small degree. Also, our team has grown and we now have someone acting as source of seismic expertise for the 11pm to 7 am shift. This means that we now have seismic experts available to the RST and OPA at the Op Center 24 hours, with 2 people during the day. That extra support is allowing us to get this out at least an hour earlier today ☺

We are continuing to compile the questions that come in and update the seismic Q&A document. If you have suggested changes, or want to provide missing answers, please forward them to me for compilation.

This is a living document and will be updated daily in the foreseeable future.

Happy St. Paddy's Day. May the world (especially our friends in Japan) have the luck of the Irish today.

Cheers,
Annie

Dr. Annie Kammerer, PE
Senior Seismologist and Earthquake Engineer US Nuclear Regulatory Commission Office of
Nuclear Regulatory Research Washington DC 20555

(b)(6) mobile
(b)(6) BB

From: Kammerer, Annie
Sent: Tuesday, March 15, 2011 3:41 AM
To: Hiland, Patrick; Skeen, David
Cc: Howe, Allen; Nelson, Robert; Stutzke, Martin; Gitter, Joseph; Rihm, Roger; McDermott, Brian; Hasselberg, Rick; Kammerer, Annie; Chokshi, Nilesh; Munson, Clifford; Cook, Christopher; Flanders, Scott; Ross-Lee, MaryJane; Brown, Frederick; Gitter, Joseph; Howe, Allen; Case, Michael; Ruland, William; Dudes, Laura; Karas, Rebecca; Ake, Jon; Munson, Clifford; Hogan, Rosemary; Uhle, Jennifer; Marshall, Michael; Uselding, Lara; Randall, John; Allen, Don; Burnell, Scott; Hayden, Elizabeth; Pires, Jose; Graves, Herman; Candra, Hernando; Murphy, Andrew; Murphy, Andrew; Pires, Jose; Hogan, Rosemary; Sheron, Brian; Dricks, Victor; Warnick, Greg; Reynoso, John; Lantz, Ryan; Markley, Michael
Subject: latest version of Q&As

All,

This is the first draft of the seismic-specific Q&As. It is pretty rough and there are many answers still missing, but people have contributed a lot and we thought it may be useful for many people trying to answer questions coming in.

We are continuing to compile the questions that come in and update the seismic Q&A document. If you have suggested changes, or want to provide missing answers, please forward them to me for compilation.

This is a living document and will be updated daily in the foreseeable future.

Annie

Dr. Annie Kammerer, PE
Senior Seismologist and Earthquake Engineer US Nuclear Regulatory Commission Office of
Nuclear Regulatory Research Washington DC 20555

(b)(6)	mobile
(b)(6)	BB

Herrity, Thomas

From: Dixon-Herrity, Jennifer
Sent: Wednesday, March 23, 2011 7:08 AM
To: Herrity, Thomas
Subject: FW: Fukushima Status Report from Japan Atomic Industrial Forum...
Attachments: ENGNEWS01_1300189582P.pdf

The ans link below will give most current status (March 14 is attached). Click on the Japan Atomic Industrial link under news and updates, then on the first link on the page that comes up.

Looks like there are 3 control rooms and they were having problems with lighting.

From: Schaaf, Robert
Sent: Tuesday, March 15, 2011 11:17 AM
To: NRO_SES Distribution; NRO_Branch_Chiefs
Subject: FYI: Fukushima Status Report from Japan Atomic Industrial Forum...

Courtesy of <http://ansnuclearcafe.org/> (providing twice daily news updates).

Link to attached file: http://www.jaif.or.jp/english/news_images/pdf/ENGNEWS01_1300189582P.pdf

Thought this might be of interest as it seems to provide a good one page snapshot from what is presumably a reasonably well-informed source.

Bob

Robert G. Schaaf, Chief
Siting and Accident Consequences Branch
Division of Site and Environmental Reviews
Office of New Reactors
Mail Stop T-7F27
Office: T-7E53
301-415-6020 (o)
(b)(6) (c)

What does the Japanese Earthquake Mean to Diablo Canyon?

1) Could an earthquake and tsunami the size of the one in Japan happen at Diablo Canyon?

No. This earthquake occurred on a "subduction zone", which is the type of tectonic region that produces the largest magnitudes earthquake. A subduction zone is a tectonic plate boundary where one tectonic plate is pushed under another plate. Subduction zone earthquakes are also required to produce the kind of massive tsunami seen in Japan. In the continental US, the only subduction zone is the Cascadia subduction zone which lies off the coast of far northern California, Oregon and Washington. So, a continental earthquake and tsunami as large as in Japan could only happen there. Outside of the Cascadia subduction zone, earthquakes are not expected to exceed a magnitude of approximately 8.25; and that would only occur on the largest fault lines, such as the San Andreas fault, which is 50 miles away onshore.

2) What magnitude earthquake are currently operating US nuclear plants such as Diablo Canyon designed to?

Each reactor is designed for a different ground motion that is determined on a site-specific basis. Ground motion is a function of both the magnitude of an earthquake and the distance from the fault to the site; and it is ground motion that causes damage. So, Nuclear plants, and in fact all engineered structures, are actually designed based on ground motion levels, not earthquake magnitudes. The existing nuclear plants were designed based on a "deterministic" or "scenario earthquake" basis that accounted for the largest earthquakes expected in the area around the plant. The scenario earthquake at Diablo is a magnitude 7.5 on the Hosgri Fault 3 miles from the main plant. This earthquake results in a ground motion that has a peak ground acceleration of 0.75g, that is 75% of the acceleration of gravity.

3) Could the newly discovered Shoreline Fault produce a larger "Scenario Earthquake"?

The NRC's preliminary analyses indicate that the ground motions from the largest earthquakes expected on the smaller Shoreline Fault do not exceed the ground motions from the Hosgri Fault, for which the plant has already been analyzed and been found to be safe. NRC is currently reviewing the Final Report on the Shoreline Fault that was submitted to the NRC earlier this year. The NRC is performing an independent analysis of potential ground motions based the data contained in the report and other information. Much of the data on the Shoreline Fault comes from the USGS in Menlo Park.

4) Could Diablo Canyon withstand an earthquake of the magnitude of the Japanese earthquake?

It could withstand the ground shaking experienced by the Japanese nuclear plants. As discussed above, it is actually ground motions that structures, systems, and components "feel". We do not have direct recordings of ground motion at the Japanese reactors. However, we do have estimates of shaking that come from a ShakeMap produced by the the K-NET system. The ground motion at the Japanese nuclear reactors is believed to be somewhat smaller than the 0.75g peak ground acceleration that Diablo Canyon has been analyzed to. Do, Diablo Canyon could withstand the ground shaking experienced by the Fukushima plant.

In fact, the Fukushima plant also withstood the earthquake. In the hour or so after the earthquake the Fukushima plant's safety systems, including the diesel generators, performed as expected and effectively shut down the reactor. The cause of the problems at the plant stemmed from the loss of emergency power that appears to be the direct result of the subsequent tsunami, which far exceeded the design basis tsunami for the Fukushima plant.

5) Is Diablo Canyon's equipment vulnerable to tsunami?

Nuclear plants are designed to withstand protection against natural phenomena such as tsunami, earthquakes. Diablo Canyon's main plant is located above the flood level associated with tsunami. The intake structures and Auxiliary Sea Water System at Diablo canyon are designed for combination of tsunami and storm wave activity.

6) How do we know that the emergency diesel generators in Diablo Canyon and SONGS will not fail to operate like in Japan?

Emergency Diesel Generators (EDGs) are installed in a seismically qualified structure. Even if these EDGs did fail, plants can safely shutdown using station blackout power source law 10 CFR 50.63. In 1988 the NRC concluded that additional regulatory requirements were justified in order to provide further assurance that a loss of both offsite and onsite emergency ac power systems would not adversely affect public health and safety and the station blackout rule was enacted. Studies conducted by the NRC since this rule has been in effect confirms that the hardware and procedures that have been implemented to meet the station blackout requirements have resulted in significant risk reduction and have further enhanced defense-in-depth. However, we plan to carefully evaluate the lessons learned from the events in Japan to determine if enhancements to the station blackout rule are warranted.

7) Was there any damage to Diablo Canyon from either the earthquake or the resulting tsunami?

A small tsunami did hit the region around Diablo Canyon. There was no damage at the nuclear plant.

8) How do we know the evacuation routes in the region around Diablo Canyon are realistic?

FEMA reviews off-site evacuation plans formally every 2 years during a biennial emergency preparedness exercise. NRC evaluates on-site evacuation plans during the same exercise. Population studies are formally done every 10 years, and evacuation time estimates are re-evaluated at that time. FEMA reviews these evacuation plans, and will conclude their acceptability through a finding of "reasonable assurance" that the off-site facilities and infrastructure is capable of protecting public health and safety in the event of an emergency at DCNPP.

What does the Japanese Earthquake Mean to San Onofre?

1) Could an earthquake and tsunami the size of the one in Japan happen at San Onofre?

No. This earthquake occurred on a "subduction zone", which is the type of tectonic region that produces the largest magnitude earthquake. A subduction zone is a tectonic plate boundary where one tectonic plate is pushed under another plate. Subduction zone earthquakes are also required to produce the kind of massive tsunami seen in Japan. In the continental US, the only subduction zone is the Cascadia subduction zone which lies off the coast of far northern California, Oregon and Washington. So, a continental earthquake and tsunami as large as in Japan could only happen there. Outside of the Cascadia subduction zone, earthquakes are not expected to exceed a magnitude of approximately 8.25; and that would only occur on the largest fault lines, such as the San Andreas fault, which is 50 miles away onshore.

2) What magnitude earthquake are currently operating US nuclear plants such as SONGS designed to?

Each reactor is designed for a different ground motion that is determined on a site-specific basis. Ground motion is a function of both the magnitude of an earthquake and the distance from the fault to the site; and it is ground motion that causes damage. So, Nuclear plants, and in fact all engineered structures, are actually designed based on ground motion levels, not earthquake magnitudes. The existing nuclear plants were designed based on a "deterministic" or "scenario earthquake" basis that accounted for the largest earthquakes expected in the area around the plant. The scenario earthquake at SONGS is a magnitude 7 approximately 5 miles from the main plant. This earthquake results in a ground motion that has a peak ground acceleration of 0.67g, that is 67% of the acceleration of gravity.

3) Could San Onofre withstand an earthquake of the magnitude of the Japanese earthquake?

It could withstand the ground shaking experienced by the Japanese nuclear plants. As discussed above, it is actually ground motions that structures, systems, and components "feel". We do not have direct recordings of ground motion at the Japanese reactors. However, we do have estimates of shaking that come from a ShakeMap produced by the K-NET system. The ground motion at the Japanese nuclear reactors is believed to be somewhat on the order of the 0.67g, or possibly slightly higher, that San Onofre peak ground acceleration has been analyzed to. However, US nuclear plants have additional seismic margin, as demonstrated by the result of the Individual Plant Examination of External Events program carried out by the NRC in the mid-90s.

It should be noted that, the Fukushima plant also withstood the earthquake. In the hour or so after the earthquake the Fukushima plant's safety systems, including the diesel generators, performed as expected and effectively shut down the reactor. The cause of the problems at the plant stemmed from the loss of emergency power that appears to be the direct result of the subsequent tsunami, which far exceeded the design basis tsunami for the Fukushima plant.

4) Is possible to have a tsunami at San Onofre that is capable of damaging the plant?

The San Onofre Units 2 and 3 plant grade is elevation +30.0 feet MLLW. San Onofre has reinforced concrete cantilevered retaining seawall and screen well perimeter wall designed to withstand the design basis earthquake, followed by the maximum predicted tsunami with coincident storm wave action. The controlling tsunami for San Onofre occurring during simultaneous high tide and storm surge produces a maximum runup to elevation +15.6 feet MLLW at the Unit 2 and 3 seawall. When storm waves are superimposed, the predicted maximum runup is to elevation +27 MLLW. Tsunami protection for the

SONGS site is provided by a reinforced concrete seawall constructed to elevation +30.0 MLLW. A tsunami larger than this is extremely unlikely.

5) Has the earthquake hazard at San Onofre been reviewed like Diablo Canyon nuclear power plant is doing? Are they planning on doing an update before relicensing?

Relicensing does not evaluate seismic hazard or other siting issues. Seismic safety is part of NRC's ongoing licensing activities. If an immediate safety concern emerged, the issue would be addressed as part of NRC's response, regardless of relicensing status.

The closest active fault is approximately five miles offshore from San Onofre, a system of folds and faults exist called the offshore zone of deformation (OZD). The OZD includes the Newport-Inglewood-Rose Canyon fault system. The Cristianitos fault is ½ mile southeast, but is an inactive fault. Other faults such as the San Andreas and San Jacinto, which can generate a larger magnitude earthquake, are far enough away that they would produce ground motions much less severe than earthquakes in the OZD for San Onofre.

Notwithstanding the above, the NRC is considering extending the Generic Issue 199 program to all operating reactors. This would require a reassessment of hazard for San Onofre using the latest probabilistic seismic hazard assessment approaches. Based on a preliminary assessment using the source model developed by the USGS for the national seismic hazard maps, the annual probability of occurrence of a 0.67g ground motion at the San Onofre site is only slightly higher than is than the annual probability of occurrence that is recommended for new nuclear plants.

6) How do we know that the emergency diesel generators in San Onofre will not fail to operate like in Japan?

Emergency Diesel Generators (EDGs) are installed in a seismically qualified structure and are seismic Category I equipment. Even if these EDGs did fail, plants can safely shutdown using station blackout power source law 10 CFR 50.63. In 1988 the NRC concluded that additional regulatory requirements were justified in order to provide further assurance that a loss of both offsite and onsite emergency ac power systems would not adversely affect public health and safety and the station blackout rule was enacted. Studies conducted by the NRC since this rule has been in effect confirms that the hardware and procedures that have been implemented to meet the station blackout requirements have resulted in significant risk reduction and have further enhanced defense-in-depth. However, we plan to carefully evaluate the lessons learned from the events in Japan to determine if enhancements to the station blackout rule are warranted.

7) Was there any damage to San Onofre from either the earthquake or the resulting tsunami?

There was no damage at the San Onofre nuclear plant from either the earthquake or tsunami.

8) What about emergency planning for San Onofre. Does it consider tsunami?

FEMA reviews off-site evacuation plans formally every 2 years during a biennial emergency preparedness exercise. NRC evaluates on-site evacuation plans during the same exercise. Population studies are formally done every 10 years, and evacuation time estimates are re-evaluated at that time. FEMA reviews these evacuation plans, and will conclude their acceptability through a finding of "reasonable assurance" that the off-site facilities and infrastructure is capable of protecting public health and safety in the event of an emergency at San Onofre. The next such exercise is planned for April 12, 2011.

The San Onofre emergency plan initiates the emergency response organization and results in declaration of emergency conditions via their Emergency Action Levels. The facility would then make protective action recommendations to the Governor, who would then decide on what protective actions would be ordered for the residents around San Onofre. The consideration of tsunami would be contained in the State and local (City, County) emergency plans, which are reviewed by FEMA.

Weaver, Tonna

From: Thorp, John
Sent: Wednesday, March 23, 2011 8:48 AM
To: Bahadur, Sher; Blount, Tom; Brown, Frederick; Cheok, Michael; Evans, Michele; Galloway, Melanie; Gitter, Joseph; Hiland, Patrick; Holian, Brian; Howe, Allen; Lee, Samson; Lubinski, John; McGinty, Tim; Ruland, William; Skeen, David; Quay, Theodore; Nelson, Robert
Cc: Gray, Kathy; Westreich, Barry
Subject: NRR EO Schedule and RST Director-Ops Center Assignments
Attachments: Swap_2011 document as of 3_22_2011.docx
Importance: High

Dear Night-time Emergency Officers,

First, my thanks to Ted Quay for his outstanding service in this position and best wishes for a long, happy and healthy retirement.

Second, You have all received and I believe confirmed your rotations on the EO watch bill—latest copy attached.

Kathy Gray has been directed to "de-conflict" schedules to prevent someone from being assigned EO at the same time they're assigned as RST Director in the Ops Center.

EO's, when you are asked to step up to the plate for an RST Director or other Ops Center assignment, please refer to your EO watch bill and request to be assigned to shifts that don't overlap your EO assignment. This way we can prevent conflict instead of having Kathy spend a lot of time to "de-conflict".

Thanks, each of you for your support of the emergency response function as Emergency Officers.

John Thorp
Daytime EO
Chief, Operating Experience Branch
NRR/DIRS
301-415-8508
Cell: (b)(6)

mmmm/206

3/22/2011

NRR Emergency Officer Duty Schedule
March 22, 2011 – July 5, 2011

Start Date

Emergency Officer

03/15	John Lubinski(3/15-17); Mike Cheek (3/17-22)
03/22	Melanie Galloway Sher Bahadur Mike Cheek
03/29	Joe Glitter
04/05	Tom Blount
04/12	Bob Nelson Allen Howe
04/19	Michele Evans Bill Ruland
04/26	Allen Howe Bob Nelson
05/03	Brian Holian
05/10	Mike Cheek Sher Bahadur
05/17	Fred Brown
05/24 (holiday)	Samson Lee
05/31	David Skeen
06/07	Bill Ruland Michele Evans
06/14	Pat Hiland
06/21	Mark Cunningham
06/28 (holiday)	Melanie Galloway

From: OST01 HOC
Sent: Wednesday, March 23, 2011 9:04 PM
To: LIA08 Hoc
Subject: IWG Teleconference Notes
Attachments: 23MAR11 10AM Industry Working Group Consortium Meeting Notes_ ET Chronology Notes.docx

mmmm/207

**ET Chronology Notes
Industry Working Group Consortium Teleconference
23 March 2011
10:00 AM**

Still reviewing who has lead interface with TEPCO. U.S. support to structures and roles: Industry responding to numerous technical matters. INPO staff is Tokyo with Chuck to get understanding of matters from NRC team. ERC support staff will begin calls to site members and NRC site team members. INPO staffing is going up. We need help with getting "AI" tied into the NRC team via USAID. AI is in Tokyo now. Webber: We are still pursuing that.

Tom Vervosa (Naval Rx): Any additional people deploying. "Bill:" The number of people on the group is under continued evaluation.

Rick Nelson: We received seven major requests. All but one has been completed. We are discussing personal protective equipment and radiologic detection equipment. TEPCO is asking about KI.

NRC team has made major progress with Cabinet. The Cabinet wants all equipment/logistic actions to go through the daily Cabinet meeting (e.g K-MAX and remote helicopter). Japan wants the Cabinet meeting to be public. Operational matters will not be made public.

Tom Varvoso (Naval Rx): Is this meeting for information flow or just logisitces? Just for logistics coordination/facilitation.

Brain O'Donnell: Is the meeting multi-national.

ET: NRC has not heard that any other countries are involved. DoS is creating minutes. Major progress regarding SAMGs.

Bill Borchardt : Did we reach agreement with INPO to making meeting minutes available to TEPCO. INPO should send minutes to HOOs/Ops Center for inclusion in 6am/6pm daily status report.

Tom Vorvoso: Do you have a roll in evaluating in actions plans and priorities? Do you see anything different with TEPCO's? INPO: We are not in place to support that effort.

Discussion regarding the support of reactor vendors, Industry Working Group (IWG) and INPO. Discussion of how information and coordination is communicated to TEPCO.

Contact Information:

(b)(6)

INPO Webster: websterwe@inpo.org.

Tom Varvoso: Recommendation for a daily technical call with all parties.

INPO team is working five issues with NRC at the central POC. The consortium is not on the calls.

"Sall:" Report on Robotic systems was distributed this morning to Japan. The report has the capabilities of the robotics. Email from Ron Jerry has the specifics.

Lee, Richard

From: Adams, Ian [Ian.Adams@Hq.Doe.Gov]
Sent: Thursday, March 24, 2011 9:22 AM
To: Adams, Ian; Aoki, Steven; Binkley, Steve; Budnitz, Bob; Sheron, Brian; Garwin, Dick (EOP); Garwin, Dick (IBM); Finck, Phillip; Grossenbacher, John (INL); Kelly, John E (NE); Koonin, Steven; Lyons, Peter; McFarlane, Harold; Peterson, Per; Rolando Szilard; Steve Fetter; Lee, Richard
Cc: Narendra, Blake; Fitzgerald, Paige; (b)(6) Claxton, Dionne (CONTR); Chambers, Megan (S4); Smith, Haley
Subject: Nuclear science group conference call - Thursday 6:00pm EDT
Attachments: Japan_Earthquake_Response_03242011_0600b.pdf; SITREP_MAR24 0600.docx

Good morning,

Today's conference call will be at 6:00pm EDT tonight. For tomorrow (Friday), please let me know if 5:00pm-6:00pm EDT works for you.

Nuclear science group conference call proposed schedule:

Thursday 3/24: 6:00pm-7:00pm EDT

Friday 3/25: 5:00pm-6:00pm EDT

Conference call information:

Please dial into (b)(6)

No PIN is needed.

Additionally, I have attached this morning's Japan sit rep. This information should not be shared or further distributed.

Thanks
Ian

From: Adams, Ian

Sent: Wednesday, March 23, 2011 10:48 AM

To: Adams, Ian; Aoki, Steven; Binkley, Steve; Bob Budnitz; Brian Sheron; Dick Garwin; Dick Garwin; Finck, Phillip; Grossenbacher, John (INL); Kelly, John E (NE); Koonin, Steven; Lyons, Peter; McFarlane, Harold; Per Peterson; Rolando Szilard; Steve Fetter; Lee, Richard

Cc: Narendra, Blake; Fitzgerald, Paige; (b)(6) Claxton, Dionne (CONTR); Chambers, Megan (S4); Smith, Haley

Subject: RE: Nuclear science group conference call - Wednesday 6:00pm EDT

Good morning,

The daily nuclear science group conference call is confirmed for 6:00pm-7:00pm today.

Due to scheduling conflicts, Thursday's call will need to move. It will now take place 6:00pm-7:00pm, same as today's call time.

Thanks,
Ian

Nuclear science group conference call schedule:

Wednesday 3/23: 6:00pm-7:00pm EDT
Thursday 3/24: 6:00pm-7:00pm EDT

Conference call information:

Please dial into (b)(6)

No PIN is needed.

From: Adams, Ian

Sent: Tuesday, March 22, 2011 7:04 PM

To: Adams, Ian; Aoki, Steven; Binkley, Steve; Bob Budnitz; Brian Sheron; Dick Garwin; Dick Garwin; Finck, Phillip; Grossenbacher, John (INL); Kelly, John E (NE); Koonin, Steven; Lyons, Peter; McFarlane, Harold; Per Peterson; Rolando Szilard; Steve Fetter

Cc: Narendra, Blake; Fitzgerald, Paige; (b)(6) Claxton, Dionne (CONTR); Chambers, Megan (S4); Smith, Haley

Subject: Nuclear science group conference call - Wednesday

Good evening,

We need to change the time of tomorrow's call to later in the day. Please let me know if 6:00pm EDT Wednesday and 5:00pm EDT Thursday would work for you.

Thanks,
Ian

Nuclear science group conference call - proposed schedule:

Wednesday: 6:00pm-7:00pm EDT

Thursday: 5:00pm-6:00pm EDT

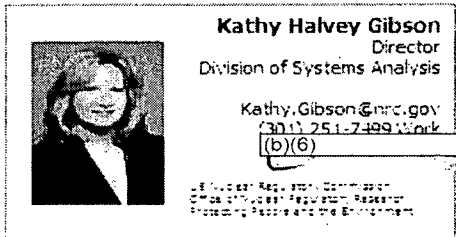
Conference call information:

Please dial into (b)(6)

No PIN is needed.

From: Gibson, Kathy
To: Case, Michael
Subject: RE: Background 3rd team to Japan .docx
Date: Thursday, March 24, 2011 1:48:19 PM
Attachments: Kathy_Halvey_Gibson2.vcf

Yes he does, but let me give him a heads up first and I will get back to you as soon as I contact him.



From: Case, Michael
Sent: Thursday, March 24, 2011 1:35 PM
To: Gibson, Kathy
Subject: FW: Background 3rd team to Japan .docx

Hi Kathy. The only tidbit of information I need in order to forward Mike's name is his passport status (i.e. does he have one).

From: Sheron, Brian
Sent: Thursday, March 24, 2011 11:44 AM
To: Case, Michael
Subject: FW: Background 3rd team to Japan .docx

FYI. You can volunteer Salay.

From: Gibson, Kathy
Sent: Thursday, March 24, 2011 11:40 AM
To: Sheron, Brian
Cc: Uhle, Jennifer
Subject: RE: Background 3rd team to Japan .docx

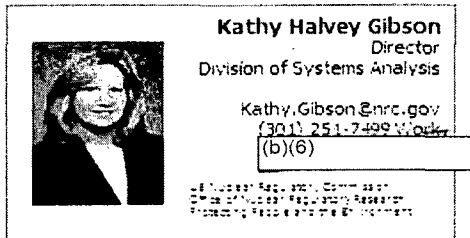
Well let me first say that at the beginning of all this, I asked all my staff to provide information on whether they were willing to work in the IRC and shift preferences, whether they were willing to go to Japan, and what their area(s) of expertise are. I have a spreadsheet with this information.

(b)(6) Political savvy would also be a concern.
As far as impact, he is serving in the IRC (on the RST), working with Charlie and Sandia on Fukushima related analysis, providing support to the agency such as going to BRC briefings, working SOARCA in his spare time. I can get more details if you want.

mmmm! 09

As an alternative, Mike Salay has severe accident expertise, is willing to go to Japan, and is politically savvy. He is also serving on the RST and is involved with a number of OECD agreements on fission product behavior and MELCOR modeling. I can also get more detail from Richard if you need it.

For both Jason and Mike, their normal work is already being impacted by their service in the IRC, so a couple weeks in Japan would not be a major additional impact.



From: Sheron, Brian
Sent: Thursday, March 24, 2011 11:29 AM
To: Gibson, Kathy
Cc: Uhle, Jennifer
Subject: FW: Background 3rd team to Japan .docx

See below.

- 1.) I know Charlie can't go (b)(6)
- 2.) Is Jason available to go as a SA expert?
- 3.) What would be the impact if we lost Jason for 2 weeks?

From: Salus, Amy
Sent: Thursday, March 24, 2011 11:14 AM
To: Ruland, William; Holahan, Gary; Miller, Charles; Haney, Catherine; Sheron, Brian; Ordaz, Vonna; Dean, Bill; McCree, Victor; Satorius, Mark; Howell, Art; Collins, Elmo
Subject: Background 3rd team to Japan .docx

Attachment Kathy Halvey Gibson2.vcf (5196 Bytes) cannot be converted to PDF format.

Lee, Richard

From: Lee, Richard
Sent: Wednesday, April 20, 2011 1:41 PM
To: 'Powers, Dana A'
Subject: RE: bugs, Fukushima and the like

o.k. I will ask Sud to follow-up on this.
Thx.

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

From: Powers, Dana A [<mailto:dapower@sandia.gov>]
Sent: Wednesday, April 20, 2011 1:35 PM
To: Lee, Richard
Subject: FW: bugs, Fukushima and the like

Shack forwarded by question about things growing in the reactor vessel's at Fukushima on to Ken Natesan at Argonne. I have not gotten a reply from Ken. He might be a bit more responsive to Sud. Dana

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

From: Bill Shack [[\(b\)\(6\)](mailto:(b)(6))]
Sent: Monday, April 18, 2011 1:28 PM
To: Ken Natesan
Cc: Powers, Dana A
Subject: Fwd: bugs, Fukushima and the like

Ken,

You can see Dana's concern below. Microbially-induced corrosion (MIC) is major industry, probably bigger for the oil folks than nukies. Can you suggest an expert with some perspective.

Begin forwarded message:

>
> **From:** "Powers, Dana A" <dapower@sandia.gov>
> **Date:** April 18, 2011 2:19:15 PM CDT
> **To:** "Bill Shack" <[\(b\)\(6\)](mailto:(b)(6))>
> **Subject:** bugs, Fukushima and the like
>
> Bill, the boys have been pumping raw seawater into the reactors and pools at Fukushima. Right now, within the vessels conditions probably are not too conducive to biological growth. Eventually things will cool down and one will have to worry about such things. Certainly at TMI, a little hydraulic fluid in the water after head removal was enough to spawn an entire ecosystem. Do you know anyone that knows about such things? The reason I ask is that I remember you mentioning that there was a biologically assisted stress corrosion cracking. Maybe experts in that can point to experts in bugs that will devour Fukushima. Dana
>

mmmm/210

Wagner, Katie

From: Wagner, Katie
Sent: Thursday, March 24, 2011 1:15 PM
To: Wagner, Katie
Subject: RE: yey!

Revised Information: Bridge line: 888-677-5809 Pass Code: (b)(6)

Hi Everyone,

The agency is receiving a significant increase in requests for information after the events in Japan. Your help is needed to provide solutions as to how we can expeditiously complete the requests without significantly impacting mission-related work.

Some topics which we'd like to discuss include:

A quick FOIA request overview

A quick Congressional Inquiry overview

What is considered due diligence in searching for the requested material?

Can OIS provide an automated enterprise search for the pertinent information needed; if so, what are the search criteria?

Please forward this meeting notice to appropriate staff.

Please let me know if you have any questions.

Thanks!

-Margie

From: Flanagan, Michelle
Sent: Thursday, March 24, 2011 1:12 PM
To: Wagner, Katie
Subject: yey!

Please attend this meeting for DSA. Katie, please describe the system you are leading in DSA to manage our information requests.

Katie and Michele, listen for insights on how your training can be applied in the future to address any relevant issues raised in this meeting. Also feel free to contribute your thoughts and suggestions to the group.

I have asked for a bridge line to be set up so you can call in. If I get the number I will send it, if not you will have to go to HQ.

Thanks!

Michelle Flanagan
Office of Nuclear Regulatory Research

mmmm/211

From: RMTPACTSU_ELNRC <RMTPACTSU_ELNRC@ofda.gov>
Sent: Thursday, March 24, 2011 2:34 PM
To: LIA02 Hoc; LIA03 Hoc; ET07 Hoc
Subject: FYI: Change in flight information
Attachments: image001.png; Travel Reservation for Chuck Casto.docx; Travel Reservation for Jack Foster.docx; Travel Reservation for Kirk Foggie.docx; Travel Reservation for John Monninger.docx; Travel Reservation for William Cook.docx; Travel Reservation for Tony Nakanishi.docx; Travel Reservation for Brooke Smith.docx

FYI

From: RMTPACTSU_AC
Sent: Thursday, March 24, 2011 2:33 PM
To: Johnson, Natalya; travel
Cc: RMTPACTSU_DMO; RMTPACTSU_ELNRC
Subject: RE: Change in flight information

Natalya - Please be advised that the changes for the below listed NRC travelers have been completed. I have emailed their tickets and itineraries to the individual traveler. In case anyone did not receive their travel information, please see attached. Travel is taking care of their return date change in E2.

Surin McKenna
Admin Coordinator
Pacific Tsunami and Japan Earthquake Response Management Team
USAID/DCHA/OFDA
RMTPACTSU_ac@ofda.gov
202-712-0031

From: Johnson, Natalya
Sent: Thursday, March 24, 2011 4:35 AM
To: travel; RMTPACTSU_AC
Cc: RMTPACTSU_DMO
Subject: Change in flight information

Greetings,

A number of NRC employees have finalized their departure dates. Can we please book their return tickets? Here is the list of names/dates:

3/26/2011	12	CASTO, CHARLES MR.
3/30/2011	14	COOK, WILLIAM ANDREW MR.
3/29/2011	13	FOGGIE, KIRK RAYMOND MR.
3/27/2011	11	FOSTER, JACK WARREN MR.
3/31/2011	15	SMITH, BROOKE MS.
3/29/2011	13	MONNINGER, JOHN DAVID MR.

mmmm/2/2

I have frequent flier numbers for Brook Gwenvyl Smith (b)(6) and Kirk Raynard Foggie (b)(6) (b)(6). Is it possible to reference these numbers when booking return tickets for them? Also, are we authorized to purchase Y class tickets on United or is it only economy?

Additionally, none of the NRC persons seem to be able to access their TAs in E2. They do use the same system (E2) in NRC for processing and approving TAs. Apparently, all NRC employees have profiles already established in E2, but OFDA-funded TAs are not showing up on their profiles. Do they have to get separate password/access to OFDA-established profiles, or is there a way to link their existing profiles with OFDA-created ones?

Let me know if we need to have a conference call to discuss these matters in a greater detail.

Regards,
~Natalya

Admin Coordinator
Pacific Tsunami and Japan Earthquake DART
Office (31) (3) 322-15016
BB: (b)(6)

31 MAR 2011 ▶ 31 MAR 2011

TRIP TO WASHINGTON DULLES, DC

PREPARED FOR

BROOKE GWENYL SMITH

RESERVATION CODE BKXUDK

eTicket Receipt(s)

0167966364946 - SMITH/B



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DEPARTURE: THURSDAY 31 MAR Please verify flight times prior to departure

UNITED AIRLINES

NRT

IAD

Aircraft:

TOKYO NARITA, JAPAN

WASHINGTON DULLES, DC

BOEING 777 JET

UA 0804

Departing At:

Arriving At:

Distance (Miles):

04:00pm

03:37pm

6762

Duration:

Terminal:

Terminal:

Stop(s):

12hr(s) :37min(s)

TERMINAL 1

Not Available

0

Passenger Name:

Seats:

Class:

Status:

Frequent Flyer #:

Airline Res.
Code:

Meals:

» BROOKE GWENYL
SMITH

42D /
Confirmed

Economy Confirmed 03146360253 / UNITED
AIRLINES

ZCNKMW

Dinner,
Lunch

Notes

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-----BAGGAGE-----

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-----INTERNATIONAL-----

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CALL COLLECT 801-281-3568 OR 801-783-2095

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-----LEISURE VACATION INFO-----

CONTACT A LEISURE SPECIALIST AT 866-343-5009 OPTION 3
PLEASE CONTACT 202-842-8617 FOR PASSPORT/VISA REQUIREMENTS

29 MAR 2011 ▶ 29 MAR 2011

TRIP TO WASHINGTON DULLES, DC

PREPARED FOR
JOHN DAVID MONNINGER

RESERVATION CODE HNCHHB

eTicket Receipt(s)
0167966364952 - MONNI/J



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DEPARTURE: TUESDAY 29 MAR Please verify flight times prior to departure

UNITED AIRLINES

NRT
TOKYO NARITA, JAPAN ▶ IAD
WASHINGTON DULLES, DC

Aircraft:
BOEING 777 JET

Departing At:
04:00pm

Arriving At:
03:37pm

Distance (Miles):
6762

UA 0804

Terminal:
TERMINAL 1

Terminal:
Not Available

Stop(s):
0

Duration:
12hr(s) :37min(s)

Passenger Name:	Seats:	Class:	Status:	Airline Res. Code:	Meals:
» JOHN DAVID MONNINGER	32D / Confirmed	Economy	Confirmed	ZCPKXO	Dinner, Lunch

Notes

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PLEASE CONTACT 202-842-8617 FOR PASSPORT/VISA REQUIREMENTS

29 MAR 2011 ▶ 29 MAR 2011

TRIP TO WASHINGTON DULLES, DC

PREPARED FOR

KIRK REYNARD FOGGIE

RESERVATION CODE DJCMZA

eTicket Receipt(s)

0167966364941 - FOGGI/K



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DEPARTURE: TUESDAY 29 MAR Please verify flight times prior to departure

UNITED AIRLINES

NRT

IAD

Aircraft:

TOKYO NARITA, JAPAN

WASHINGTON DULLES, DC

BOEING 777 JET

Departing At:

Arriving At:

Distance (Miles):

UA 0804

04:00pm

03:37pm

6762

Duration:

Terminal:

Terminal:

Stop(s):

12hr(s) :37min(s)

TERMINAL 1

Not Available

0

Passenger Name:

Seats:

Class:

Status:

Frequent Flyer #:

Airline Res.
Code:

Meals:

» KIRK REYNARD
FOGGIE

18C / Economy Plus Seat /
Confirmed

Economy Confirmed 03146360253 / UNITED
AIRLINES

ZCNS56

Dinner,
Lunch

Notes

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-----LEISURE VACATION INFO-----

CONTACT A LEISURE SPECIALIST AT 866-343-5009 OPTION 3

PLEASE CONTACT 202-842-8617 FOR PASSPORT/VISA REQUIREMENTS

27 MAR 2011 ▶ 27 MAR 2011

TRIP TO WASHINGTON DULLES, DC

PREPARED FOR
TONY TSUYOSHI NAKANISHI

RESERVATION CODE HNLCPY

eTicket Receipt(s)
0167966364950 - NAKAN/T



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DEPARTURE: SUNDAY 27 MAR Please verify flight times prior to departure

UNITED AIRLINES

NRT
TOKYO NARITA, JAPAN ▶ IAD
WASHINGTON DULLES, DC

Aircraft:
BOEING 777 JET

Departing At:
04:00pm

Arriving At:
03:37pm

Distance (Miles):
6762

UA 0804

Terminal:
TERMINAL 1

Terminal:
Not Available

Stop(s):
0

Duration:
12hr(s) :37min(s)

Passenger Name:	Seats:	Class:	Status:	Airline Res. Code:	Meals:
» TONY TSUYOSHI NAKANISHI	35G / Confirmed	Economy	Confirmed	ZDQJF0	Dinner, Lunch

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-----INTERNATIONAL-----

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-----LEISURE VACATION INFO-----
CONTACT A LEISURE SPECIALIST AT 866-343-5009 OPTION 3
PLEASE CONTACT 202-842-8617 FOR PASSPORT/VISA REQUIREMENTS

28 MAR 2011 ▶ 28 MAR 2011

TRIP TO ATLANTA, GA

CHARLES ALTON CASTO

RESERVATION CODE MBVBCS



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eTicket Receipt(s)

0017966364939 - CASTO/C



DEPARTURE: MONDAY 28 MAR Please verify flight times prior to departure

AMERICAN AIRLINES	NRT	DFW	Aircraft:
	TOKYO NARITA, JAPAN	DALLAS FT WORTH, TX	BOEING 777 JET
	Departing At:	Arriving At:	Distance (Miles):
AA 0176	01:10pm	10:30am	6437
Duration:	Terminal:	Terminal:	Stop(s):
11hr(s) :20min(s)	TERMINAL 2	TERMINAL D	0

Passenger Name:	Seats:	Class:	Status:	Airline Res. Code:	Meals:
» CHARLES ALTON CASTO	Check-In Required	Economy	Confirmed	MBVBCS	Lunch, Breakfast



DEPARTURE: MONDAY 28 MAR Please verify flight times prior to departure

AMERICAN AIRLINES	DFW	ATL	Aircraft:
	DALLAS FT WORTH, TX	ATLANTA, GA	MCDONNELL DOUGLAS MD-80 JET
	Departing At:	Arriving At:	Distance (Miles):
AA 0474	12:55pm	04:00pm	0725
Duration:	Terminal:	Terminal:	Stop(s):
02hr(s) :05min(s)	Not Available	NORTH TERMINAL	0

Passenger Name:	Seats:	Class:	Status:	Airline Res. Code:	Meals:
» CHARLES ALTON CASTO	Check-In Required	Economy	Confirmed	MBVBCS	Food for Purchase

Notes

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-----LEISURE VACATION INFO-----

CONTACT A LEISURE SPECIALIST AT 866-343-5009 OPTION 3
PLEASE CONTACT 202-842-8617 FOR PASSPORT/VISA REQUIREMENTS

27 MAR 2011 ▶ 27 MAR 2011

TRIP TO WASHINGTON DULLES, DC

PREPARED FOR

JACK WARREN FOSTER

RESERVATION CODE EJUEYH

eTicket Receipt(s)

0167966364942 - FOSTE/J



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DEPARTURE: SUNDAY 27 MAR Please verify flight times prior to departure

UNITED AIRLINES	NRT	IAD	Aircraft:
	TOKYO NARITA, JAPAN	WASHINGTON DULLES, DC	BOEING 777 JET
UA 0804	Departing At:	Arriving At:	Distance (Miles):
	04:00pm	03:37pm	6762
Duration:	Terminal:	Terminal:	Stop(s):
12hr(s) :37min(s)	TERMINAL 1	Not Available	0

Passenger Name:	Seats:	Class:	Status:	Airline Res. Code:	Meals:
» JACK WARREN FOSTER	34G / Confirmed	Economy	Confirmed	ZC1N8Q	Dinner, Lunch

Notes

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-----LEISURE VACATION INFO-----

CONTACT A LEISURE SPECIALIST AT 866-343-5009 OPTION 3
PLEASE CONTACT 202-842-8617 FOR PASSPORT/VISA REQUIREMENTS

30 MAR 2011 ▶ 30 MAR 2011

TRIP TO PHILADELPHIA, PA

PREPARED FOR
WILLIAM ANDREW COOK

RESERVATION CODE NWGENN

eTicket Receipt(s)
0017966364940 - COOK/W



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DEPARTURE: **WEDNESDAY 30 MAR** Please verify flight times prior to departure

AMERICAN AIRLINES

NRT
TOKYO NARITA, JAPAN

▶ DFW
DALLAS FT WORTH, TX

Aircraft:
BOEING 777 JET

Departing At:
01:10pm

Arriving At:
10:30am

Distance (Miles):
6437

AA 0176

Terminal:
TERMINAL 2

Terminal:
TERMINAL D

Stop(s):
0

Duration:
11hr(s) :20min(s)

Passenger Name:	Seats:	Class:	Status:	Airline Res. Code:	Meals:
» WILLIAM ANDREW COOK	35H / Confirmed	Economy	Confirmed	NWGENN	Lunch, Breakfast



DEPARTURE: **WEDNESDAY 30 MAR** Please verify flight times prior to departure

AMERICAN AIRLINES

DFW
DALLAS FT WORTH, TX

▶ PHL
PHILADELPHIA, PA

Aircraft:
MCDONNELL DOUGLAS
MD-80 JET

Departing At:
01:05pm

Arriving At:
05:20pm

Distance (Miles):
1297

AA 1824

Terminal:
Not Available

Terminal:
TERMINAL A

Stop(s):
0

Duration:
03hr(s) :15min(s)

Passenger Name:	Seats:	Class:	Status:	Airline Res. Code:	Meals:
» WILLIAM ANDREW COOK	16D / Confirmed	Economy	Confirmed	NWGENN	Food for Purchase

Notes

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CONTACT A LEISURE SPECIALIST AT 866-343-5009 OPTION 3

PLEASE CONTACT 202-842-8617 FOR PASSPORT/VISA REQUIREMENTS

From: Jackson, Karen
Sent: Thursday, March 24, 2011 4:08 PM
To: ET02 Hoc; OST01 HOC; OST02 HOC; LIA07 Hoc; ET07 Hoc
Subject: FW: Outlook Account Names
Signed By: karen.jackson@nrc.gov

Importance: High

FYI.

...karen jackson

Emergency Response Coordinator
DPR/NSIR/USNRC
Office: 301-415-6398
Cell: (b)(6)
MS: 1-417
e-mail: karen.jackson@nrc.gov

From: Vaughan, Joel
Sent: Thursday, March 24, 2011 2:44 PM
To: Jackson, Karen
Cc: Bissett, Ryan; L3_JAPAN
Subject: RE: Outlook Account Names

Karen,

I've added the requested titles to the mailboxes that you requested. I've also created the 5 distribution groups and added the requested users. The distribution group names are listed below. I was unable to use the three letter names alone because we already had some users who had that name.

PMT_Distribution
RST_Distribution
LT_Distribution
EBT_Distribution
ET_Distribution

There is a script that HR runs every Thursday night that updates phone number, titles, etc... in Active Directory. Since these accounts aren't directly associated with an HR recognized entity, I suspect that they will not be touched. However, I'll check tomorrow morning to make sure that is the case.

Let me know if you need anything else.

Joel Vaughan
Sr. Systems Engineer
301.415.8150

From: ET02 Hoc
Sent: Sunday, March 20, 2011 1:52 PM
To: Makings, John

mmmm/2/13

Cc: NOC_Members; Jackson, Karen
Subject: Outlook Account Names

Hi John,

Attached is the list of Outlook names that need account title assignment. Additionally, please create global groups as listed in the lower section of the attachment. Please contact me if you need additional information or have any questions at (301) 816-5100 and ask for extension 5802.

Roberto Figueroa

From: LIA12 Hoc
Sent: Thursday, March 24, 2011 10:20 AM
To: LIA03 Hoc
Subject: FW: NRC Travelers' Vouchers
Attachments: image001.png

From: RMTPACTSU_ELNRC [mailto:RMTPACTSU_ELNRC@ofda.gov]
Sent: Thursday, March 24, 2011 10:09 AM
To: LIA11 Hoc; LIA01 Hoc; LIA02 Hoc; LIA07 Hoc; LIA08 Hoc; LIA12 Hoc; LIA04 Hoc
Subject: NRC Travelers' Vouchers

NRC International Liaisons,

Can you please ensure that all the NRC travelers get the following message:

"USAID set up the NRC travelers as invitational travelers in E2 in order to use OFDA's funding, approval pools and regulations. Since we did not have the email addresses of the first 9 NRC travelers that we sent out, we could not initially add that info to their E2 profile. Yesterday, Lisa sent in the email addresses for all NRC travelers to the E2 Help Desk to be added to each profile. Once that is complete, all the travelers will have access to their invitational traveler profile in E2. Vouchering should be done once these travelers are back home. OFDA Travel will send detailed instructions on how to voucher next week. Please let me know if you have any other questions. Thanks!"

Michael I. Dudek

From: RMTPACTSU_AC
Sent: Thursday, March 24, 2011 9:09 AM
To: Johnson, Natalya; travel
Cc: RMTPACTSU_DMO
Subject: RE: Change in flight information

Travel – I have already taken care of the flight reservation for the NRC employees. Can you please provide answer to the E2 question in Natalya's email?

Thanks,
Surin McKenna
Admin Coordinator
Pacific Tsunami and Japan Earthquake Response Management Team
USAID/DC/HA/OFDA
RMTPACTSU_AC@ofda.gov
202-712-0031

From: Johnson, Natalya
Sent: Thursday, March 24, 2011 4:35 AM
To: travel; RMTPACTSU_AC

Cc: RMTPACTSU_DMO

Subject: Change in flight information

Greetings,

A number of NRC employees have finalized their departure dates. Can we please book their return tickets? Here is the list of names/dates:

3/29/2011	12	CASVO, CHARLES MR.
3/30/2011	14	COOK, WILLIAM ANDREW MR.
3/29/2011	15	FOGGIE, KIRK RAYNARD MR.
3/29/2011	11	PORTER, JACK WARREN MR.
3/31/2011	16	SMITH, BROOKE MS.
3/29/2011	13	STENNINER, JOHN DAVID MR.
3/27/2011	11	NAKAMIZAKI, JOHN TSUTOMU MR.

I have frequent flier numbers for Brook Gwenvyl Smith (b)(6) and Kirk Raynard Foggie (b)(6). (b)(6) Is it possible to reference these numbers when booking return tickets for them? Also, are we authorized to purchase first class tickets on United or is it only economy?

Additionally, none of the NRC persons seem to be able to access their TAs in E2. They do use the same system (E2) in NRC for processing and approving TAs. Apparently, all NRC employees have profiles already established in E2, but OFDA-funded TAs are not showing up on their profiles. Do they have to get separate password/access to OFDA-established profiles, or is there a way to link their existing profiles with OFDA-created ones?

Let me know if we need to have a conference call to discuss these matters in a greater detail.

Regards,
~Natalya

Admin Coordinator
Pacific Tsunami and Japan Earthquake DART
Office: (81) (3) 3224 5016
BB: (b)(6)

Lee, Richard

From: Elkins, Scott
Sent: Wednesday, April 13, 2011 3:07 PM
To: Lee, Richard
Subject: RE: SNL Documents

Richard, the following e-mail(s) from NEI have provided additional rationale behind their request.
Scott

Scott,

Responses from my staff who are evaluating the potential for zirc fires, etc. Please advise if you need a more official request.

Alex

From: NICHOL, Marcus
Sent: Tuesday, April 12, 2011 9:17 AM
To: McCULLUM, Rodney; MARION, Alex
Subject: RE: SNL Documents

Alex,

In addition to what Rod said, I would add the following.

The purpose of the request is to determine the potential for Zr fires in spent fuel pools, and identify the conditions necessary for such an event to occur.

For the Sandia report, we could say that NEI has recently become aware that the NRC has substantive information regarding the potential for rapid exothermic oxidation and/or fires of Zr in spent fuel pools. NEI is requesting this information to determine whether it is a credible event for US nuclear power plants. This issue has recently come to light following the events in Fukushima.

For the KIT, we could ask the NRC provide a contact at KIT to whom we could request the report.

Thanks,
Marc

From: McCULLUM, Rodney
Sent: Tuesday, April 12, 2011 7:43 AM
To: MARION, Alex; NICHOL, Marcus
Subject: RE: SNL Documents

I will leave it to Marc to identify the specific information we were hoping to find in each report, but I can say that this information is being requested as part of an effort on our part to understand what may have happened to the 1 Fukushima Unit 4 fuel pool and, more importantly, the implications that this event may have for the safety of US pools. It is important that we have as full an understanding as possible of what scientific research indicates about what is, and

mmmm / 2/5

is not, credible in such an event. Our need to have this information will become especially acute as more details about the 1F4 pools emerge and NEI begins to receive questions from industry, policymakers, news media, and the public about what this means for US plants. We of course would not disseminate information from these reports in response to such questions, but having the information would enable us to answer them in an informed manner.

Thanx, Rod

From: Lee, Richard
Sent: Monday, April 11, 2011 10:11 AM
To: Elkins, Scott
Cc: Wagner, Katie; Tinkler, Charles
Subject: RE: SNL Documents

Scott:

I have discussed the matter with Charlie. The answer is NO on the first one! The reason for refusal is - Advise NEI that if it receives questions on NRC report(s), please refer them to NRC to answer.

The other report is a foreign report, and NEI is free to request it from KIT.

Richard

From: Elkins, Scott
Sent: Monday, April 11, 2011 9:01 AM
To: Lee, Richard
Subject: RE: SNL Documents

Alex told me that NEI is getting a lot questions in these areas. That was the only basis he gave me for the request.

From: Lee, Richard
Sent: Monday, April 11, 2011 8:56 AM
To: Elkins, Scott
Subject: FW: SNL Documents

Scott:

Do you know why NEI needs this information? It does not do any analyses.

Richard

From: Tinkler, Charles
Sent: Monday, April 11, 2011 8:48 AM
To: Lee, Richard
Subject: RE: SNL Documents

Is there a demonstrated need to know?

From: Lee, Richard
Sent: Monday, April 11, 2011 8:22 AM
To: Tinkler, Charles
Cc: Wagner, Katie
Subject: FW: SNL Documents

Hi, Charlie:

Please provide your recommendation on NEI request. Thanks.

Richard

From: Elkins, Scott
Sent: Monday, April 11, 2011 7:14 AM
To: Lee, Richard; Wagner, Katie
Subject: FW: SNL Documents

Richard, Alex Marion from NEI is requesting two additional documents be released to them. Are you still the POC for these requests?
Scott

From: MARION, Alex [mailto:axm@nei.org]
Sent: Friday, April 08, 2011 9:53 AM
To: Elkins, Scott
Subject: SNL Documents

Scott,

As I follow up to me call, we would appreciate having access to the following:

SANDIA LETTER REPORT
Revision 2 Completed: November 2006
"Mitigation of Spent Fuel Pool Loss-of-Coolant Inventory Accidents And Extension of Reference Plant Analyses to Other Spent Fuel Pools"
K. C. Wagner and R. O. Gauntt

Karlsruher Institute for Technology
"Separate-effects tests on the investigation of high-temperature oxidation behavior and mechanical properties of Zircaloy-2 to be used in the SFP PWR tests"
M. Steinbrück, M. Jung, and M. Walter

Thank you.

Alexander Marion
Vice President, Nuclear Operations

Nuclear Energy Institute
1776 I Street NW, Suite 400
Washington, DC 20006
www.nei.org

P: 202-739-8080

F: 202-533-0164

M: (b)(6)

E: axm@nei.org

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Putting Clean Air Energy to Work.

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Sent through mail.messaging.microsoft.com

Wagner, Katie

From: Wagner, Katie
Sent: Thursday, March 24, 2011 5:30 PM
To: Lee, Richard
Subject: RE: WVDP Spare Remote Equipment for Japan Use

Richard – Is this a request that needs to be logged or just fyi? - Katie

From: Lee, Richard
Sent: Thursday, March 24, 2011 10:13 AM
To: LIA01 Hoc
Cc: Wagner, Katie
Subject: RE: WVDP Spare Remote Equipment for Japan Use

Thanks, again.

Richard

From: LIA01 Hoc
Sent: Thursday, March 24, 2011 10:06 AM
To: inpoercassistance@inpo.org; Lee, Richard
Cc: LIA11 Hoc
Subject: FW: WVDP Spare Remote Equipment for Japan Use

And another FYI...

From: Szilagyi, Andrew [mailto:Andrew.Szilagyi@em.doe.gov]
Sent: Thursday, March 24, 2011 7:51 AM
To: LIA01 Hoc; 'inpoercassistance@inpo.org'
Cc: Marcinowski, Frank; Neu, Mary; Collazo, Yvette; Deleon, Edgardo
Subject: FW: WVDP Spare Remote Equipment for Japan Use

Attached is another potentially useful system for assisting the Japanese recovery.

From: Laurie Judd [mailto:judd@nuvisioneng.com]
Sent: Wednesday, March 23, 2011 9:28 AM
To: Szilagyi, Andrew
Cc: Hank Kaczowka; Bower, Bryan (WV)
Subject: RE: WVDP Spare Remote Equipment for Japan Use

Andy

Please find attached info on our RAPTOR system which would be the most likely candidate for the current situation in Japan since it is an arm with a payload of ~150 lb on a tracked vehicle thereby enabling it to maneuver over/around rubble etc. The RAPTOR has an excellent operational track record and more than 40 have been supplied to the Israeli police force for anti-terrorism operations. The feedback has been universally positive since their initial deployment in the 2006/7 timeframe. You will also note the remote Bobcat/backhoe combination unit on this info sheet which may be of interest.

As I mentioned, we have a tethered tracked unit in our shop right now which could be configured and shipped in a matter of days if necessary. Remote units are also available and, depending on the bells, whistles and level of shielding necessary, could take 60-90 days to deliver under expedited delivery circumstances (provided the requirements for an FCC license can be waived)

I will be out of the office after today until Tuesday but Hank Kaczowka (VP Remote Systems) in our Pittsburgh office will be available to talk in my absence should you have any questions. Hank can be reached at 412 586 1993 (direct line) 412 586 1810 (operator) or (b)(6) (cell).

I hope this is of interest. If you or your colleagues would like additional information, a face-to-face discussion or would like to view the existing unit, please let me know.

Thanks for your interest

Laurie

From: Szilagyi, Andrew [mailto:Andrew.Szilagyi@em.doe.gov]
Sent: Wednesday, March 23, 2011 8:31 AM
To: Bower, Bryan (WV)
Cc: Laurie Judd
Subject: RE: WVDP Spare Remote Equipment for Japan Use

Thanks Bryan – I can speak with Laurie Judd directly!

From: Bower, Bryan (WV)
Sent: Wednesday, March 23, 2011 8:27 AM
To: Szilagyi, Andrew
Subject: Re: WVDP Spare Remote Equipment for Japan Use

OK.

I am getting you an address for Nuvision. We have used their arms and they have been very reliable. Nuvision has developed a mobile platform for their arm (envision a mini-tank) for counter terrorism deployment in Israel.

Bryan

From: Szilagyi, Andrew <Andrew.Szilagyi@em.doe.gov>
To: Bower, Bryan
Cc: Marcinowski, Frank; Neu, Mary <Mary.Neu@EM.Doe.Gov>
Sent: Wed Mar 23 08:21:13 2011
Subject: RE: WVDP Spare Remote Equipment for Japan Use

THANKS BRYAN,

Based on the impacts projected, I am proposing NOT to send this info to NRC/Japan. Brokks are relatively easily obtainable.

Frank: Do you agree?

A

From: Bower, Bryan (WV)
Sent: Tuesday, March 22, 2011 6:45 PM
To: Szilagyi, Andrew
Subject: FW: WVDP Spare Remote Equipment for Japan Use

Andy,

Please see email below.

Bryan

From: John McKibbin [mailto:John.McKibbin@wves.org]
Sent: Tuesday, March 22, 2011 4:05 PM
To: Bower, Bryan
Cc: Meess, Dan; Garber, David; Blankenhorn, James; Ebert, Joe; Jablonski, Joseph; Chase, Scott
Subject: Fwd: WVDP Spare Remote Equipment for Japan Use

Bryan,

The information below is provided per your e-mail to support the NRC request. Please note that the loss of this piece of equipment will almost certainly impact our ability to complete the work in VIT since spare parts normally are taking weeks to arrive. We will no longer be able to scavenge this Brokk for parts to keep the VIT unit running. We will be down until the parts arrive.

It should also be noted that the Brokk requires an electrical tether to provide power. The distance the Brokk can travel will depend upon how long a tether they can provide and how much rubble it can travel through before the tether line gets hung up on debris.

Let me again emphasize that if the decision is made to ship this Brokk, there will almost certainly be a realized risk that will have to be taken into account on the contract because even the loss of as little as couple of weeks might be sufficient that we will not be able to complete the VIT work.

John

>>> Dan Meess 3/22/2011 2:36 PM >>>
John,

We have a "spare" electric powered Brokk 330 that we are using to support the remotized Brokk 330 working in the Vitrification Cell. The "spare" is being used to train personnel, mock-up operations and to scavenge for urgently needed spare parts for the one operating in-cell. It is **not** remotized in its current configuration.

In reality, it is not truly a spare sitting in a warehouse. It is being utilized to support in-cell operations. If we give this Brokk up, our days are numbered before the one in cell is not operable and waste processing comes to an abrupt halt.

The link to the manufacturer's brochure is provided below (note that the brochure is for the diesel powered Brokk version; we have the electric version):

www.brokk.com/330d/

From: Leeds, Eric
To: MARION, Alex; arp@nej.org
Subject: TI 2515/183 per your request
Date: Thursday, March 24, 2011 8:29:00 AM
Attachments: ti2515-183.pdf

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

From: Kobetz, Timothy
Sent: Thursday, March 24, 2011 8:25 AM
To: Leeds, Eric
Cc: Westreich, Barry; Brown, Frederick
Subject: TI 2515/183 per your request

Eric,

Per your request, attached is the final version of the TI. It is publically available in ADAMS (ML11077A007) and is currently being processed into a official record. We are currently working on the template inspection report to accompany the TI. I hope to make the template available in the next 1-2 weeks.

Let me know if you need anything else.

Tim

Tim Kobetz
Chief, Reactor Inspection Branch
Office of Nuclear Reactor Regulation
301-415-1932 (work)
(b)(6) (work cell)

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NRC INSPECTION MANUAL

IRIB

TEMPORARY INSTRUCTION 2515/183

FOLLOWUP TO THE FUKUSHIMA DAIICHI NUCLEAR STATION FUEL DAMAGE EVENT

CORNERSTONE: INITIATING EVENTS AND MITIGATING SYSTEMS

APPLICABILITY: This Temporary Instruction (TI) applies to all holders of operating licenses for nuclear power reactors, except plants which have permanently ceased operations.

2515/183-01 OBJECTIVES

The objective of this TI is to independently assess the adequacy of actions taken by licensees in response to the Fukushima Daiichi nuclear station fuel damage event. The inspection results from this TI will be used to evaluate the industry's readiness for a similar event and to aid in determining whether additional regulatory actions by the U.S. Nuclear Regulatory Commission are warranted. Therefore, the intent of this TI is to be a high-level look at the industry's preparedness for events that may exceed the design basis for a plant. If necessary, a more specific followup inspection will be performed at a later date.

2515/183-02 BACKGROUND

On March 11, 2011, the Tohoku-Taiheiyou-Oki Earthquake occurred near the east coast of Honshu, Japan. This magnitude 9.0 earthquake and the subsequent tsunami caused significant damage to at least four of the six units of the Fukushima Daiichi nuclear power station as the result of a sustained loss of both the offsite and on-site power systems. Efforts to restore power to emergency equipment have been hampered or impeded by damage to the surrounding areas due to the tsunami and earthquake. The following background information is current as of March 18, 2011.

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

Issue Date: 03/23/11

1

2515/183

pressure, hydrogen explosions occurred in both units and damaged the secondary containments. It appears that primary containments for Units 1 and 3 remained functional, but the primary containment for Unit 2 may have been 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, problems were encountered with monitoring and maintaining Units 3 and 4 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.

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

2515/183-03

INSPECTION REQUIREMENTS AND GUIDANCE

NRC inspection staff should assess the licensee's activities and actions to assess its readiness to respond to an event similar to the Fukushima Daiichi nuclear plant fuel damage event. These inspections should occur at the operating power reactor facilities. Licensee emergency preparedness will not be assessed by this TI.

This TI may be completed all at once or in phases as the licensee verifies its capability to respond to such an event. The inspector(s) should coordinate the inspection effort with the licensee in accordance with the licensee's verification schedule.

The events at the Fukushima Daiichi plant appear to be caused by factors directly impacting nuclear safety that may have exceeded the design basis for the facility. While details on the full extent of damage to these units remain unknown, the damage poses a significant challenge to the nuclear safety of these units. Immediate actions by the U.S. industry are appropriate to assess and take corrective actions to address potential vulnerabilities that would challenge response to events that are beyond site design bases.

03.01 Assess the licensee's capability to mitigate conditions that result from beyond design basis events, typically bounded by security threats, committed to as part of NRC Security Order Section B.5.b issued February 25, 2002, and severe accident management guidelines and as required by Title 10 of the Code of Federal Regulations (10 CFR) 50.54(hh). Use Inspection Procedure (IP) 71111.05T, "Fire Protection (Triennial)," Section 02.03 and 03.03 as a guideline. If IP 71111.05T was recently performed at the facility the inspector should review the inspection results and findings to identify any other potential areas of inspection. Particular emphasis should be placed on strategies related to the spent fuel pool. The inspection should include, but not be limited to, an assessment of any licensee actions to:

- a. Verify through test or inspection that equipment is available and functional. Active equipment shall be tested and passive equipment shall be walked down and inspected. It is not expected that permanently installed equipment that is tested under an existing regulatory testing program be retested.
- b. Verify through walkdowns or demonstration that procedures to implement the strategies associated with B.5.b and 10 CFR 50.54(hh) are in place and are executable. Licensees may choose not to connect or operate permanently installed equipment during this verification.
- c. Verify the training and qualifications of operators and the support staff needed to implement the procedures and work instructions are current for activities related to Security Order Section B.5.b and severe accident management guidelines as required by 10 CFR 50.54 (hh).
- d. Verify that any applicable agreements and contracts are in place and are capable of meeting the conditions needed to mitigate the consequences of these events.
- e. Review any open corrective action documents to identify vulnerabilities that may not have yet been addressed.

03.02 Assess the licensee's capability to mitigate station blackout (SBO) conditions, as required by 10 CFR 50.63, "Loss of All Alternating Current Power," and station design, is functional and valid. Refer to TI 2515/120, "Inspection of Implementation of Station Blackout Rule Multi-Plant Action Item A-22" as a guideline. It is not intended that TI 2515/120 be completely reinspected. The inspection should include, but not be limited to, an assessment of any licensee actions to:

- a. Verify through walkdowns and inspection that all required materials are adequate and properly staged, tested, and maintained.
- b. Demonstrate through walkdowns that procedures for response to an SBO are executable.

03.03 Assess the licensee's capability to mitigate internal and external flooding events required by station design. Refer to IP 71111.01, "Adverse Weather Protection," Section 02.04, "Evaluate Readiness to Cope with External Flooding" as a guideline. The inspection should include, but not be limited to, an assessment of any licensee actions to verify through walkdowns and inspections that all required materials and equipment are adequate and properly staged. These walkdowns and inspections shall include verification that accessible doors, barriers, and penetration seals are functional.

03.04 Assess the thoroughness of the licensee's walkdowns and inspections of important equipment needed to mitigate fire and flood events to identify the potential that the equipment's function could be lost during seismic events possible for the site. Assess the licensee's development of any new mitigating strategies for identified vulnerabilities (e.g., entered it in to the corrective action program and any immediate

actions taken). As a minimum, the licensee should have performed walkdowns and inspections of important equipment (permanent and temporary) such as storage tanks, plant water intake structures, and fire and flood response equipment; and developed mitigating strategies to cope with the loss of that important function. Use IP 71111.21, "Component Design Basis Inspection," Appendix 3, "Component Walkdown Considerations," as a guideline to assess the thoroughness of the licensee's walkdowns and inspections.

2515/183-04 REPORTING REQUIREMENTS

The inspection results, including both observations and findings, of this TI should be in a stand-alone report. NOTE: This TI will be updated with a template which will provide specific guidance on reporting and documenting observations and findings.

The inspection report containing the results should be forwarded to NRR/DIRS/IRIB, Attention: Tim Kobetz via e-mail at timothy.kobetz@nrc.gov. Mr. Kobetz can also be reached at (301) 415-1932. The inspection results from this TI will be used to evaluate industry's readiness for a similar event and to aid in determining whether additional NRC regulatory actions are warranted.

2515/183-05 COMPLETION SCHEDULE

This TI is to be initiated upon issuance. Inspection activities are to be completed by April 29, 2011 and the inspection report issued by May 13, 2011.

2515/183-06 EXPIRATION

The TI will expire on June 30, 2012.

2515/183-07 CONTACT

Any technical questions regarding this TI should be addressed to Tim Kobetz at 301-415-1932 or timothy.kobetz@nrc.gov.

2515/183-08 STATISTICAL DATA REPORTING

All direct inspection effort expended on this TI is to be charged to 2515/183 with an IPE code of TI. All indirect inspection effort expended on this TI for preparation and documentation should be attributed to activity codes TIP and TID respectively.

2515/183-9 RESOURCE ESTIMATE

The estimated average time to complete the TI inspection requirements is 40 hours per site. Where applicable, inspectors should credit the baseline inspection program for samples reviewed during this TI assessment.

2515/183-10 TRAINING

Issue Date: 03/23/11

No additional training is required.

END

ATTACHMENT 1

Revision History for TI 2515/183 FOLLOWUP TO FUKUSHIMA DAIICHI NUCLEAR STATION FUEL DAMAGE EVENT

Commitment Tracking Number	Issue Date	Description of Change	Training Needed	Training Completion Date	Comment Resolution Accession Number
N/A	ML11077A007 03/23/11	Researched commitments for 4 years and found none. This is a new document issued for inspections related to the industry response to the Fukushima Daiichi Nuclear Station Fuel Damage Event.	No	N/A	N/A

Galloway, Melanie

From: Galloway, Melanie
Sent: Thursday, March 24, 2011 6:53 AM
To: Imboden, Andy
Subject: RE: My Ops Center schedule

Thanks, Andy. Appreciate the personal sacrifice you are making to support this important agency and international effort.

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

From: Imboden, Andy
Sent: Wednesday, March 23, 2011 4:53 PM
To: Holian, Brian; Galloway, Melanie; Imboden, Andy
Cc: 'andy.imboden@gmail.com'
Subject: My Ops Center schedule

Thought I would give an update for the next week. This schedule assumes NRC needs 24/7 staffing for my position (PMT01).

11pm-7am 3/24-3/25 (Wed-Thu)
7am-3pm 3/26 (Sat)
11pm-7am 3/29-3/30 (Wed-Thu)
11pm-7am 3/30-3/31 (Wed-Thu)

Andy

Sent from NRC Blackberry
Andy Imboden

(b)(6)

mmmm/2/18

Haskell, Russell

From: Haskell, Russell
Sent: Thursday, March 24, 2011 3:57 PM
To: Haskell, Russell
Subject: FW: 0700 EDT (March 17, 2011) USNRC Earthquake/Tsunami SitRep
Attachments: NRC Status Update 3-17.11--07.00am.pdf; image001.jpg

Archived out to SP:

<http://portal.nrc.gov/edo/nrr/dirs/ioeb/OpE%20Clearinghouse/Forms/Standard.aspx?RootFolder=%2Fedo%2Fnrr%2Fdirs%2Fioeb%2FOpE%20Clearinghouse%2FInternational&View={3A44331E-37F2-4184-B61A-1E6746D6335E}>

Russell S. Haskell II

United States Nuclear Regulatory Commission (NRC)
Reactor Systems Engineer (NRR/DIRS/IOEB)
Russell.Haskell@nrc.gov | 301.415.1129 | O-7H2J

From: Thomas, Eric — *ERT*
Sent: Thursday, March 17, 2011 7:21 AM
To: NRR_DIRS_IOEB Distribution
Subject: FW: 0700 EDT (March 17, 2011) USNRC Earthquake/Tsunami SitRep

FYI

Eric Thomas

U.S. Nuclear Regulatory Commission
NRR/DIRS/IOEB
OWFN-7E24
eric.thomas@nrc.gov
301-415-6772 (office) —
(b)(6) (mobile)

From: HOO Hoc
Sent: Thursday, March 17, 2011 7:20 AM
To: Thomas, Eric
Subject: FW: 0700 EDT (March 17, 2011) USNRC Earthquake/Tsunami SitRep

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



From: LIA07 Hoc
Sent: Thursday, March 17, 2011 7:16 AM

mmmm/2-19

To: LIA07 Hoc

Subject: 0700 EDT (March 17, 2011) USNRC Earthquake/Tsunami SitRep

Attached, please find a 0700 EDT situation report from the US Nuclear Regulatory Commission's Emergency Operations Center regarding the impacts of the earthquake/tsunami on March 17, 2011. **This Update corrects information about the US State Department's actions for employees in Japan.**

Please note that this information is "Official Use Only" and is only being shared within the federal family. Please call the Headquarters Operations Officer at 301-816-5100 with questions.

-Jim

Jim Anderson

Office of Nuclear Security and Incident Response

US Nuclear Regulatory Commission

james.anderson@nrc.gov

LIA07.HOC@nrc.gov (Operations Center)

Thompson, John

From: Thomas, Eric
Sent: Thursday, March 24, 2011 3:43 PM
To: NRR_DIRS_IOEB Distribution
Subject: Fukushima Pix

These are from the Ops Center.

G:\ADRO\DIRS\IOEB\Subject Folders\International Activities\Japanese Earthquake\2011 Earthquake and Tsunami\Pictures

Eric Thomas

U.S. Nuclear Regulatory Commission

NRR/DIRS/IOEB

OWFN-7E24

eric.thomas@nrc.gov

301-415-6772 (office)

(b)(6) (mobile)

mmmm/220



Operating Experience Branch
US Nuclear Regulatory Commission

Everything

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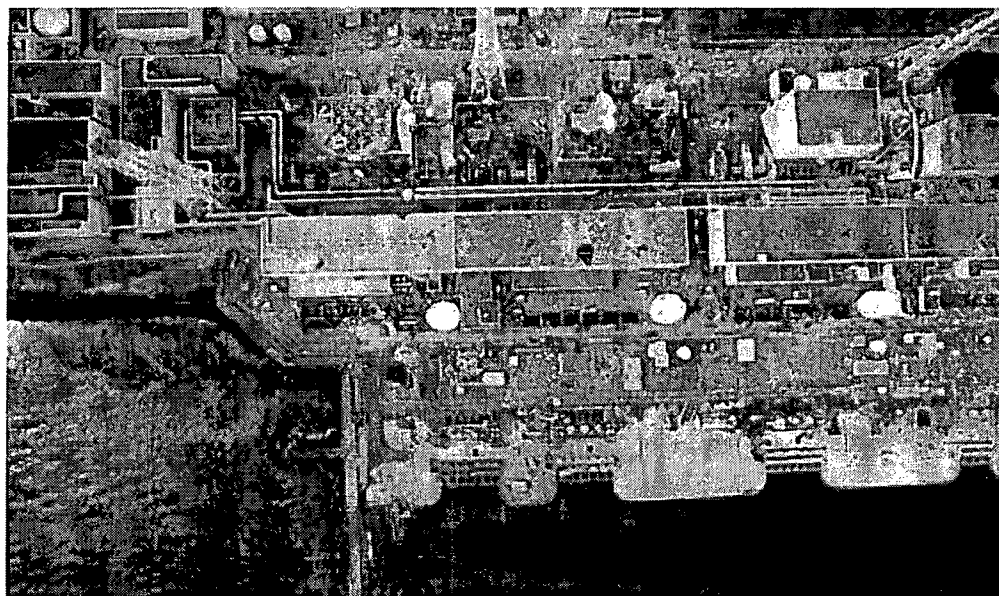
International

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5616 x 3744

Date Picture Taken

Description

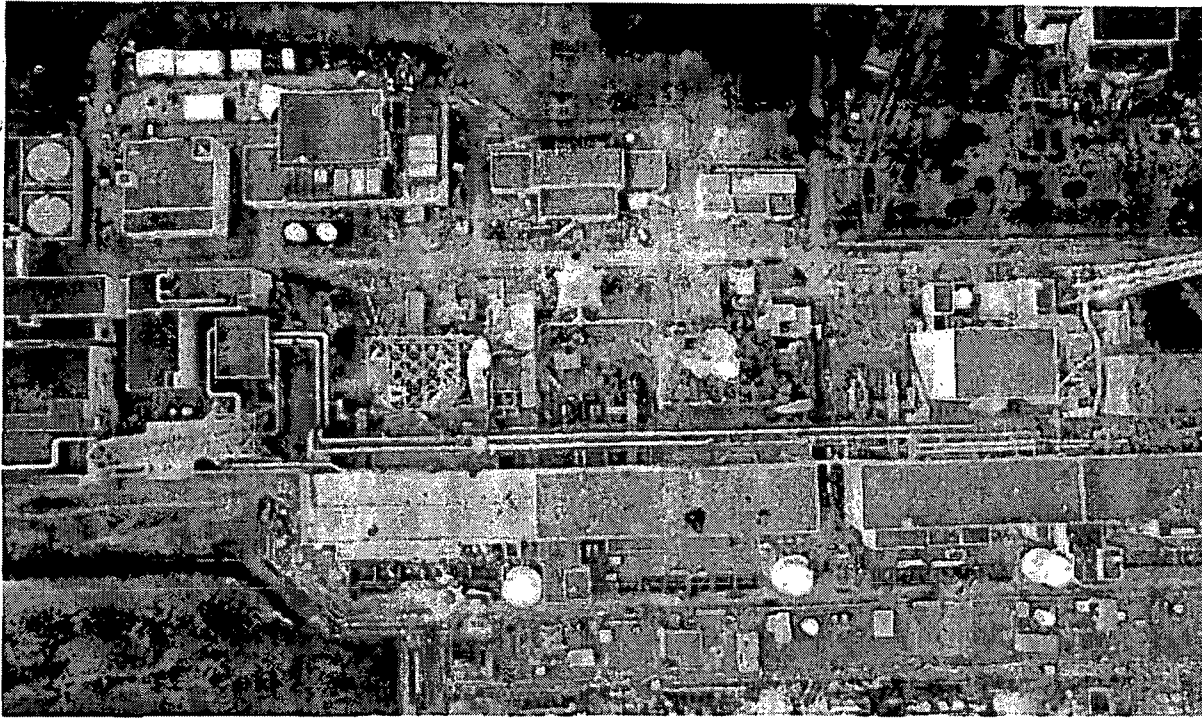
Keywords

Created at 3/24/2011 3:48 PM by Haskell, Russell

Last modified at 3/24/2011 3:48 PM by Haskell, Russell

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Weaver, Tonna

From: Bacuta, George C Jr MVN (b)(6)
Sent: Thursday, March 24, 2011 12:35 PM
To: Case, Michael; Rosenberg, Stacey
Cc: Imboden, Andy; Attard, Anthony; Mendiola, Anthony
Subject: The M9.0 Great Tohoku Earthquake (northeast Honshu, Japan) of March 11, 2011

Great USGS diagrams plans and x-section, slab definition, focal mechanism, ground acceleration and slip estimates in link below!

<ftp://hazards.cr.usgs.gov/maps/sigeqs/20110311/20110311.pdf>

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

From: Bacuta, George C Jr MVN
Sent: Tuesday, March 22, 2011 12:04 PM
To: 'Case, Michael'; 'Rosenberg, Stacey'
Cc: 'Imboden, Andy'; 'Attard, Anthony'; 'Mendiola, Anthony'
Subject: RE: Atlantic Ocean Tsunamis

Resend: Maybe cut and paste of the youtube video link would work note horizontal and vertical displacements : Left frame Japan archipelago being displaced (horizontally) towards the right (Pacific Ocean); Right frame, ground surface and ocean bottom surface (vertically) displacing upward (Japan archipelago) and downward (Pacific ocean submarine surface/bottom).

From: Neil Chapman (b)(6)
Sent: 21 March 2011 22:36
To: Charles McCombie; Ian McKinley; ITC
Subject: Real time GPS ripple

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 11:53 AM
To: 'Case, Michael'; 'Rosenberg, Stacey'
Cc: 'Imboden, Andy'; 'Attard, Anthony'; 'Mendiola, Anthony'
Subject: RE: Atlantic Ocean Tsunamis

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.

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 (b)(6)
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.

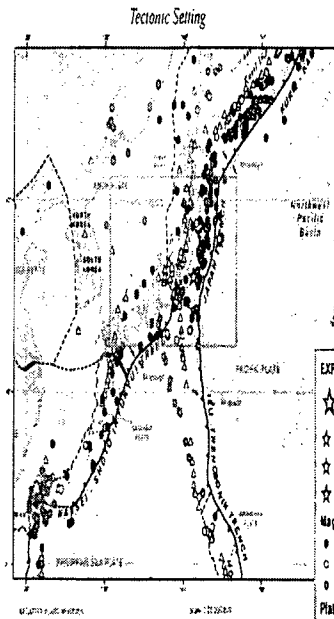
Some researchers believe that a large landslide in the Canary Islands could generate a tsunami with basin-wide impact. Faults on the southwest side of La Palma Island associated with Cumbre Vieja Volcano could be the detachment surface of a mega-landslide (see image at right).



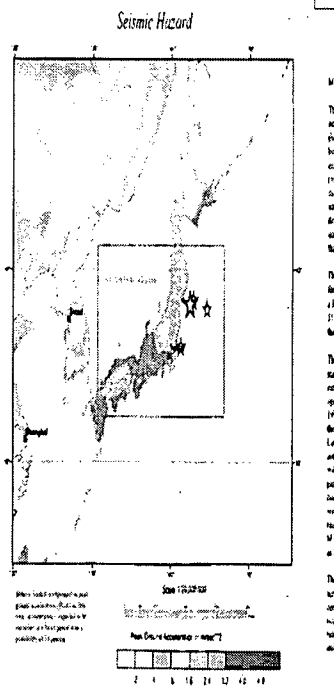
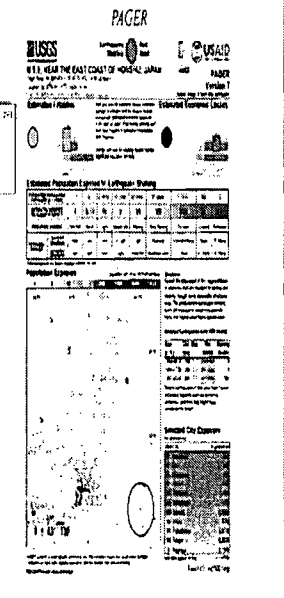
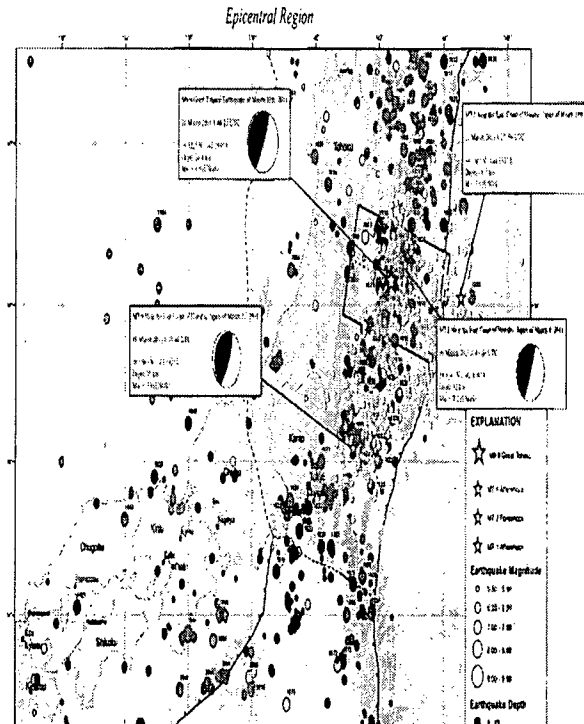
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

LITHOLOGICAL STRATIGRAPHY MAP 500

The M9.0 Great Tohoku Earthquake (northeast Honshu, Japan) of March 11, 2011



- EXPLANATION**
- ★ M9.0 Great Tohoku
 - ★ M7.5 Japan
 - ★ M7.1 Japan
 - ★ M7.0 Japan
 - ★ M6.5 Japan
 - ★ M6.0 Japan
 - ★ M5.5 Japan
 - ★ M5.0 Japan
 - ★ M4.5 Japan
 - ★ M4.0 Japan
 - ★ M3.5 Japan
 - ★ M3.0 Japan
 - ★ M2.5 Japan
 - ★ M2.0 Japan
 - ★ M1.5 Japan
 - ★ M1.0 Japan
 - ★ M0.5 Japan
 - ★ M0.0 Japan
- Plate Boundaries**
- Subduction
 - Transform
 - Divergent
 - Other



M9.0 GREAT TOHOKU EARTHQUAKE

The magnitude 9.0 Tohoku earthquake on March 11, 2011, which occurred near the northern coast of Honshu, Japan, resulted from shear faulting on the subducting Pacific Oceanic Plate beneath the Pacific and North American plates in the trench of the Japan Trench. The Pacific plate moves approximately westward with respect to the North American plate at a rate of 12.5 cm/yr, and Japan is situated at the leading edge of the Pacific Plate. The earthquake occurred on the Japan Trench, which is a subduction zone where the Pacific Plate is being subducted under the North American Plate. The earthquake occurred on the Japan Trench, which is a subduction zone where the Pacific Plate is being subducted under the North American Plate.

The March 11 earthquake was preceded by a series of large earthquakes along the Japan Trench, beginning with the 1994 M7.5 earthquake, followed by the 1996 M7.1 earthquake, the 1998 M7.0 earthquake, and the 2000 M6.5 earthquake. These earthquakes were part of a sequence of events that culminated in the March 11 earthquake.

The Japan Trench subduction zone has hosted some of the largest earthquakes in the world. The largest of these, the 1960 M9.5 earthquake, occurred approximately 200 km to the west of the March 11 earthquake. The 1960 earthquake was followed by the 1964 M9.2 earthquake, which occurred approximately 100 km to the west of the March 11 earthquake. The 1964 earthquake was followed by the 1968 M8.4 earthquake, which occurred approximately 50 km to the west of the March 11 earthquake. The 1968 earthquake was followed by the 1970 M8.1 earthquake, which occurred approximately 20 km to the west of the March 11 earthquake. The 1970 earthquake was followed by the 1973 M7.9 earthquake, which occurred approximately 10 km to the west of the March 11 earthquake. The 1973 earthquake was followed by the 1978 M7.6 earthquake, which occurred approximately 5 km to the west of the March 11 earthquake. The 1978 earthquake was followed by the 1983 M8.0 earthquake, which occurred approximately 2 km to the west of the March 11 earthquake. The 1983 earthquake was followed by the 1994 M7.5 earthquake, which occurred approximately 1 km to the west of the March 11 earthquake. The 1994 earthquake was followed by the 1996 M7.1 earthquake, which occurred approximately 0.5 km to the west of the March 11 earthquake. The 1996 earthquake was followed by the 1998 M7.0 earthquake, which occurred approximately 0.2 km to the west of the March 11 earthquake. The 1998 earthquake was followed by the 2000 M6.5 earthquake, which occurred approximately 0.1 km to the west of the March 11 earthquake. The 2000 earthquake was followed by the March 11 earthquake, which occurred approximately 0 km to the west of the March 11 earthquake.

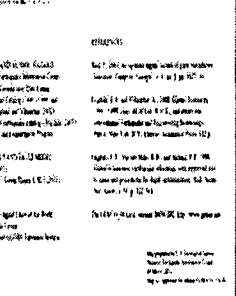
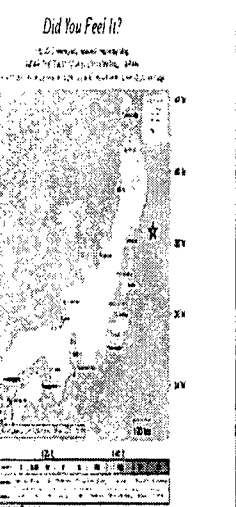
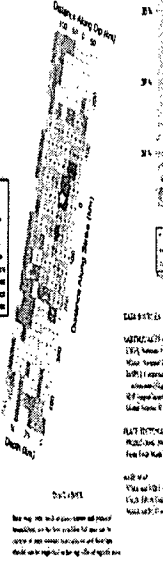
The March 11 earthquake was an extremely rare event. It was the largest earthquake to occur in the Japan Trench since the 1960 M9.5 earthquake. The March 11 earthquake was also the largest earthquake to occur in the Pacific Ocean since the 1960 M9.5 earthquake. The March 11 earthquake was also the largest earthquake to occur in the world since the 1960 M9.5 earthquake.

Significant Earthquake List

No.	Date	Time	Lat	Long	M	Depth (km)
1	1960	05:28	35.7	140.0	9.5	10
2	1964	02:14	36.1	140.3	9.2	10
3	1968	06:11	36.4	140.6	8.4	10
4	1970	03:03	36.7	140.9	8.1	10
5	1973	07:02	37.0	141.2	7.9	10
6	1978	01:04	37.3	141.5	7.6	10
7	1983	05:20	37.6	141.8	8.0	10
8	1994	09:02	37.9	142.1	7.5	10
9	1996	03:04	38.2	142.4	7.1	10
10	1998	07:06	38.5	142.7	7.0	10
11	2000	11:08	38.8	143.0	6.5	10
12	2011	05:46	38.1	142.6	9.0	10

Finite Fault Model

The finite fault model is a mathematical model that describes the distribution of slip on the fault surface. The model is used to calculate the seismic hazard and the distribution of seismic hazard around the main shock. The model is based on the assumption that the fault surface is composed of many small segments, each of which can move independently of the others. The model is used to calculate the seismic hazard and the distribution of seismic hazard around the main shock.



From: OST01 HOC
Sent: Thursday, March 24, 2011 4:18 AM
To: OST02 HOC
Subject: FW: shifts for Op Center

From: Grant, Jeffery
Sent: Thursday, March 24, 2011 4:04 AM
To: Lovell, Louise; OST01 HOC
Subject: Re: shifts for Op Center

Thanks for the offer. I will pass your offer to the team members responsible for filling out the watchbill. They will call you if there is a need.
Jeffery D. Grant

From: Lovell, Louise
To: Grant, Jeffery
Sent: Wed Mar 23 11:21:00 2011
Subject: shifts for Op Center

Jeff,
March 14, I had volunteered for shifts in the Ops Center. From my NRR management, I understand that I was on the list sent from NRR, but I have not yet been contacted.

If you continue to need support staff, please consider me. If needed, I would be able to support nights or weekends.

Thanks,
Louise

From: Brown, Cris
Sent: Monday, March 14, 2011 10:16 AM
To: Lovell, Louise
Cc: Champion, Bryan
Subject: RE: shifts for Op Center

Louise,
We appreciate your offer of assistance. For now, staffing is being provided through the four teams. I'll let you know if that changes. For the future, I recommend that you contact Jeff Grant so that you can get on the official team rotation list (and receive training etc).
Thanks
Cris

Cris Brown
IT Branch Chief
Program Management, Policy Development and Analysis Staff
Office of Nuclear Security and Incident Response
Office: 301-415-5768

mmmm/222

BlackBerry: (b)(6)

From: Lovell, Louise
Sent: Monday, March 14, 2011 10:12 AM
To: Brown, Cris
Cc: Champion, Bryan; Lovell, Louise
Subject: shifts for Op Center

Cris,

I understand that the Ops Center is now operating 24 hour shifts. I would be happy to volunteer for support shifts, as needed. Bryan supports any assistance needed.

Louise

From: Champion, Bryan
Sent: Monday, March 14, 2011 9:58 AM
To: Lovell, Louise
Subject: RE: Op Center

Louise,

Please contact Cris Brown and let her know you are available if needed. I support any assistance you may need to give during this time.

Bryan

From: Lovell, Louise
Sent: Monday, March 14, 2011 9:20 AM
To: Champion, Bryan
Subject: Op Center

Bryan,

I saw that the Ops Center has been activated 24 hours. I'm familiar with the systems and processes there and would be happy to volunteer for support shifts, as needed. The staff can handle this round the clock for a short term, but will need some relief, if it continues.

Louise

Bozin, Sunny

From: Franovich, Mike
Sent: Friday, March 25, 2011 7:06 AM
To: Nieh, Ho
Cc: Ostendorff, William
Subject: RE: DRAFT SRM - M110321 (Recent Events in Japan)

Already took care of this yesterday with WCO's approval.....see my e-mail at 4:34 pm....

From: Nieh, Ho
Sent: Friday, March 25, 2011 7:03 AM
To: Ostendorff, William
Cc: Franovich, Mike
Subject: FW: DRAFT SRM - M110321 (Recent Events in Japan)

Sir – recommend approving as is.

Text below...

The Commission was briefed by the NRC staff on the NRC response to recent nuclear events in Japan.

Direction to the staff was provided in a tasking memorandum, COMGBJ-11-0002 - NRC Actions Following the Events in Japan, dated March 23, 2011.

Ho Nieh
Chief of Staff
Office of Commissioner William C. Ostendorff
U.S. Nuclear Regulatory Commission
(301) 415-1811 (office)
(b)(6) (mobile)
(301) 415-1757 (fax)
ho.nieh@nrc.gov

From: Wright, Darlene
Sent: Thursday, March 24, 2011 1:56 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; Golder, Jennifer
Cc: Lewis, Antoinette
Subject: DRAFT SRM - M110321 (Recent Events in Japan)

The attached file contains a draft SRM which is being circulated for the normal 3-day period for Commission review. 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,

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and legal constraints are properly considered." Please provide any responses to Ken Hart (KRH), Richard L  ufer (RJL), Rochelle Bavol (RCB5), and Pam Shea (PWS).

From: Virgilio, Martin
To: Borchardt, Bill
Cc: Schwarz, Sherry; Muessle, Mary; Andersen, James; Weber, Michael; Uhle, Jennifer; McGinty, Tim; Moore, Scott; Wittick, Brian; Leeds, Eric; Evans, Michele; Wiggins, Jim
Subject: REPLY: Phone call with PACOM
Date: Friday, March 25, 2011 11:44:04 PM

Bill

Vince Holahan is preparing to go to Hawaii to provide liaison and support to PACOM. He leaves on Monday with an understanding this will be a 2 week assignment. We met this evening and discussed expectations associated with communications and alignment with NRC HQ and the site team. If you have any additional thoughts you can call him over the weekend.

Marty

From: Wittick, Brian
Sent: Friday, March 25, 2011 10:10 AM
To: Borchardt, Bill; Leeds, Eric
Cc: Schwarz, Sherry; Virgilio, Martin; Muessle, Mary; Andersen, James
Subject: Phone call with PACOM

Bill/Eric,

The Chairman has not made any personnel commitments to Admiral Willard, however, if the subject comes up the Chairman does not necessarily think that is a bad idea given the resources PACOM is bringing to the Japanese assistance efforts and the insights a staff member could provide to the ADM related to public health and safety measures.

Brian Wittick
Executive Technical Assistant for Reactors
Office of the Executive Director for Operations
U.S. Nuclear Regulatory Commission
301-415-2496 (w) (b)(6) (c)

mmm/BAH

Hogan, Rosemary

From: Graves, Herman
Sent: Friday, March 25, 2011 6:50 PM
To: Richards, Stuart
Cc: Hogan, Rosemary; Case, Michael
Subject: RE: NUREG/CR-6920
Attachments: image001.jpg

Stu,

This is the Times article that may be the source of the inquiry (title of NUREG/CR-6920 is cited in the 2nd to the last paragraph of article).

<http://www.time.com/time/world/article/0,8599,2058700,00.html>

<<Herman>>
<<301.251.7625>>
[mail to: Herman.Graves@nrc.gov](mailto:Herman.Graves@nrc.gov)

From: Richards, Stuart
Sent: Friday, March 25, 2011 6:03 PM
To: Sheron, Brian
Cc: Gibson, Kathy; Case, Michael; Hogan, Rosemary; Graves, Herman
Subject: RE: NUREG/CR-6920

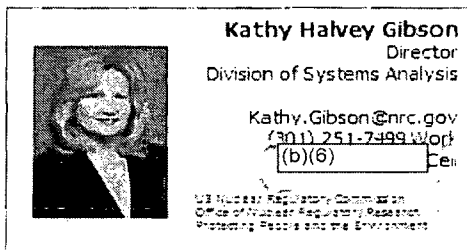
Brian

We'll work with DSA on Monday.

Stu

From: Gibson, Kathy
Sent: Friday, March 25, 2011 6:01 PM
To: Sheron, Brian; Richards, Stuart
Cc: Case, Michael; Schaperow, Jason; Tinkler, Charles
Subject: RE: NUREG/CR-6920

I asked Jason and Charlie to get with DE next week and let us know.



From: Sheron, Brian
Sent: Friday, March 25, 2011 6:00 PM
To: Richards, Stuart

mmmm/225

Cc: Gibson, Kathy; Case, Michael; Schaperow, Jason

Subject: RE: NUREG/CR-6920

Do we still agree with the probability numbers in your third bullet based on what we learned from SOARCA?

From: Richards, Stuart

Sent: Friday, March 25, 2011 5:54 PM

To: Sheron, Brian

Cc: Gibson, Kathy; Case, Michael

Subject: NUREG/CR-6920

Brian

A quick look at NUREG/CR-6920 indicates the following preliminary information:

- The purpose of 6920 was to look at the impact of assumed degradation of the containment on the probability of containment failure. For instance, 6920 assumed cases of 25% or 50% corrosion of various locations within the containment as part of the study. The study looked at both PWRs and BWRs.
- 6920 used information from NUREG-1150 as a starting point.
- NUREG-1150 estimates about a 56% probability of early containment failure at Peach Bottom (Mark I containment) from all scenarios, and about a 36% probability from a direct melt-through of the containment once the core has breached the RPV. These numbers are relatively consistent with the 6920 numbers. 6920 concluded that the corrosion scenarios don't impact the numbers much because the probability is so dominated by the core melt through scenario.
- NUREG-1150 lists station blackout as the dominant risk.

Note that the probability of a melt-through of containment assumes a breach of the RPV. I think it also assumes a fairly quick accident progression, so the fact that the Japanese event started two weeks ago may impact the probability of containment failure.

We can provide more info on Monday.

Stu