

Group AU

(Records Withheld  
In Part)

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**Subject:** Briefing on NRC Response to Events in Japan

**Start:** Mon 3/21/2011 9:00 AM

**End:** Mon 3/21/2011 11:00 AM

**Recurrence:** (none)

**Organizer:** Fopma, Melody

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**From:** Gibbs, Catina  
**Sent:** Friday, April 08, 2011 2:07 PM  
**To:** Powell, Amy  
**Cc:** Batkin, Joshua  
**Subject:** RE: Draft Letter to Sen Boxer

Josh, advise, please.

**From:** Powell, Amy  
**Sent:** Friday, April 08, 2011 2:06 PM  
**To:** Gibbs, Catina  
**Cc:** Batkin, Joshua  
**Subject:** RE: Draft Letter to Sen Boxer

Suggest adding in second paragraph that Mr. Issa is Chairman of the House Oversight and Government Reform Committee to reinforce the point about providing to oversight committee chairman.

**From:** Gibbs, Catina  
**Sent:** Friday, April 08, 2011 2:04 PM  
**To:** Powell, Amy  
**Subject:** RE: Draft Letter to Sen Boxer

Amy, are you still reading...I'm waiting on OK from you before I prepare for Chairman's signature.

**From:** Powell, Amy  
**Sent:** Friday, April 08, 2011 1:40 PM  
**To:** Batkin, Joshua; Gibbs, Catina  
**Cc:** Schmidt, Rebecca  
**Subject:** RE: Draft Letter to Sen Boxer

Still reading, but her preferred is "Dear Madam Chairman"

**From:** Batkin, Joshua  
**Sent:** Friday, April 08, 2011 1:36 PM  
**To:** Gibbs, Catina  
**Cc:** Powell, Amy; Schmidt, Rebecca  
**Subject:** FW: Draft Letter to Sen Boxer

Catina, please run past OCA one more time (and should it be addressed to Chairman Boxer?) and get it prepared for his signature this PM. Thanks

**From:** Gibbs, Catina  
**Sent:** Friday, April 08, 2011 9:23 AM  
**To:** Batkin, Joshua; Loyd, Susan  
**Subject:** RE: Draft Letter to Sen Boxer

Josh, please see the attached and advise.

Thanks.

Catina M. Gibbs  
Admin. Assistant to  
Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1750 (office)  
301-415-3504 (fax)

**From:** Batkin, Joshua  
**Sent:** Thursday, April 07, 2011 9:49 PM  
**To:** Loyd, Susan; Gibbs, Catina; Speiser, Herald  
**Subject:** RE: Draft Letter to Sen Boxer

Thanks – few more edits. Catina or herald, can you please make this look pretty for tomorrow morning?

**From:** Loyd, Susan  
**Sent:** Thursday, April 07, 2011 5:34 PM  
**To:** Batkin, Joshua  
**Subject:** Draft Letter to Sen Boxer

Here is a slightly tweaked version.

Susan K. Loyd  
Communications Director  
Office of the Chairman  
U.S. Nuclear Regulatory Commission  
Tele: 301-415-1838  
[Susan.Loyd@nrc.gov](mailto:Susan.Loyd@nrc.gov)



---

**From:** David Wagman <davidw@pennwell.com>  
**Sent:** Wednesday, March 30, 2011 12:10 PM  
**To:** Gibbs, Catina  
**Subject:** Speaking invitation for Chairman Jaczko

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Dear Chairman Jaczko:

On behalf of the conference planning committees for POWER-GEN International and NUCLEAR POWER International, I would like to invite you to join our Keynote Session at 9:30 am on Tuesday morning, December 13, 2011 at the Las Vegas Convention Center in Las Vegas, Nevada. POWER-GEN International is the world's largest conference and exhibition for the electric power generating industry with 19,000 attendees from all over the world and more than 1,200 exhibiting companies. Here is a link to the show: [www.power-gen.com](http://www.power-gen.com).

We would like you to discuss the safety of U.S. civilian nuclear power plants as well as the findings of NRC's recently announced review of safety standards and oversight. The December venue in Las Vegas offers an outstanding opportunity at a major industry conference for you to communicate lessons learned from the Japan crisis, regulatory reform contemplated and implemented in the U.S. and next steps for the domestic nuclear fleet and new units. You would be one of three Keynote Speakers that morning; the other two have not yet confirmed their participation. You would be invited to take part in a question and answer session involving all three speakers. I will moderate that session and questions will be shared in advance.

I look forward to hearing from you. If you have any questions, please do not hesitate to let me know.

Sincerely,

David C. Wagman  
Chief Editor  
*Power Engineering* magazine  
*Renewable Energy World North America* magazine  
*Nuclear Power International* magazine  
Conference Committee Chairman  
POWER-GEN International  
NUCLEAR POWER International  
Renewable Energy World North America Conference & Expo  
Coal-Gen  
1421 S. Sheridan  
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**Optoelectronics and photonics, Imaging and machine vision, Fiber optics and communications, Aerospace and defense, Cabling installation and maintenance, LEDs and lighting, Firefighting and emergency services, and Dental.**

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**From:** Osband, Tracy  
**Sent:** Tuesday, March 29, 2011 12:06 PM  
**To:** TSC Resource  
**Cc:** Ashby, Nadine; Padilla, William; Thompson, Peter; Gibbs, Catina  
**Subject:** FW: VIP Request for the Chairman - RE: Chairman's Blackberry

**Importance:** High

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Sorry, forgot to add TSC and Bill to the below email

**From:** Osband, Tracy  
**Sent:** Tuesday, March 29, 2011 12:05 PM  
**To:** CSC  
**Cc:** Thompson, Peter; Ashby, Nadine; Gibbs, Catina; Kim, Jay; Erskine, Pamela; Sullivan, Allen; Turner, Joseph  
**Subject:** VIP Request for the Chairman - RE: Chairman's Blackberry  
**Importance:** High

Please create a ticket to move the Chairman from the international Blackberry back to his original one before 2pm today (he leaves at 3pm). The Chairman will need the International BB back on Friday for his trip to Vienna. Please let me know if you have any questions or concerns.

Thank you  
Tracy

**From:** Gibbs, Catina  
**Sent:** Tuesday, March 29, 2011 12:02 PM  
**To:** Osband, Tracy  
**Cc:** Thompson, Peter; Ashby, Nadine  
**Subject:** Chairman's Blackberry

The Chairman is back from his trip to Japan. How fast can he have his domestic number back, keeping in mind that he will need to be converted back to international on Friday; in time for his trip to Vienna? What is your recommendation? FYI, he will be leaving today at 3:00PM.

Thanks,

Catina M. Gibbs  
Admin. Assistant to  
Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1750 (office)  
301-415-3504 (fax)

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**Contact Group Name:** GBJ Staff

**Members:**

Bradford, Anna  
Cermeno, Andrea  
Clark, Lisa  
Coggins, Angela  
Dhir, Neha  
Fopma, Melody  
Gibbs, Catina  
Hipschman, Thomas  
Loyd, Susan  
Marshall, Michael  
Monninger, John  
Pace, Patti  
Speiser, Herald

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Susan.Loyd@nrc.gov  
Michael.Marshall@nrc.gov  
John.Monninger@nrc.gov  
Patti.Pace@nrc.gov  
Herald.Speiser@nrc.gov

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**From:** Japan Earthquake/Tsunami Internal Information <sharepoint-help@nrc.gov>  
**Sent:** Tuesday, April 26, 2011 2:16 PM  
**To:** Gibbs, Catina  
**Subject:** You have successfully created an alert for 'Japan Maps'

**SharePoint Document Library:**

Japan Maps  
<http://nsir-ops.nrc.gov/Japan%20Maps>

Alert 'Japan Maps' has successfully been added on [Japan Earthquake/Tsunami Internal Information](#).

You will receive alerts in e-mail. The timing and criteria for the alerts depend on the settings entered when the alert was added.

You can change this alert or any of your other alerts on the [My Alerts on this Site](#) page.

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**From:** Dhir, Neha  
**Sent:** Friday, April 29, 2011 4:21 PM  
**To:** Speiser, Herald; Marshall, Michael  
**Subject:** information request  
**Attachments:** Tsunami

This is the only email I have in response to your information request on emails that provided info to the Commission re: Japan. The only reason I have this one is because John inadvertently sent it to me.

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**From:** Dhir, Neha  
**Sent:** Tuesday, April 05, 2011 1:04 PM  
**To:** Coggins, Angela  
**Subject:** FW: Ops Center Staffing in Testimony  
  
**Importance:** High

Angela,

FYI - They decided to move forward with something less specific for Marty's testimony tomorrow.

Neha

**From:** Muessle, Mary  
**Sent:** Tuesday, April 05, 2011 12:04 PM  
**To:** Powell, Amy; Dhir, Neha  
**Cc:** Rihm, Roger  
**Subject:** Ops Center Staffing in Testimony  
**Importance:** High

Since we just gave OMB an upper limit on the number of Japanese event responders we would have in the event of a lapse in funding, I suggest we strike the number in the testimony and go with something general including several teams 24 hours/day, 7 days a week. Roger can help with wording if necessary.

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



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**From:** Bradford, Anna  
**Sent:** Saturday, March 26, 2011 9:23 PM  
**To:** Hipschman, Thomas; Marshall, Michael; Dhir, Neha; Clark, Lisa; Fopma, Melody; Warren, Roberta; Loyd, Susan; Montes, David; Gibbs, Catina; Speiser, Herald  
**Subject:** Fw: Chairman travel

Everyone, please see below.

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

From: Batkin, Joshua  
To: Sharkey, Jeffry; Nieh, Ho; Bubar, Patrice; Sosa, Belkys  
Cc: Vietti-Cook, Annette; Bradford, Anna; Brenner, Eliot; Schmidt, Rebecca; Borchardt, Bill; Burns, Stephen; Doane, Margaret; Dyer, Jim; Coggins, Angela  
Sent: Sat Mar 26 21:14:30 2011  
Subject: Chairman travel

Fyi, the Chairman is leaving tonight for a quick trip to Japan to show our continuing support for our friends and allies, to touch base with our team, and to meet with USG and GOJ officials to discuss the ongoing mitigation efforts. Annette helped organize a quick Commission call to discuss this and the SMR meeting but Belkys' and Jeff's bosses weren't able to join on short notice.

The Chairman will be back Tuesday afternoon. He's delegated Emergency Powers to the EDO for continuity purposes and he's asked Commissioner Magwood to preside over the SMR meeting Tuesday morning so that it can take place in his absence.

Please let me know if your principals have any questions.

Thank you,  
Josh

Joshua C. Batkin  
Chief of Staff  
Chairman Gregory B. Jaczko  
(301) 415-1820

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**From:** Coggins, Angela  
**Sent:** Tuesday, March 22, 2011 10:39 AM  
**To:** Bradford, Anna; Hipschman, Thomas; Marshall, Michael; Clark, Lisa; Dhir, Neha; Fopma, Melody; Warren, Roberta; Loyd, Susan; Montes, David  
**Subject:** FW: Summary/Follow-up to Agenda Planning meeting on 3/21/11

FYI - here's SECY's summary of yesterday's agenda planning session. Let me know if you have any questions.

Angela B. Coggins  
Policy Director  
Office of Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
[301-415-1828/angela.coggins@nrc.gov](mailto:301-415-1828/angela.coggins@nrc.gov)

**From:** Baval, Rochelle  
**Sent:** Tuesday, March 22, 2011 9:03 AM  
**To:** Vietti-Cook, Annette; Bates, Andrew; Burns, Stephen; Muessle, Mary; Andersen, James; Landau, Mindy; Doane, Margaret; Mamish, Nader; Henderson, Karen; Dyer, Jim; Brown, Milton; Poole, Brooke  
**Cc:** Laufer, Richard; Hart, Ken; Shea, Pamela; Batkin, Joshua; Coggins, Angela; Sharkey, Jeffry; Sosa, Belkys; Bubar, Patrice; Nieh, Ho; Baval, Rochelle  
**Subject:** Summary/Follow-up to Agenda Planning meeting on 3/21/11

Following is a summary/follow-up to Yesterday's (3/21) agenda planning session.

Papers:

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(b)(5)

Scheduled Meetings:

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(b)(5)

The next agenda planning is on March 31, 2011.

Thank you,  
*Rochelle*

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**From:** Batkin, Joshua  
**Sent:** Thursday, March 31, 2011 3:45 PM  
**To:** Bradford, Anna; Coggins, Angela  
**Subject:** Fw: Near-term Task Force Charter  
**Attachments:** Task Force Memo.pdf; Task Force Charter.pdf  
  
**Importance:** High

Joshua C. Batkin  
Chief of Staff  
Chairman Gregory B. Jaczko  
(301) 415-1820

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**From:** Sanfilippo, Nathan  
**To:** Batkin, Joshua; Bubar, Patrice; Sosa, Belkys; Sharkey, Jeffry; Nieh, Ho  
**Cc:** Borchardt, Bill; Miller, Charles; Virgilio, Martin; Muesle, Mary; Andersen, James; Landau, Mindy  
**Sent:** Thu Mar 31 15:43:28 2011  
**Subject:** Near-term Task Force Charter

Commission EAs:

Attached is a copy of the near-term task force memo and charter that was approved by the EDO late yesterday (ADAMS Package ML11089A050). These documents are being declared in ADAMS and will soon be available to the public. Either later today or tomorrow an internal yellow announcement and an external press release will be issued.

Given my role as an ETA and as a member of the task force, I'll likely be a good point of contact for Commission questions about our activities.

Thanks,  
Nathan

March 30, 2011

MEMORANDUM TO: Martin J. Virgilio  
Deputy Executive Director  
for Reactor and Preparedness Programs  
Executive Director for Operations

Charles L. Miller, Director  
Office of Federal and State Materials  
and Environmental Management Programs

FROM: R. W. Borchardt */RA/*  
Executive Director for Operations

SUBJECT: AGENCY TASK FORCE TO CONDUCT NEAR-TERM  
EVALUATION OF THE NEED FOR AGENCY ACTIONS  
FOLLOWING THE EVENTS IN JAPAN

On March 11<sup>th</sup>, 2011, Japan experienced a severe earthquake resulting in the shutdown of multiple reactors. It appears that the reactors' response to the earthquake went according to design. At the Fukushima Daiichi site, the earthquake caused the loss of normal AC power. In addition, it appears that the ensuing tsunami caused the loss of emergency AC power at the Fukushima Daiichi site. Subsequent events caused damage to fuel and radiological releases offsite.

The purpose of this memorandum is to task the Deputy Executive Director for Reactor and Preparedness Programs (DEDR) to convene an agency task force of U.S. Nuclear Regulatory (NRC) senior leaders and experts. The task force should conduct a methodical and systematic review of relevant NRC regulatory requirements, programs, and processes, and their implementation, to recommend whether the agency should make near-term improvements to our regulatory system. The task force should also identify a framework and topics for review and assessment for the longer-term effort.

Attached is a charter for the task force. The charter defines the objective, scope, coordination and communication, expected products, schedule, staffing, and Executive Director for Operations interface. The task force should update the Commission on the near-term review at approximately 30 and 60 days, and provide its observations, findings, and recommendations in the form of a written report and briefing at the completion of the near-term effort occurring at approximately 90 days.

The review should be conducted in accordance with Tasking Memorandum – COMGBJ-11-0002, "NRC Actions Following the Events in Japan."

Enclosure: As stated

CONTACT: Nathan T. Sanfilippo, OEDO  
301-415-3951

ADAMS Package: ML11089A050

OFFICE:	OEDO/Task Force	FSME/Task Force Lead	EDO/DEDR	EDO
NAME:	NSanfilippo	CMiller	MVirgilio (ELeeds for)	RWBorchardt
DATE:	03/30/11	03/30/11	03/30/11	03/30/11

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**From:** Hipschman, Thomas  
**Sent:** Monday, March 28, 2011 11:58 AM  
**To:** Bradford, Anna; Marshall, Michael; Coggins, Angela; Warren, Roberta  
**Subject:** FW: 50 Mile EPZ justification response

FYI

Thomas Hipschman  
Policy Advisor for Reactors  
Office of Chairman Gregory B. Jaczko  
301-415-1832

**From:** LIA08 Hoc  
**Sent:** Monday, March 28, 2011 11:56 AM  
**To:** Franovich, Mike; Orders, William; Snodderly, Michael; Castleman, Patrick; Marshall, Michael; Batkin, Joshua; Hipschman, Thomas  
**Cc:** LIA06 Hoc  
**Subject:** FW: 50 Mile EPZ justification response

Attached for your info is an email sent by the Ops Center Liaison Team to Mr. Takashi regarding questions he raised about the 50 mile evacuation recommendation we made for US Citizens in Japan. Please let me know if you have any questions or would like additional information about this.

Jeff Temple  
Response Program Manager  
Liaison Team/Interagency Response Team/Corporate Support Response Team  
301-816-5185

**From:** LIA03 Hoc  
**Sent:** Monday, March 28, 2011 11:07 AM  
**To:** takashi.inutsuka@mofa.go.jp  
**Cc:** Doane, Margaret; Mamish, Nader; LIA02 Hoc; LIA08 Hoc; Borchardt, Bill; LIA03 Hoc  
**Subject:** 50 Mile EPZ justification response

On behalf of Bill Borchardt, we are responding to your questions:

1. In the NRC NEWS, March 16, 2011, there are attachments of the results of two sets of computer calculations. One, 15 March 2010 02:51am (EDT), has a hypothetical, single-reactor site, 2350 MWt, Boiling Water Reactor. On the other hand, 16 March 2010 12:24pm (EDT), has a hypothetical, four-reactor site. But in these attachments there is no detailed assumption for calculations about  
(1) the power and type of reactor for the four-reactor site,  
(2) weather, wind direction and speed, and the status of the problem at the reactors (for example: Source Term).

Q1: Are these sentences correct?

A1: These sentences are correct. Although the press release identified one of the computer calculations being based on a hypothetical four-reactor site, the source term used in

the calculation was the approximate activity available for release from one reactor and two spent fuel pools.

Q2: Have you ever explained these detailed assumptions to the public?

A2: The assumptions have been generally described in press releases, interviews, and congressional testimony.

Q3: Could you explain the relation between the number of Total EDE and 1rem (PAGs)? For example 8.1rem (15 March calculation) and 9.9rem (16 March calculation), 50 mi, and 1rem? Could you also explain the relation between the number of Thyroid CDE and 5rem (PAGs)? For example 23rem (15 March calculation) and 48rem (16 March calculation), 50 mi, and 5rem? Is there no need to calculate this for distances greater than 50 mi?

A3: As stated in the press release, these two computer calculations are hypothetical, rough estimates that would not necessarily characterize an actual release. Although the calculation references have TEDE and CDE doses exceeding PAGs beyond 50 miles, these were only two of several cases run. Given that other cases projected PAG doses less than 50 miles and there would be time to extend our recommendations beyond 50 miles, if necessary, the 50 mile recommendation was considered appropriate to protect US citizens.

2. At the White House Regular Briefing, March 17, 2011, Chairman Jaczko said, "We have a team of 11, some of our best technical experts in Tokyo, and they are working with counterparts from the utility in Tokyo as well as other individuals with the government. So that is one of the sources. We are collecting data from as many places as we can to make the best judgments we can with the information available. But I would stress that this is a very difficult situation. There is often conflicting information. And so we made what we thought was a prudent decision."

Q4: Does this statement accurately reflect the NRC's decisionmaking process that led to the recommendation (50 miles)?

A4: Yes.

Q5: Did NRC have evidence to suggest that radiation levels around Fukushima were higher than what Japanese officials had said?

A5: No. The NRC had very limited radiation level information at this time. The computer calculations and subsequent protective action decisions were based on conservative assumptions based on limited information and the deteriorating state of several reactors and spent fuel pools.

3. At the meeting of NRC, March 21, 2011, you said, "the situation that led to the 50 mile guidance in Japan was based upon what we understood and still believe had existed that there were degraded conditions in two spent-fuel pools at the site and, in all likelihood, some core damage in three of the reactor units. Based on the situation as we understood it at that time, we thought it was prudent to provide the recommendation to the ambassador to evacuate out to 50 miles in Japan."

Q6: Does this statement accurately reflect the NRC's decisionmaking process that led to the recommendation (50 miles)?

A6: Yes.

Q7: There are some differences on the basis for making recommendation between 1. and 3. Could you explain the basis for making the recommendation (50 miles) again?

A7: The comments made by NRC Chairman Jaczko and Mr. Borchardt were consistent in that seriously degrading conditions at several Daiichi units supported a need to take pre-emptive protective action. The computer calculations helped to provide perspective on possible impacts.

Q8: I understand the recommendation is prudent. How do you define "prudent" in the assumptions for your calculations? in the decision about the distance?

A8: Since communications were limited and there was a large degree of uncertainty about plant conditions at the time, it was difficult to accurately assess the radiological hazard. Computer models used meteorological model data appropriate for the Fukushima Daiichi vicinity. Source terms were based on hypothetical, but not unreasonable estimates of fuel damage, containment, and other release conditions. Subsequent modeling can be correlated with the ground deposition as observed in flyover and other monitoring data. Therefore, prudent (reasonable conservative protective actions made with a predictive approach to limit radiation exposure to US citizens) can be substantiated based on the conditions present and the information known at the time.

If you have additional questions please contact Mr. Borchardt at the email address above.



---

**From:** Hipschman, Thomas  
**Sent:** Saturday, March 26, 2011 9:08 PM  
**To:** Bradford, Anna  
**Subject:** RE: Fyi

Did you hear about this?

Neutron beam observed 13 times at crippled Fukushima nuke plant TOKYO, March 23, Kyodo

Tokyo Electric Power Co. said Wednesday it has observed a neutron beam, a kind of radioactive ray, 13 times on the premises of the Fukushima Daiichi nuclear plant after it was crippled by the massive March 11 quake-tsunami disaster.

TEPCO, the operator of the nuclear plant, said the neutron beam measured about 1.5 kilometers southwest of the plant's No. 1 and 2 reactors over three days from March 13 and is equivalent to 0.01 to 0.02 microsieverts per hour and that this is not a dangerous level.

The utility firm said it will measure uranium and plutonium, which could emit a neutron beam, as well.

In the 1999 criticality accident at a nuclear fuel processing plant run by JCO Co. in Tokaimura, Ibaraki Prefecture, uranium broke apart continually in nuclear fission, causing a massive amount of neutron beams.

In the latest case at the Fukushima Daiichi nuclear plant, such a criticality accident has yet to happen.

But the measured neutron beam may be evidence that uranium and plutonium leaked from the plant's nuclear reactors and spent nuclear fuels have discharged a small amount of neutron beams through nuclear fission.

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**From:** Hipschman, Thomas  
**Sent:** Friday, March 25, 2011 2:54 PM  
**To:** Bradford, Anna  
**Subject:** Daiichi Exposure

From NISA

1. Exposure of Workers

On March 24th, three workers (All the people were the subcontractor's employees.) who were laying cables on the ground floor and the basement floor of the turbine building of Unit 3 were confirmed to be at the level of exposure more than 170mSv. Regarding the two of them, the attachment of radioactive material on the skin of both legs was confirmed. As the two workers were judged to have a possibility of beta ray burn, they were transferred to the Fukushima Medical University Hospital, and at 16:44 March 25th, all of the three workers arrived at the National Institute of Radiological Sciences in the Chiba Prefecture. The three workers had no serious problem in the condition of the whole body, were fully conscious and ambulatory. Currently, they are being examined concerning exposed dose and so on. Concerning the result of survey for the water that those workers stepped in, the dose rate on the surface of the water was about 400mSv/h and, as a result of gamma ray nuclide analysis of sampled water, the concentration of radioactive nuclide of the sample was about  $3.9 \times 10^6$  Bq/cm<sup>3</sup> in total of each nuclides.

Thomas Hipschman  
Policy Advisor for Reactors  
Office of Chairman Gregory B. Jaczko  
301-415-1832

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**From:** OST02 HOC  
**Sent:** Thursday, March 24, 2011 5:29 PM  
**To:** Bradford, Anna; Emche, Danielle  
**Subject:** Questions and Answers from the Chairman 3\_24\_11  
**Attachments:** 03-24-2011 1630 EDT Questions from NISA Chairman to Chairman Jaczko of the USNRC.doc; Questions and Answers from the Chairman 3\_24\_11.docx

Hello Danielle and Anna...

Both are attached – sorry!

These are the talking points for the Chairman for his discussion with the NISA Chairman. A second email will be coming.

Thank you!  
Mary Glenn

EST Admin Assistant  
NRC Operations Center

## Potential Questions from NISA Chairman to Chairman Jaczko of the USNRC

1. I understand you are working on a technical document that provides your assessment of conditions at the Fukushima Daiichi plants, and possible recommendations to address current concerns. When do you think you will have this document available for us?

**A:** Our response center staff is busy pulling together the finishing touches on this document, in coordination with the representatives of several other agencies in the U.S. government in coordination with industry representation on nuclear issues.

2. What do you believe should be our highest priority?

**A:** Keeping the reactor cores cooled is most important, then shifting the source of your cooling water to the reactor cores to a fresh water source is quite important. Additional details will be provided in the document being finalized for you.

3. Has your agency identified any other recommendations or contingency planning we should consider during our recovery?

**A:** We believe it is of paramount importance to assist our friends in Japan. To that end, our emergency response center staff, members of other agencies, and representatives in industry are working around the clock, examining all facts that we have been able to gather on this event, and are prepared to provide technical assistance in any manner you would need.

4. Can you describe the purpose of the U.S. presence in Japan?

**A:** NRC has a team of individuals providing advice and assistance to the U.S. Ambassador in Tokyo. The team is also supporting U.S. efforts to assist Japan in dealing with the challenges associated with bringing Fukushima Daiichi to a safe and secure state.

A group of U.S. industry representatives are also being assembled in Japan with support from INPO offices in Atlanta to facilitate the location and delivery of supplies, services, and materials. A technical support organization is also in place in Atlanta to facilitate the timely response to requests for technical support during the mitigation and stabilization phase of the Fukushima Daiichi event. (Question was suggestion from Chuck Casto).

Questions and Answers from the Chairman:

3/24/11 5:15pm

1. When will NARAC modeling results be provided?

The PMT recently identified a need to update the source term and the release rate from those that we previously provided to NARAC about 12 hours ago, based on information obtained from the RST and the Japanese officials (core damage in unit 1 is 70% vs previously assumed 33%; 100% containment breach in units 2 and 3 vs previously assumed design containment leakage rate). NRC held a telecon with NARAC at 5:00pm today to request these changes. Results should be available tomorrow morning.

2. GENERAL CRITERIA AS TO WHEN NRC WOULD RELAX ITS PAGs TO ALLOW FOR RE-ENTRY INTO THE 50-MILES EPZ TO GATHER PERSONAL BELONGINGS, PETS, ETC

- Radioactivity releases have been terminated (or clearly under control) and the source of the radioactivity release is manageable.
- Decision to allow public re-entry is based on actual field measurements and samples obtained from the affected area once the above criteria are satisfied.
- Re-entry would not generally occur as long as the projected dose in the first years exceeds 2 rem, or exceeds 0.5 rem in the second year, or exceeds 5 rem in 50 years, depending on which case is most limiting.

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**From:** Hipschman, Thomas  
**Sent:** Thursday, March 24, 2011 10:53 AM  
**To:** Coggins, Angela; Batkin, Joshua  
**Cc:** Bradford, Anna  
**Subject:** Phone Call from Lochbaum

Dave Lochbaum called me this morning to inquire about placing experts from NGOs on the Task Forces. He said that he was preparing a letter for his Capitol Hill contacts. He said he would recommend Don Prevatte who is well respected by the NGOs. Additionally, Mr. Prevatte has contracted for the NRC previously, and knows the organization well.

Dave said he had about a day to let him know if we have already considered that before the letter goes out.

Additionally, I was thinking if there were any members from Kemeny or Rogovin, which might be interesting to include them as well.

Angela suggested that I put a note into the Chairman, which I did.

Tom

---

**From:** Speiser, Herald  
**Sent:** Tuesday, March 22, 2011 5:36 PM  
**To:** Bradford, Anna  
**Subject:** FW: Letter from EPW Chairman Boxer to Chairman Jaczko  
**Attachments:** 03.22.11 Sen. Boxer letter to Chairman Jaczko.pdf  
  
**Follow Up Flag:** Follow up  
**Flag Status:** Completed

**From:** McCray, Nathan (EPW) [mailto:Nathan\_McCray@epw.senate.gov]  
**Sent:** Tuesday, March 22, 2011 5:29 PM  
**To:** CHAIRMAN Resource; Speiser, Herald; Batkin, Joshua  
**Cc:** Poirier, Bettina (EPW); Dedrick, Kathy (EPW); Ordal, Paul (EPW)  
**Subject:** Letter from EPW Chairman Boxer to Chairman Jaczko

Please see the attached letter from Senator Barbara Boxer, forwarded by the Senate Environment and Public Works Committee. Please contact Bettina Poirier, Staff Director at 202-228-6004 (BlackBerry) or 202-224-8832 (main line) if you have any questions. Thank you.

Nathan McCray  
Majority Staff  
U.S. Senate Committee on Environment and Public Works  
410 Dirksen Senate Office Building  
Washington, DC 20510  
202-224-8832  
202-224-1273 Fax

SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS  
 MEMBERS: CAROLINA, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, ILLINOIS, INDIANA, IOWA, KANSAS, KENTUCKY, LOUISIANA, MAINE, MARYLAND, MASSACHUSETTS, MICHIGAN, MINNESOTA, MISSISSIPPI, MISSOURI, MONTANA, NEBRASKA, NEVADA, NEW HAMPSHIRE, NEW JERSEY, NEW MEXICO, NEW YORK, NORTH CAROLINA, NORTH DAKOTA, OHIO, OKLAHOMA, OREGON, PENNSYLVANIA, RHODE ISLAND, SOUTH CAROLINA, SOUTH DAKOTA, TENNESSEE, TEXAS, UTAH, VERMONT, VIRGINIA, WASHINGTON, WEST VIRGINIA, WISCONSIN, WYOMING

# United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS  
 WASHINGTON, DC 20510-6175

March 22, 2011

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

Dear Chairman Jaczko:

Last week, President Obama called for the Nuclear Regulatory Commission to conduct a prompt and thorough investigation of all nuclear facilities in the United States. As the NRC makes plans for both its short-term and long-term evaluations of the safety of our nation's nuclear power plants, I want to emphasize the importance of transparency and openness throughout the review process.

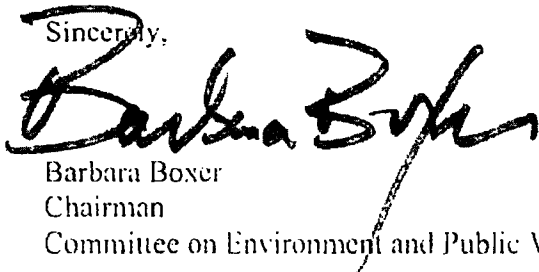
As you know, there is a high level of interest in the safety and security of the nation's nuclear plants, and it is important for the NRC to promptly share information with the American public that you gather in the immediate future, as well as over the long-term.

In May of 2010, you testified before the Senate Committee on Environment and Public Works' Subcommittee on Clean Air and Nuclear Safety. In that testimony you stated that "Greater openness and transparency will only build public confidence in the agency by highlighting the agency's strengths: the experience, expertise, and dedication of the NRC staff, as well as the vitality of the Commission."

I could not agree more. In order for the NRC to maintain credibility with the American people, I encourage you to work with all members of the Commission to ensure that information gathered during your reviews of the nation's nuclear facilities are conducted with complete openness and transparency.

Thank you for your attention to this matter.

Sincerely,

  
 Barbara Boxer  
 Chairman  
 Committee on Environment and Public Works



---

**From:** Chairman's Digital Sender <chairman.temp@nrc.gov>  
**Sent:** Saturday, March 19, 2011 6:45 PM  
**To:** Bradford, Anna  
**Attachments:** [Untitled].pdf

Please open the attached document. This document was digitally sent to you using an HP Digital Sending device.

# Hazard Versus Outrage: A "Thought Experiment" and a Real Experiment

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**The Thought Experiment.** Imagine a roomful of citizens listening to an expert on pesticide risks, someone like Bruce Ames of the University of California. Ames has done research suggesting that natural carcinogens in food are much riskier than pesticide residues, that broccoli (for example) is more carcinogenic than dioxin. The speaker is trying to convince his audience of this, a tough sell, obviously. But the audience is calm, and the speaker is persuasive. So over the course of an hour or two he succeeds in convincing his audience that broccoli is more carcinogenic than dioxin. They had a hazard misperception and it has been corrected. Now up comes another speaker. "Now that we know that broccoli is more carcinogenic than dioxin," the second speaker inquires, "which one do we want the EPA to regulate?" What would the audience respond? The dioxin.

**The Real Experiment.** Newspaper articles were written about a hypothetical chemical spill in a residential neighborhood. Three factors were systematically varied: whether the spill was technically serious or technically minor; whether the article contained a lot of technical information or very little; and whether the agency responsible for the cleanup was open and responsive and the neighbors were calm, or the agency was secretive and unresponsive and the neighbors were upset. Some 600 adults read one story each, then answered questions about how serious they considered the spill (for example, whether they would be willing to buy a house in the spill area). The results: The technical detail in the articles had no effect on perceived seriousness. The seriousness of the spill (the spill was 100,000 times as bad in the "high" stories as in the "low" stories) did affect perceived seriousness. But outrage — the relationship between the agency and the neighborhood — affected perceived seriousness more than five orders of magnitude of actual seriousness. (Peter M. Sandman, Paul M. Miller, Branden B. Johnson, and Neil D. Weinstein, "Agency Communication, Community Outrage, and Perception of Risk: Three Simulation Experiments," *Risk Analysis*, 13:6, 1993, pp. 585-598.)

**Conclusion.** When people are outraged, they tend to think the hazard is serious. Trying to convince them that it's not as serious as they think is unlikely to do much good until steps are taken to reduce the outrage.

---

For more information or permission to reprint:

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# Is This a Good Risk Comparison?

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1. Are you really sure of the data about both risks in the comparison?
  2. Is the comparison risk lower in outrage than the risk under discussion? Is it, for example, natural, voluntary, or familiar?
  3. Are you really trying to make the size of the risk clear, or are you trying to "show up" opponents? (For example, are you making any comparisons to risks smaller than the one under discussion?)
  4. If you were on the receiving end of this risk comparison — for a risk that concerned you — would you find the comparison useful or irritating?
  5. Does your comparison seem to be trying to preempt the decision about the acceptability of the risk? Are you acknowledging that risk acceptability is not a technical question?
  6. Is your comparison "homey," snide, or slightly humorous — rolls of toilet paper stretching around the world, etc.?
  7. Is your comparison likely to seem self-serving? If so, have you acknowledged that you have a stake in convincing people?
  8. What is the relationship between you and your audience? How sensitive is the situation, and how cautious do you have to be in choosing a comparison?
  9. On balance, do you suspect in advance that your the audience may reject or resent this comparison? Is your goal to be "right," or is it to communicate effectively?
- 

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---

**From:** Batkin, Joshua  
**Sent:** Saturday, March 19, 2011 3:21 PM  
**To:** Bradford, Anna  
**Cc:** Coggins, Angela  
**Subject:** Re: Can you find out

Did you hurt yourself?

Joshua C. Batkin  
Chief of Staff  
Chairman Gregory B. Jaczko  
(301) 415-1820

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

From: Bradford, Anna  
To: Batkin, Joshua  
Cc: Coggins, Angela  
Sent: Sat Mar 19 15:20:00 2011  
Subject: RE: Can you find out

OK, NHK says this:

"NHK World News this morning is reporting that radiation readings some 30 kilometers northwest of the Fukushima nuclear facility over the past two days have been measured above 150 microsieverts per hour."

If I do the math for continuous exposure for 4 days, then 150 MicroSv/hr for 96 hours equals 14,400 microsieverts, which equals 1.4 rem.

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

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

From: Batkin, Joshua  
Sent: Saturday, March 19, 2011 2:32 PM  
To: Bradford, Anna  
Cc: Coggins, Angela  
Subject: Can you find out

If the DOE dose reading above PAG levels beyond 20km is officially public?

Joshua C. Batkin  
Chief of Staff  
Chairman Gregory B. Jaczko

(301) 415-1820

---

**From:** Esh, David  
**Sent:** Friday, March 18, 2011 9:54 PM  
**To:** Bradford, Anna  
**Subject:** FW: Info on reactor vessel and facility entombment and other D&D  
**Attachments:** wm11 paper 11620 revision 1.pdf; WM\_11197 wiersma.pdf

FYI

**From:** christine.langton@srnl.doe.gov [mailto:christine.langton@srnl.doe.gov]  
**Sent:** Friday, March 18, 2011 4:03 PM  
**To:** Esh, David  
**Subject:** Info on reactor vessel and facility entombment and other D&D

David,

If you think it is appropriate, please pass on the attached papers to the folks at NRC who are dealing with the Japanese Reactor crisis.

SRNS/SRNL has experience in safe effective entombment and D&D for reactor facilities.

Thank you

Christine Langton  
SRNL/SRNS 773-43A Rm 219  
Savannah River Site  
Aiken, SC 29808

Phone: 803-725-5806  
FAX: 803-725-4704

## **Use of Cementitious Materials for SRS Reactor Facility In-Situ Decommissioning – 11620**

**C. A. Langton<sup>1</sup>, D. B. Stefanko<sup>1</sup>, M. G. Serrato<sup>1</sup>, J. K. Blankenship<sup>2</sup>, W. B. Griffin<sup>2</sup>, J.T. Long<sup>2</sup>,  
J. T. Waymer<sup>3</sup>, D. Matheny<sup>4</sup>, and D. Singh<sup>5</sup>**

<sup>1</sup>Savannah River National Laboratory, Savannah River Nuclear Solutions  
Savannah River Site, Aiken SC 29808

<sup>2</sup>Savannah River Nuclear Solutions, Savannah River Site, Aiken SC 29808

<sup>3</sup>URS Washington Group, Quality and Testing Division, Savannah River Site, Aiken SC 29808

<sup>4</sup>Clemson University, Clemson, SC 29634

<sup>5</sup>Argonne National Laboratory, Argonne, IL 60439

### **ABSTRACT**

The United States Department of Energy (US DOE) concept for facility in-situ decommissioning (ISD) is to physically stabilize and isolate intact, structurally sound facilities that are no longer needed for their original purpose of producing (reactor facilities), processing (isotope separation facilities) or storing radioactive materials. The Savannah River Site 105-P and 105-R Reactor Facility ISD project requires approximately 250,000 cubic yards of cementitious materials to fill the below-grade structure. The fills are designed to prevent subsidence, reduce water infiltration, and isolate contaminated materials. This work is being performed as a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) action and is part of the overall soil and groundwater completion projects for P- and R-Areas. Funding is being provided under the American Recovery and Reinvestment Act (ARRA).

Cementitious materials were designed for the following applications:

- Below-grade massive voids / rooms: Portland cement-based structural flowable fills for:
  - Bulk filling
  - Restricted placement and
  - Underwater placement.
- Special below-grade applications for reduced load bearing capacity needs:
  - Cellular portland cement lightweight fill
- Reactor vessel fills that are compatible with reactive metal (aluminum metal) components in the reactor vessels
  - Calcium sulfo-aluminate flowable fill
  - Magnesium potassium phosphate flowable fill.
- Caps to prevent water infiltration and intrusion into areas with the highest levels of radionuclides
  - Portland cement based shrinkage compensating concrete

A system engineering approach was used to identify functions and requirements of the fill and capping materials. Laboratory testing was performed to identify candidate formulations and develop final design mixes. Scale-up testing was performed to verify material production and placement as well as fresh and cured properties. The 105-P and 105-R ISD projects are currently in progress and are expected to be complete in 2011.

The focus of this paper is to describe the 1) grout mixes for filling the reactor vessels, and 2) a specialty grout mix to fill a selected portion of the P-Reactor Disassembly Basin. Material property test results, placement strategies, full-scale production and delivery systems will also be described. Details of the grout mixes designed for ISD of the SRS Reactor Disassembly Basins and below-grade portions of the 105-Buildings was described elsewhere [1].

## INTRODUCTION

The Savannah River Site (SRS) was built in the early 1950's with the mission of producing special nuclear materials in a safe, efficient, and environmentally acceptable manner. The special nuclear materials were produced in five production reactors primarily for national defense. R-Reactor was initially brought critical on December 28, 1953 and operated intermittently until it was shutdown on June 15, 1964 due to reduced requirements for defense-related products. Following shutdown, the R Reactor was de-fueled (all fissile materials were removed), and placed in cold shutdown with no capability of restart. P-Reactor initially went critical on February 20, 1954 and was placed in an extended outage in 1988 to undergo safety upgrades. It was never restarted. Defueling began in 1991 and the facility was placed in cold shut down after de-fueling was completed.

The P- and R-Reactor Complexes were designated to be decommissioned as part of CERCLA remedial actions with an assumed end state of "in situ decommissioning". The facilities are the first SRS facilities to undergo the In-Situ Decommissioning (ISD) process. This process consists of:

- Dewatering the Disassembly Basin,
- Filling the below-grade structure and reactor vessel with flowable cementitious grout,
- Sealing the building openings with reinforced concrete,
- Installing sloped reinforced shrinkage compensating concrete slabs on the existing flat roof surfaces to prevent water ponding,
- Removing the gantry crane,
- Demolishing the stack,
- Demolishing the Disassembly Basin above ground structures,
- Installing shrinkage compensating concrete caps over the Disassembly Basin and Reactor Vessel.

The SRS reactor facilities are structurally robust and complete demolition was determined to be unnecessary. The ISD process complies with the 105-R and 105-P Reactor Project Strategy as outlined in the Engineering Evaluation/Cost Analysis for the Grouting of the R-Reactor Disassembly Basin [2] and the Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis (RSER/EE/CA) for the 105-R Reactor Building Complex [3].

The ISD objectives for these facilities include [3]:

- Prevent industrial worker exposure to radioactive or hazardous contamination exceeding Principal Threat Source Material levels.
- Prevent industrial worker exposure to radioactive or hazardous contamination.
- Prevent to the extent practicable the migration of radioactive or hazardous contaminants from the closed facility to the groundwater so that concentrations in the ground water do not exceed regulatory standards.
- Prevent animal intruder exposure to radioactive or hazardous contamination.

The SRS 105-P reactor facility is shown in Figure 1 and is very similar to 105-R reactor building. The ISD concept for both 105-P and 105-R are illustrated in schematic cross sections in Figures 2 and 3. (The cross sections correspond to the red line on Figure 1.)

## BELOW-GRADE FACILITY IN-SITU DECOMMISSIONING

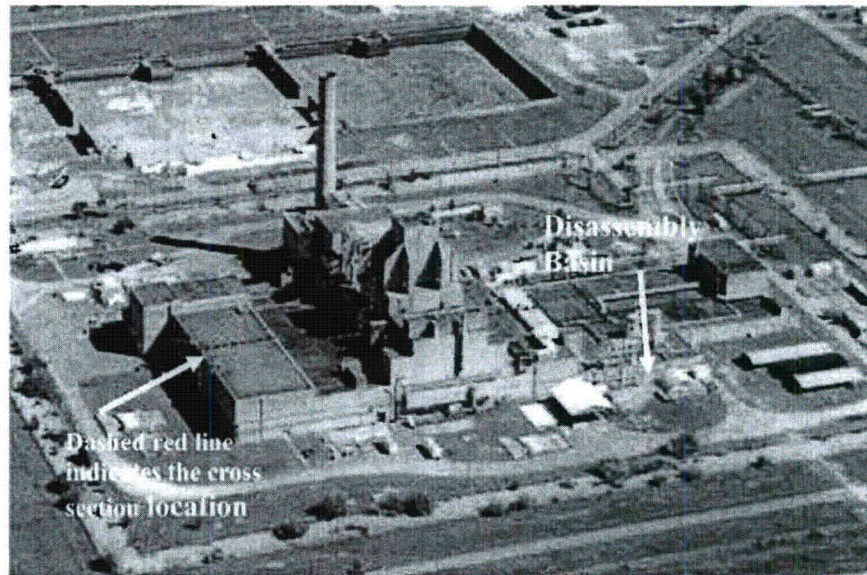
Material requirements, pertinent test data and information related to the grout formulations used in the majority of the below-grade facilities were summarized in a previous publication [Langton, et al., 2010]. Three grout mixes were developed for filling the massive below-grade voids / rooms. These grouts utilize zero bleed, flowable structural fill technology developed at the Savannah River National Laboratory. These grouts are based on a portland cement – Class F fly ash binder and were specified for the following applications:



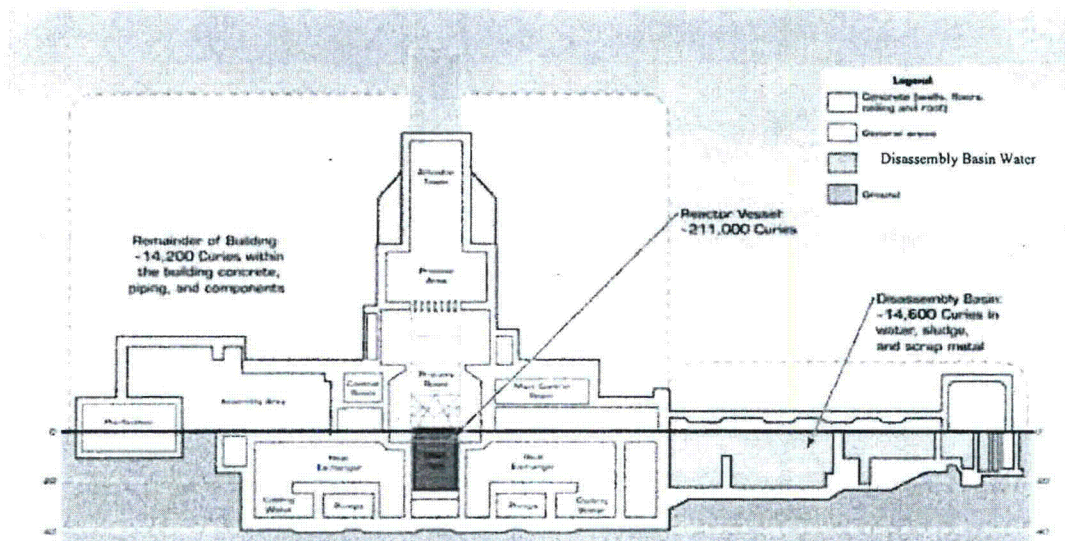
WM 2011 February 27 to March 3, 2011 Phoenix, AZ

- Below-grade massive voids / rooms: Portland cement-based structural flowable fills for:
  - Bulk filling
  - Restricted placement and
  - Underwater placement.

A cellular (light weight) grout was also specified for filling a portion of the P-Reactor Disassembly Basin. The loading limit for the basin floor was the driver for specifying a cellular grout. The density of the cellular grout was about  $480$  to  $560 \text{ kg/m}^3$  ( $30$  to  $35 \text{ lbs/ft}^3$ ). This grout was produced at the job site by mixing preformed foam into a portland cement slurry batched at an off-site ready-mix plant. Surfactant was used to generate the foam.

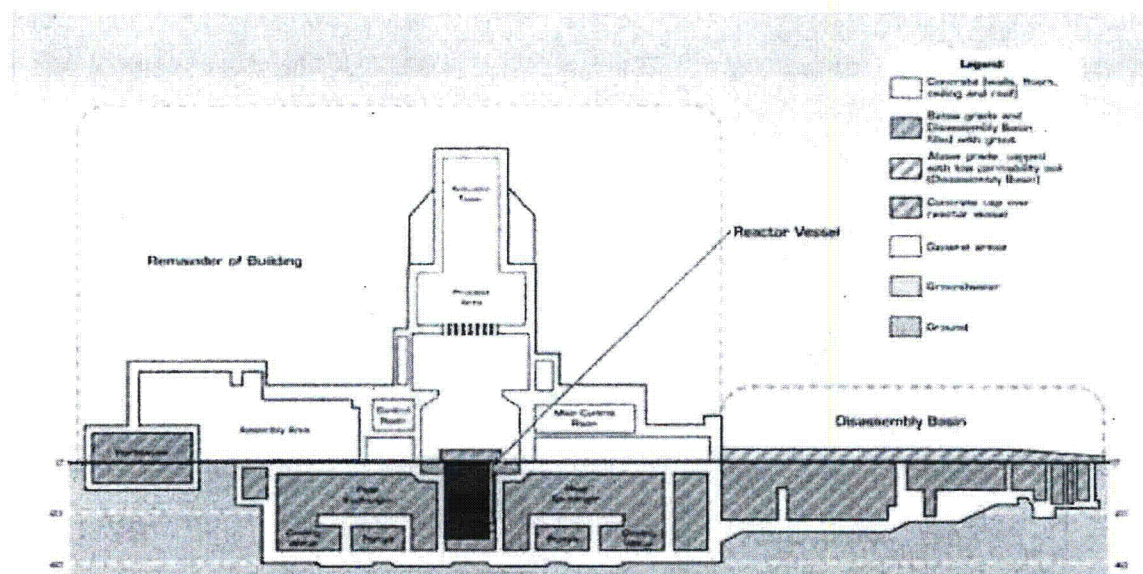


**Figure 1. Photo of the 105-P Reactor Building (similar to the 105-R building).**  
Dashed red line indicates the cross sections in Figures 2 and 3.



**Figure 2. Cross-section through 105-P (105-R) Reactor Building before ISD.**





**Figure 3. Cross-section through 105-P (105-R) Reactor Building after ISD.**

Gray hatched regions indicate areas to be filled with zero bleed flowable structural fills. The dark red area indicates the Reactor ISD grout. A non corrosive low-pH grout was designed for the P-Reactor Vessel. A portland cement grout was used to fill the R-Reactor Vessel. Yellow and orange hatched areas indicate a 3000 psi shrinkage compensating capping concrete containing an integral waterproofing admixture.

Ingredients in these flowable structural fills are presented in Table 1. (These mixes were adjusted slightly by the subcontractors who supplied the cementitious materials to account for properties of their raw materials.) Selected properties of these grouts are presented in Table 2.

**Table 1. SRS Reactor Facility ISD Structural Fill Grout Mix Designs.**

Material (kg / m <sup>3</sup> ) (lbs / yd <sup>3</sup> )	Congested Dry Area Placements	Uncongested Dry Area Placements		Underwater Placements
	PF-ZB-FF	PF-ZB-FF-8	PF-ZB-FF-8-D	PR-UZB-FF-8
Portland Cement Type I/II	89 (150)	89 (150)	89 (150)	89 (150)
Fly Ash Class F (ASTM C 618)	297 (500)	297 (500)	297 (500)	297 (500)
Sand (quartz) (ASTM C-33)	1375 (2318)	1097 (1850)	1097 (1850)	1097 (1850)
Gravel (granite) No. 8	0	475 (800)	475 (800)	475 (800)
Water (kg / m <sup>3</sup> ) (lb / cu yd) (gal / cu yd)	525 (311) (63)	441 (262) (53)	416 (247) (50)	344 (41.5)
Polycarboxylate polymer HRWR max. (L / m <sup>3</sup> ) (fl. oz / cu yd)	0.46* (120)*	0.30* (79)*	0.30* (79)*	0.26** (68)**
VMA (g / m <sup>3</sup> ) (g / cu yd)	360W (275)W	360W (275)W	262D (200)D	0

\* Sika Inc. Viscocrete 2100 and 6100 and W. R. Grace Inc. Advacast 575 were tested and found to be compatible with the gum VMA. Compatibility was defined as being capable of forming a fluid slurry when premixed with the gum VMAs.

\*\* W.R. Grace Adva 405 was tested.

W = Welan Gum

D = Diutan Gum

A calcium nitrite based set accelerator can be added if necessary. No instance was encountered where set acceleration was necessary.

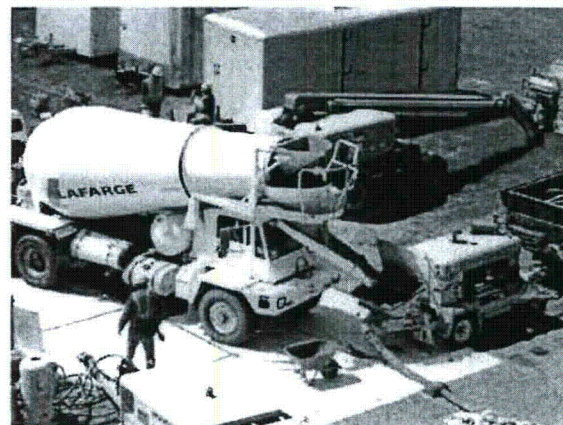
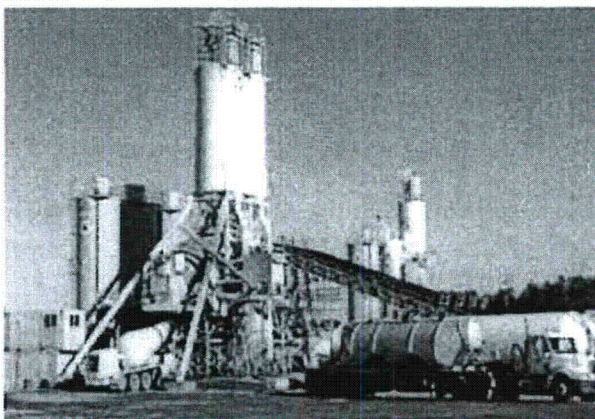


**Table 2. SRS Reactor Facility ISD Structural Fill Grout Properties.**

Properties	Conjested Dry Area Placements	Unconjested Dry Area Placements (Bulk Fill)		Underwater Placements
	PF-ZB-FF	PF-ZB-FF-8	PF-ZB-FF-8-D	PR-UZB-FF-8
Flow (cm) (inches) ASTM D-6103	29 (11.5)	29 (11.5)	33 (13)	24 (9.5)
Flow (cm) (inches) ASTM C-1611	Not measured	63 (25)	66 (26)	48 (19)
Set Time* (hr) modified ASTM C-403 and SRNL ultra sonic pulse velocity	< 18	< 16	< 16	< 10
Bleed Water (hr) modified ASTM C-232	0	0	0	0
Unit Weight (g/cc) (lb/cu ft) ASTM C-138	2.0 (127.5)	2.15 (134.5)	2.20 (137.5)	2.18 (135.8)
Compressive Strength (ave. of 2) ASTM C-39, D-4832 for field sampling				
7 days (MPa) (psi)	1.1 (160)	1.4 (200)	Not measured	2.6 (380 @ 14d)
28 days (MPa) (psi)	2.7 (390)	3.7 (540)	5.4 (780)	5.6 (820)
90 days (MPa) (psi)	8.9 (1300)	7.2 (1050)	11.3 (1640)	18.8 (2725)
180 days (MPa) (psi)	TBD	TBD	TBD	TBD
Permeability (cm/s) ASTM D-5084	1E-07	Not measured	1.3E-08	1.3E-08
Temperature Rise (calculated semi- adiabatic)	< 25°C	< 25°C	< 25°C	< 25°C

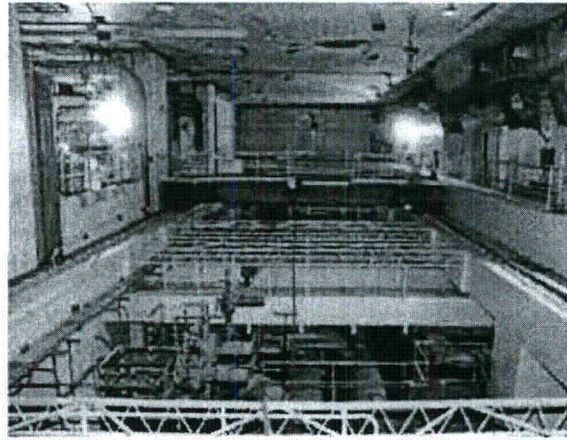
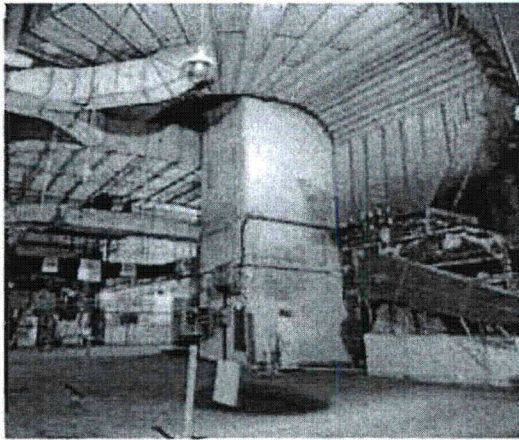
\* Values without set accelerator.

Two concrete ready mix plants were set up in P-Area to support P-and R-Reactor Facilities ISD grout filling operation. Additional fill material was supplied by LaFarge Ready Mix, Jackson, SC and Webb Concrete, Barnwell, SC. See Figure 4a. Portable concrete pumps and pump trucks were used to convey the grout into the P- and R- Reactor Disassembly Basins and the below-grade portions of the 105-Buildings. See Figure 4b. Examples of the types of large voids filled with PR-ZB-FF-8-D are illustrated in Figure 5. Examples of these rooms and basins filled or being filled with grout are shown in Figure 6. Cellular grout production and conveyance for the P-Reactor Disassembly Basin is illustrated in Figure 7.

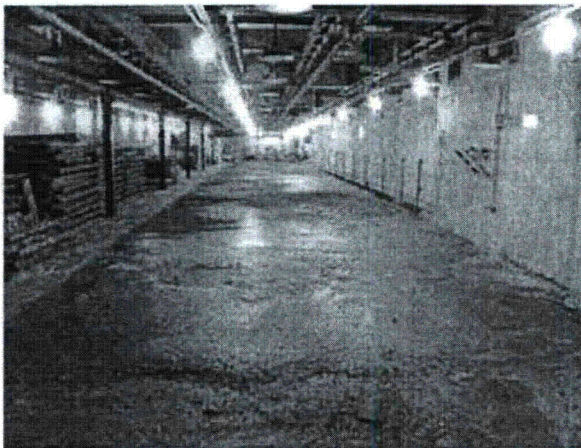


**Figure 4. Two On-site Concrete Batch Plants Located in P-Area. Plants were used to produce ISD fill (left) and delivery and pumping of ISD grout in the R-Reactor Disassembly Basin (right).**

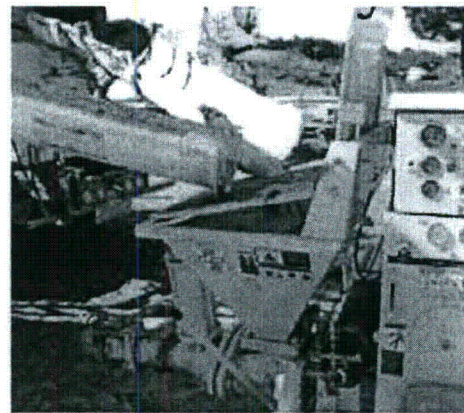




**Figure 5. Examples of Rooms at the -20 and -40 Levels before ISD.  
Fan room at -40 level (left) and Heat Exchanger Pit at -20 level (right).**



**Figure 6. R-Reactor D&E Canal after ISD (left). P-Reactor Heat Exchanger Pit after ISD (right).**



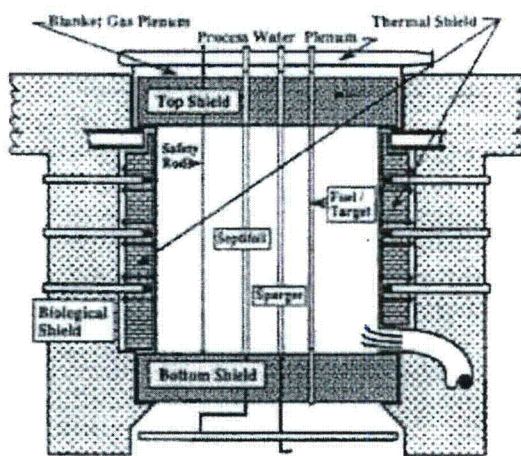
**Figure 7. Cellular Grout Production for P-Area Disassembly Basin. Pre-formed foam added to neat cement slurry (left) and cellular grout being discharged to pump (right).**



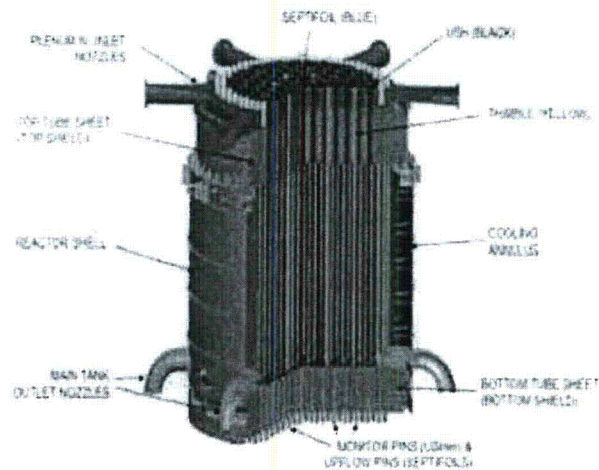
## REACTOR VESSEL IN-SITU DECOMMISSIONING

SRNS committed to the Department of Energy (DOE) and the stakeholders that it would fill the reactor vessels in 105-P and 105-R buildings with grout to the extent practicable as part of the SRS Reactor Facilities ISD Projects. The main tank (referred to as the reactor vessel) in each reactor was constructed of 304 stainless steel and is 4.9 m (16 ft.) in diameter and 4.9 m (16 ft.) high. The bottom and top of each tank are capped with Tube Sheets approximately 1.2 m (4 ft.) and 1m (3.5 ft) in height, respectively. The top tube sheet is covered with a plenum which is approximately 0.6 m (2 ft.) high. A steel shell around each reactor vessel forms a Thermal Shield around each tank with a Cooling Annulus of about 0.5m (21 in.) wide. The steel shell is surrounded by a five foot thick Biological Shield consisting of reinforced concrete. These features are illustrated for the P-Reactor Vessel in a simplified cross section and in a 3-D schematic in Figure 8a and 8b, respectively.

A view of the top of the P-Reactor plenum is shown in Figure 9. The ISD grout fill strategy for each of the reactor vessels was to pull plugs in 5 permanent sleeve openings along the circumference of the vessel and use three positions as grout entry points and two positions as vents. Clear plastic containments were constructed over each tank. The vessels were vented by sweeping air through the containment structures.



(a)



(b) (Vrettos, 2010) [4]

Figure 8 a and b. P-Reactor Cross-sections.



Figure 9. Top of the P-Reactor Plenum.

General requirements for the reactor vessel grout were the same as for the 105-R and 105-P Buildings except that the flow paths in the 105-P reactor vessel are especially constricted due to numerous internal components. See Table 3. In addition, the need for material compatibility between the grout and reactor materials imposed additional requirements. Both the P-and R-Reactor Vessels contain aluminum components which were left in place as part of the ISD closure. After estimating the amount of aluminum metal abandoned in each reactor, calculations were performed to estimate the potential for exceeding 60 % of the Lower flammability Limit (LFL) as the result of hydrogen generation from corrosion of the aluminum in a caustic media.<sup>1</sup> Results indicated that the limited amount of aluminum metal in the R-Reactor did not pose an LFL issue if portland cement-based grout was used to fill the vessel [5, 6]. However, the safety factor calculated for the portland cement fill for the P-reactor vessel, which contained significantly more aluminum metal, was such that the decision was made to investigate alternative low pH grout systems. The corrosion calculations indicated that a higher safety factor could be achieved for grouts with pHs  $\leq 10.5$  [5].

In addition, calculations to determine the effects of radiolysis on the water and organic admixtures used as processing aids in the grouts were performed [7]. Hydrogen produced by radiolysis was determined not to impact the LFL for the reactor vessel closure configuration.

**Table 3. SRS ISD Reactor Vessel Grout Fill Requirements.**

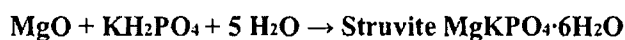
Property	Requirement	Comments
<b>Slurry Properties (Fresh Properties)</b>		
pH of grout for the P-Reactor Vessel	$\leq 10.5$	Aluminum corrosion rate [Weirsmas, 2010]
pH of grout for the R-Reactor Vessel	$\leq 13.4$	Aluminum corrosion rate [Weirsmas, 2010]
Flow Cone (ASTM C-939)	$< 50$ s	Flowable, self leveling (desired)
Spread/Flow (ASTM C-1611)	$> 24$ in.	
Static Working Time (SRNL test)	$> 30$ min.	Grout needs to remain fluid as the velocity decreases (to zero) as a function of distance from the discharge point in the reactor vessel
Dynamic Working Time (SRNL test)	$> 60$ min.	Longer is better
Set Time (SRNL Ultrasonic Pulse Velocity test)	2 to 24 hr	Sufficient time to prevent settling
Density (wet unit weight) ASTM C-138	1282 kg/m <sup>3</sup> $> 80$ lbs/ ft <sup>3</sup>	Pumpable through 1-2 inch ID hose
Air Content (ASTM C-231)	$< 8$ vol. %	
Bleed water (modified ASTM C-232)	None	Physically stable slurry is required
Segregation (visual exam)	None	Physically stable slurry is required
Maximum particle size	3 mm maximum	$< 0.5$ mm may be necessary pending further understanding of reactor vessel construction
<b>Cured Properties</b>		
Compressive Strength ASTM C-39		
3 days	$> 0.34$ MPa (50 psi)	50 psi required in regulatory documentation
28 days	$> 1.38$ MPa (200 psi)	
Adiabatic temperature rise (SRNL method)	$< 65^{\circ}\text{C}$	As low as possible and still achieve compressive strength.
Maximum placement temperature	$35^{\circ}\text{C}$	Suitable for mass pours

<sup>1</sup> Portland cement-based slurries are alkaline and typically have a pH between 12.4 and 13.2. The pore solution in cured portland cement-based grouts is also alkaline and has a pH similar to the wet slurry.

**R-Reactor Vessel ISD Grout:** A portland cement-based grout, MIX PR-ZB-FF-8-D, which was used for filling the majority of the void space in the P- and R-Reactor Facility, was selected as the ISD grout for the R-Reactor Vessel. Ingredients and properties of this mix are listed in Tables 1 and 2, respectively.

**P-Reactor Vessel ISD Grout:** Based on estimates of the amount and rate of H<sub>2</sub> generated as the result of corrosion of the aluminum components abandoned in place in the P-Reactor Vessel and the desire to maintain a high safety factor with respect to not exceeding 60% of the LFL, a program was initiated to develop a low pH flowable grout for P-Reactor Vessel ISD. Two alternative cement systems were investigated as potential low-pH binders for formulating a non portland cement based grout:

- 1) Magnesium potassium phosphate cement based on Ceramicrete<sup>®</sup> technology [8].



- 2) Calcium sulfo-aluminate cement.



**Magnesium mono-potassium phosphate grouts.** A series of screening tests were conducted concurrently at SRNL and at Argonne National Laboratory (ANL).<sup>2</sup> (DOE EM 44 provided initial funding to for the magnesium mono-potassium phosphate grout study.) The formulations tested at ANL contained MgO, mono-potassium phosphate (MKP), and Class C fly ash as functional filler. Some mixes also contained general purpose sand as an inert filler to reduce the heat generated per unit volume of material. Incorporating the Class C fly ash in these mixes enabled the use of higher doses of set retarder (boric acid) which extended the dynamic working time of the grout slurries. Flowable grouts with dynamic working times of several hours were developed at ANL [8]. These mixes were characterized by continuous slow hydration over several weeks. Although the ANL slurries had pHs of 6 to 8, the pH of water in contact with material cured in the adiabatic calorimeter had a pH of 11.2 which is higher than the 10.5 limit recommended for P-Reactor vessel grout [6]. The high pH was probably due to un-reacted calcium oxide from the fly ash and / or un-reacted magnesium oxide reagent. For this reason and because these mixes continued to react and generate heat for several weeks<sup>3</sup> under adiabatic conditions, this system was not selected as a reactor fill. Additional information on these formulations is summarized in a previous publication [8].

Testing at SRNL focused on identifying commercially available magnesium phosphate pre-blended binders and modifying them with inert fillers to achieve a zero bleed, flowable slurry and to reduce the heat generated per unit volume from the MgO and MKP reactions. Several pre-blended MgO-MKP-set retarded blends were provided by Bindan Corporation, Chicago, IL. Special graded sands, glass beads, bauxite beads, locally available ASTM C 404 masonry sand, and ASTM C-637 pre-placed aggregate sand were tested in the grout mixtures. Class F fly ash was also evaluated as an additional inert ingredient to improve flow, reduce segregation, and reduce heat. Grouts containing MgO, MKP, quartz sand, and Class F fly ash had a pH of 6 to 7 for the slurry and between 9 and 10 for water in contact with cured material (approximated pore solution). An integral water proofing admixture which was specified by SRS Reactor Engineering was also included in the SRNL mixes. Details of the test results are provided elsewhere [9].

<sup>2</sup> D. Singh, ANL, is a co-inventor of the Ceramicrete<sup>®</sup> technology which has been applied to waste forms.

<sup>3</sup> An aggressive project schedule called for construction of a cap over the reactor vessel within about two week of filling.

The formulation that contain inert fillers, i.e., Class F fly ash or silica flour, silica sand, etc., were preferred over formulations containing functional fillers that were somewhat reactive.<sup>4</sup> A bimodal distribution of inert fillers (powder and sand) was found to be beneficial in obtaining both flowable stable slurries and high inert fill loadings. An interesting observation was that a temperature of at least 65°C was necessary to form a significant amount of struvite from the starting materials used in this study. At lower temperatures, other hydrated magnesium potassium phosphate phases that were not cementitious formed. This temperature corresponds to the temperature reached for 22°C starting materials containing 15.5 weight percent Bindan SR 3.10 binder cured in the adiabatic calorimeter.

Ingredients in the magnesium potassium phosphate-based grout recommended for scale-up testing are listed in Table 4. Chilled water was recommended to reduce the initial mix temperature and extend the working time.

**Table 4. Ingredients and properties of the Magnesium Potassium Phosphate Grout Identified for P-Reactor Vessel ISD Scale-up Testing.**

Ingredient	(Lbs/yd <sup>3</sup> )	(Kg/m <sup>3</sup> )
Bindan SR 3.10 Binder	510.2	302.7
Class F Fly Ash	701.3	415.9
ASTM C 404 Masonry sand or ASTM C 637 Sand for grout for pre- placed aggregate	1976.4	1172.0
KIM 301 (Integral Water Proofing Admixture)	5.1	3.03
Water	446.2	264.6
Boric Acid (if needed)	Up to 2 wt.% of the SR 3.10 binder	
Total	3639.2	2159.1
Properties		
pH of fresh slurry or P-Reactor Vessel	6 to 7	
pH of water in contact with cured grout Vessel	9 to 10	
Flow Cone	40 s (ave)	
Static Working Time	30 minutes	
Dynamic Working Time	2 hr	
Set Time	~ 4 hr (initial)	
Density (wet unit weight)	129 lbs/cubic foot 1986 kg/m <sup>3</sup>	
Bleed water	None	
Segregation	None	
Maximum particle size ASTM C 637 quartz sand	1 mm maximum	
Cured Properties		
Compressive Strength		
4 days	1.8 MPa (262 psi)	
7 day	2.7 MPa (388 psi)	
45 days	6.7 MPa (973 psi)	
Adiabatic temperature rise	41°C	

<sup>4</sup> Class F fly ash is not a pozzolan in the calcium sulfo-aluminate system.



**Calcium sulfo-aluminate grout system.** A calcium sulfo-aluminate cement binder was formulated from a mixture of Ciment Fondu® and Plaster of Paris (calcium hemihydrate) to produce a grout system with pHs between 9 and 10 for both the slurry and pore solution in the cured product. The proportioning of these ingredients was such that it supplied the sulfate necessary to react with the calcium aluminate cement phases to produce ettringite and aluminum hydroxide as the primary reaction products. The objective was to produce ettringite as the stable, end-state cementitious phase. This binder was mixed with Class F fly ash, ASTM -404 masonry sand or ASTM C-637, and a set retarder (boric acid).

Screening tests were performed to identify proportions and suitable set retarders. Detailed results are presented elsewhere [10]. Adiabatic calorimeter measurements indicated the temperature rise for the calcium sulfo-aluminate grouts were about 10°C less than that of the magnesium potassium phosphate grouts. Two mixes are shown in Table 5. The amount of binder in each mix is identical, but the water to binder ratio was varied.<sup>5</sup> Mixes were proportioned volumetrically and the sand volume was used to balance the difference in water volumes of the two mixes. Adjustments were also made in the processing admixtures. Properties for these mixes are listed in Table 6.

The calcium sulfo-aluminate mix with a water to binder ratio of 1.41 was selected for scale-up testing which was conducted at Gibson's Pressure Grouting Service, Inc., Smyrna, GA. The test consisted of mixing, pumping, and placing 6 cubic yards of material. Mixing time, flow through 400 ft. of 2 inch grout hose, recirculation time (dynamic working time) and semi adiabatic heat generation (one cubic yard instrumented block) were evaluated. A grout placement test into a ¼ scale mock-up vessel was also conducted. Grout batching and pumping equipment used in the scale-up test were smaller but the same type of equipment as that used for full scale production. See Figure 10.

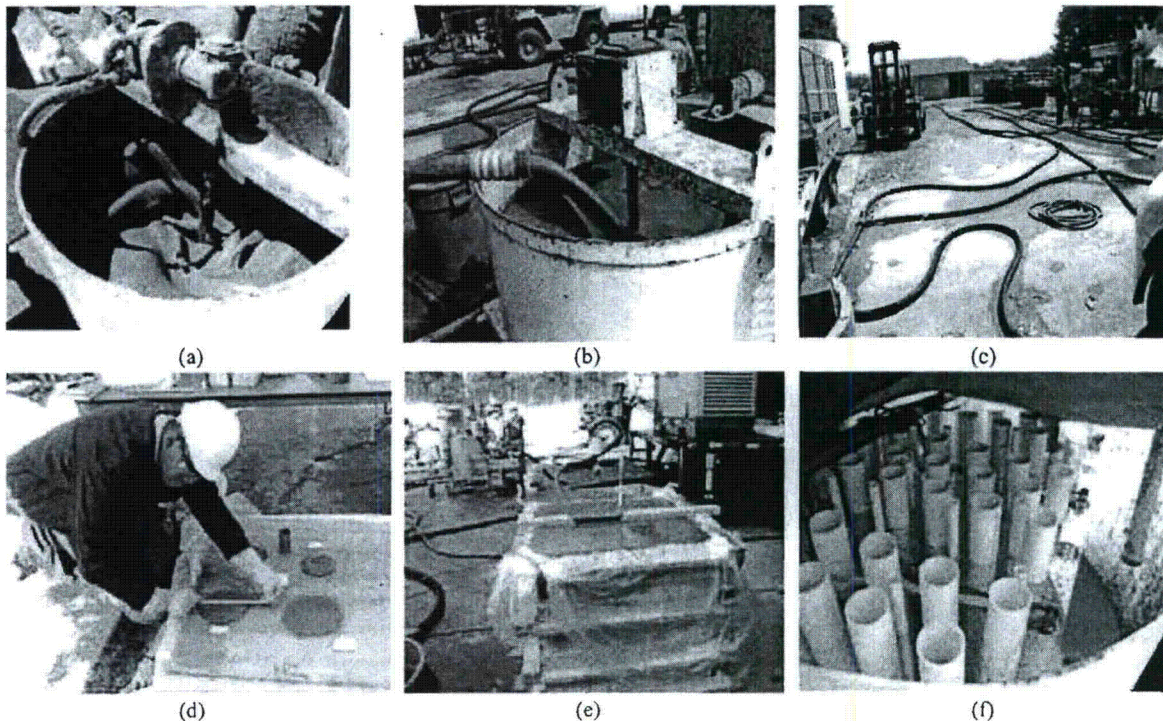
**Table 5. Calcium Sulfo-aluminate Grout Mixes Developed for the P-Reactor Vessel ISD.**

Ingredient	Water to binder weight 1.41		Water to binder weight 1.24	
	(Lbs/yd <sup>3</sup> )	(Kg/yd <sup>3</sup> )	(Lbs/yd <sup>3</sup> )	(Kg/yd <sup>3</sup> )
<b>Ciment Fondu®</b> (Kerneos Aluminate Technologies)	304.3	180.5	304.3	180.5
<b>Plaster of Paris</b> (US Gypsum Corp.)	152.2	90.3	152.2	90.3
<b>Class F Fly Ash</b> (SEFA, Inc.)	514.8	305.4	514.8	305.4
<b>ASTM C 404 Masonry sand or ASTM C 637 Sand for grout for pre-placed aggregate</b>	1732.0	1027.6	1937	1149
<b>Water</b>	644.3	382.2	566.9	366.4
<b>KIM 301® (Integral Water Proofing Admixture)</b> (Kryton, Inc.)	4.5	2.7	4.5	2.7
<b>SIKA (W.R. Grace, Inc.)</b>	3.1	1.8	3.4	2.0
<b>Diutan Gum (CP Kelco, Inc.)</b>	0.5	0.3	0.17	0.1
<b>Boric Acid (if needed)</b>	3.4	2.0	3.4	2.0
<b>Total</b>	3359	1993	3487	2069

<sup>5</sup> The water to binder ratio for calcium sulfo-aluminate cement systems is higher than that of typical portland cement mixes.

**Table 6. Properties of the Calcium Ssulfo-aluminate Ggrouts for P-Reactor Vessel ISD.**

Property	Water to binder weight 1.41	Water to binder weight 1.24
<b>Slurry Properties (Fresh Properties)</b>		
pH P-Reactor Vessel	9 to 10 fresh slurry and water in contact with cured sample	9 to 10 fresh slurry and water in contact with cured sample
Flow Cone	40 s (ave)	41 s
Static Working Time	45 min.	45 minutes
Dynamic Working Time	2-4 hr	~4 hr
Set Time	~ 4 hr (initial)	~24 hr
Density (wet unit weight)	1986 kg/m <sup>3</sup> 124 lbs/ft <sup>3</sup>	2066 kg/m <sup>3</sup> 129 lbs/ft <sup>3</sup>
Bleed water	None	None
Segregation	None	None
Maximum particle size ASTM C 637 quartz sand	1 mm maximum	1 mm maximum
<b>Cured Properties</b>		
Compressive Strength		
3 days	5.24 MPa 760 psi	8.55 MPa @ 38 days 1240 psi @38 days
7 day	7.22 MPa 1047 psi	
28 days	7.5 MPa 1084 psi	
Adiabatic temperature rise	34°C	34°C

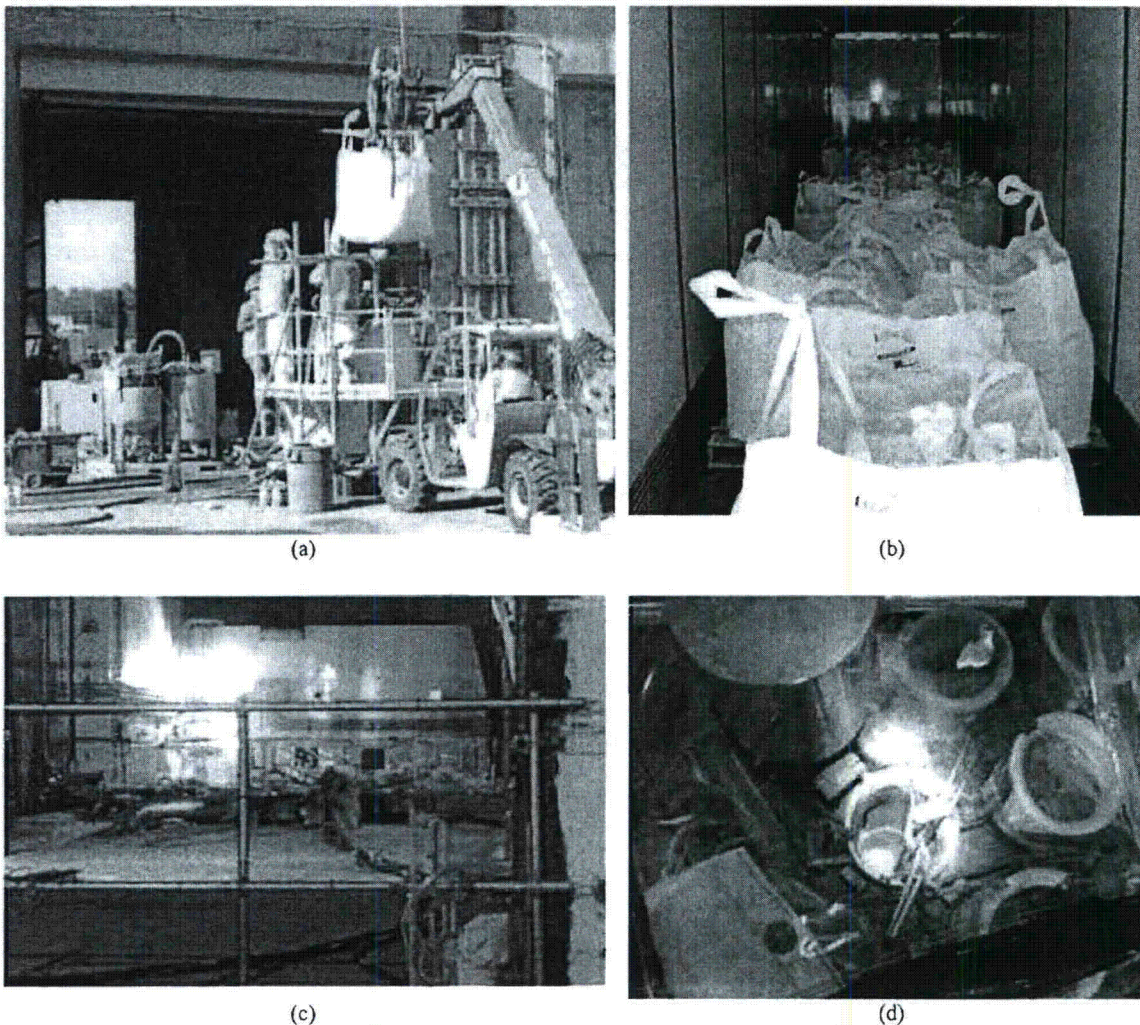


**Figure 10. Scale-up Test. (a and b) Mixing Evaluation, (c) Re-circulating loop and Pump test, (d) Field static gel time test, (e) Semi-adiabatic temperature rise monolith, and (f) Mock-up vessel flow evaluation.**



### P-Reactor ISD

On November 18 and 22, 2010, 37.4 and 53.2 cubic meters (48.9 and 69.6 cubic yards), respectively, of the calcium sulfo-aluminate grout were pumped into the P-Reactor Vessel at the SRS. The batching operation consisted of two concurrently operated 1 cubic meter paddle mixers. Pre-blended reagents were delivered to the mixers in super sacks, (cement, fly ash, solid admixtures, and sand) via forklifts. Water and a liquid high range water reducer were metered into the mixing vessel. The grout was pumped from each mixing station to the reactor vessel entry ports which were located at three positions around the circumference of the reactor top. One line was used exclusively for filling one entry point. The other line had a manifold that allowed the flow to be cycled between two entry points every 20 minutes. The top of the grout in P-Reactor Vessel after completion was approximately 16 inches from the top of the plenum. See Figure 11.



**Figure 11. P-Reactor Vessel ISD. (a) grout production, (b) 2000 pounds of pre-blended grout delivered to P-Area in super sack, (c) view of reactor plenum with plastic containment hut and grout line, and (d) view of filled P-Reactor Vessel – looking into opening with grout level about 16 inches from top working surface.**

## CONCLUSIONS

The SRS P- and R-Reactor Facilities are undergoing an in-situ decommissioning process. Approximately 145,265 cubic meters (190,000 cubic yards) of structural fill material has been placed in the Disassembly Basins and in the -40 and -20 levels of these facilities. The ISD process for the entire 105-P and 105-R reactor facilities requires approximately 250,000 cubic yards (191,140 cubic meters) of grout and approximately 3,900 cubic yards (2,989 cubic meters) of structural concrete which will be placed over about an eighteen month period to meet the accelerated ISD project schedule.

Portland cement-based flowable grouts for bulk filling, underwater placement, and specialty light weight placements were developed by SRNL researchers. These materials were designed to meet the requirements for mass pour structural fill, have a low carbon foot print (the amount of portland cement was limited), utilize by-product materials (Class F-fly ash). The grouts were produced by 1) two off-site ready mix plants and 2) two on-site batch plants set up in P-Area. Placement was performed by 1) site D&D work force and 2) Baker Construction, Inc. and 3) Gibson's Pressure Grouting Service, Inc., Smyrna, GA.

The ISD process was also applied to the SRS P- Reactor Vessel. A flowable calcium sulfo-aluminate grout was designed by SRNL for the unique material and placement requirements. Filling the P-Reactor vessel was completed on November 22, 2010. The calcium sulfo-aluminate grout was pre-blended by G Gibson's Pressure Grouting Service, Inc. at their Atlanta, GA facility. The dry reagents and aggregate blend was mixed with water and a HRWR at the 105 P-Building and pumped into the reactor vessel through three 2- inch grout hoses. The R-Reactor Vessel is scheduled to be filled with a portland cement-based structural fill (the same material used for the majority of the SRS reactor ISD) in December, 2010.

A flowable magnesium potassium phosphate grout was also developed as a potential reactor vessel fill material but was not deployed. This grout system has several interesting features, such as adhesion to metal surfaces, no shrinkage, and chemical stabilization of radionuclides. Follow-on development activities are being pursued for other applications including D&D and are being pursued for this material.

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**ASSESSMENT OF THE POTENTIAL FOR HYDROGEN GENERATION  
DURING DEACTIVATION AND DECOMMISSIONING OF REACTOR  
VESSELS AT THE SAVANNAH RIVER SITE - 11197**

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**ABSTRACT**

The R- and P-reactor vessels at the Savannah River Site (SRS) are being prepared for deactivation and decommissioning (D&D). D&D activities will consist primarily of physically isolating and stabilizing the reactor vessel by filling it with a grout material. The reactor vessels contain aluminum alloy materials, which pose a concern in that aluminum corrodes rapidly when it comes in contact with the alkaline grout. A product of the corrosion reaction is hydrogen gas and therefore potential flammability issues were assessed.

A model was developed to calculate the hydrogen generation rate as the reactor is being filled with the grout material. Three options existed for the type of grout material for D&D of the reactor vessels. The grout formulation options included ceramicrete (pH 6-8), a calcium aluminate sulfate (CAS) based cement (pH 10), or Portland cement grout (pH 12.4). Corrosion data for aluminum in concrete were utilized as input for the model. The calculations considered such factors as the surface area of the aluminum components, the open cross-sectional area of the reactor vessel, the rate at which the grout is added to the reactor vessel, and temperature. Given the hydrogen generation rate, the hydrogen concentration in the vapor space of the reactor vessel above the grout was calculated. This concentration was compared to the lower flammability limit for hydrogen.

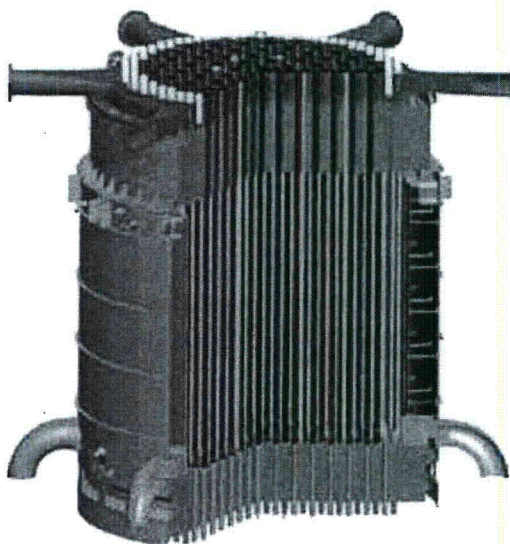
The assessment concluded that either ceramicrete or the CAS grout may be used to safely grout the P-reactor vessel. The risk of accumulation of a flammable mixture of hydrogen between the grout-air interface and the top of the reactor is very low. Portland cement grout, on the other hand, for the same range of process parameters did not provide a margin of safety against the accumulation of flammable gas in the reactor vessel during grouting operations in the P-reactor vessel. Therefore, it was recommended that this grout not be utilized for this task.

On the other hand, the R-reactor vessel contained significantly less aluminum surface area than the P-reactor vessel based on current facility process knowledge, surface observations, and drawings. Therefore, a Portland cement grout may be considered for grouting operations as well as the other grout formulations.



## INTRODUCTION

Reactor facilities were constructed at the Savannah River Site (SRS) to produce materials for the nation's nuclear weapons stockpile. The central component of the facility was the reactor vessel where the materials were produced. The reactor vessel was classified as a heavy water production reactor, in which the moderator water is used both for cooling and moderating the nuclear reaction. The vessel was constructed of stainless steel. However, the internal components, such as the universal sleeve housings, septifoils, spargers, and thimbles, were all constructed of aluminum alloys. Figure 1 shows the configuration of these internal components.



**Figure 1. Cross-sectional view of a reactor vessel.**

The R- and P-reactors at the SRS were removed from service in 1964 and 1988, respectively, and are now being prepared for deactivation and decommissioning (D&D). The closure technique for the reactor buildings is called In-Situ Decommissioning (ISD) [1]. The technique consists of placing cementitious grout materials below grade up to the ground surface. The above grade structure will then be demolished and removed. Finally, a concrete cap will cover the area and this will be the final configuration.

The internal aluminum components pose a concern in that aluminum corrodes very rapidly when it comes in contact with the very alkaline grout materials, and as a result produces hydrogen gas. To address this potential deflagration/explosion hazard, existing experimental and analytical studies of this issue were evaluated to determine if any process constraints on the chemistry of the fill material and the fill operation are necessary.

Various options exist for the type of grout material that may be used for D&D of the reactor vessels. The grout formulation options include ceramicrete (pH 6-8), a specially

designed calcium aluminate sulfate (CAS) based cement (pH 10) [2], or portland cement grout (pH 12.5). To perform this task, the rate of hydrogen generation in the vessels for grouts with a pH range from 8 to 13 were calculated. The calculations considered such factors as temperature, the rate at which the grout fills the vessel, the surface area of the components present, the surface area of the reactor vessel and the void volume of the reactor vessel. The objective of these calculations was to provide input as to which grout formulation is appropriate for the operations so that the risk of hydrogen gas accumulation is minimized.

## **ANALYTICAL APPROACH**

A similar evaluation was performed for the K basins at the Hanford Site [3]. This analysis was reviewed and applied to the situation for the R- and P- reactor vessels. The process is as follows:

- 1) Aluminum corrodes upon exposure to the grout.
- 2) Hydrogen is generated as a consequence of the corrosion reaction.
- 3) The gas rises to the surface of the grout in the form of bubbles.
- 4) The bubbles will burst at the grout surface releasing  $H_2$  gas into the stagnant air layer.

This process was modeled by formulating a kinetic law for hydrogen production as a function of the grout temperature, pH, fill rate and combining it with a model for vertical turbulent diffusion of a light fluid ( $H_2$ ) through a heavier miscible fluid medium (air). Vertical turbulent diffusion is a process analogous to molecular diffusion. However, the diffusion coefficient is several orders of magnitude larger than the molecular diffusion coefficient for the  $H_2$ /air mixture, because vertical diffusion of the lighter gas is due to buoyancy rather than molecular motion. This model has been confirmed experimentally and has been shown to be effective for predicting diffusion layers that are broader than they are tall [3].

The assumptions used in the analysis were:

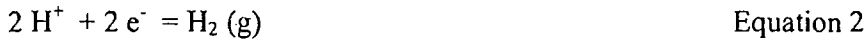
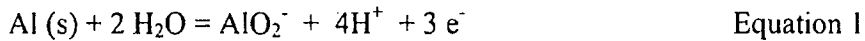
- The aluminum is exposed to wet cement while the reactor vessel is being filled. Corrosion and hydrogen generation rates associated with this condition were assumed.
- There are openings in the reactor vessel that allow hydrogen to escape the vessel.
- Once the hydrogen reaches the top of the reactor vessel, there is sufficient advection to disperse the hydrogen within the building superstructure.

Based on these assumptions the only place that hydrogen could potentially accumulate is in the region between the grout layer and the top of the reactor vessel.

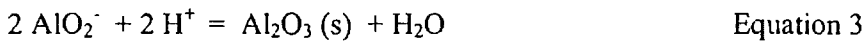
The first part of the model involved developing a kinetic expression for the generation of hydrogen due to aluminum corrosion. The corrosion mechanism for aluminum in an



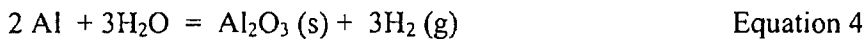
alkaline environment is represented the anodic and cathodic reactions shown in Equations (1) and (2), respectively.



At low concentrations and pH between 8 and 14, the aluminate ion ( $\text{AlO}_2^-$ ) is unstable and will tend to form an aluminum oxide phase according to Equation 3.



Therefore, the net reaction for corrosion of aluminum is:



Equation 4 shows that for every mole of aluminum that corrodes, 1.5 moles of hydrogen evolves.

This kinetic expression can be represented by the following relationship:

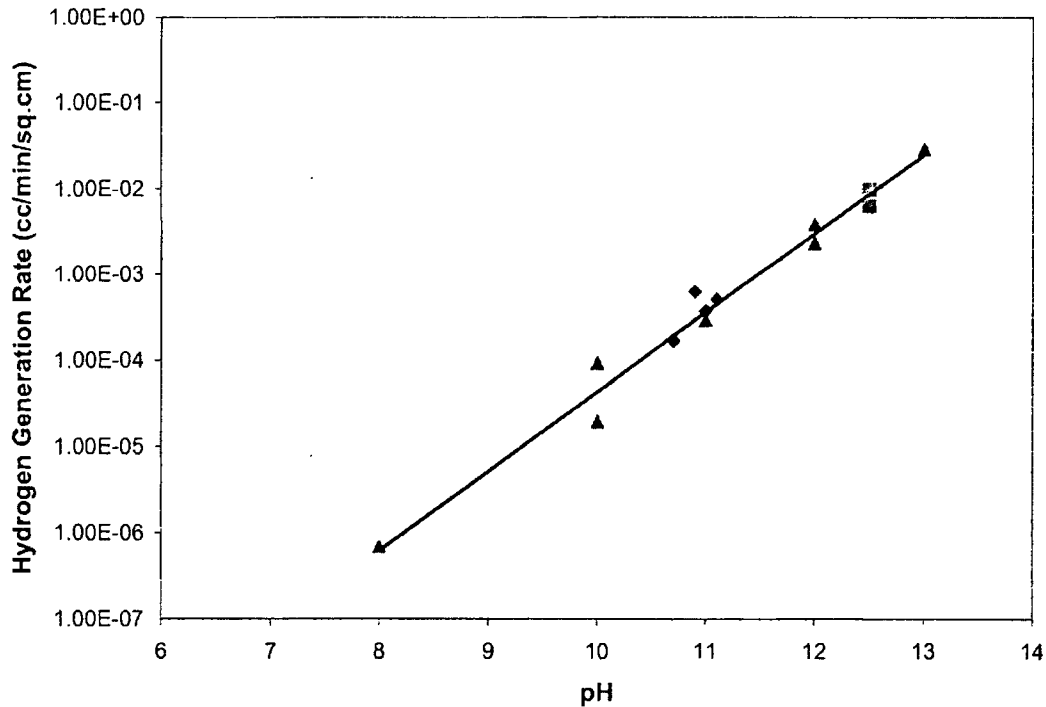
$$Q_o = f(\text{pH}, T) = U(\text{pH}) * V(T) \quad \text{Equation 5}$$

Where  $Q_o$  is the hydrogen generation rate in  $\text{cm}^3/\text{cm}^2/\text{min}$ ,  $T$  is the grout temperature in K,  $U$  is the hydrogen generation rate as a function of pH and  $V$  is the hydrogen generation rate as a function of temperature.

Literature values for the corrosion rate of aluminum as a function of pH were obtained for Portland cements, CAS cements, cement pore water solutions, and sodium hydroxide solutions [3-6]. These values were reported as either corrosion rates or hydrogen generation rates. Figure 2 shows the hydrogen generation rates from these literature values as a function of pH. These rates were measured shortly after the aluminum was exposed and at approximately 30 °C. The figure shows that the hydrogen generation rate increases exponentially as the pH increases according to Equation 6.

$$U = 3 \times 10^{-14} \exp(2.1 * \text{pH}) \quad \text{Equation 6}$$

where  $U$  is the hydrogen generation rate as a function of pH in  $\text{cm}^3/\text{cm}^2/\text{min}$ .



**Figure 2. Hydrogen generation rate as a function of the pH. Blue triangles are literature data for the initial rates with aluminum exposed to calcium hydroxide and sodium hydroxide solutions [4, 5]. Red diamonds are literature data for the initial rates with aluminum exposed to various CAS grout materials [6]. Purple squares are literature data for the initial rates with aluminum exposed to Portland cement grout materials [3, 6].**

The temperature dependence of the hydrogen generation rate was also determined from experimental data in the literature. Two assumptions were made in order to develop a relationship between the hydrogen generation and temperature. First, it was assumed that the hydrogen generation could be described by the Arrhenius expression. Secondly, hydrogen generation rates measured in calcium hydroxide solutions that simulate the grout pore water are appropriate estimates for actual grout. The hydrogen generation rate in calcium hydroxide solutions increased by a factor of 5 as the temperature increased from 23 °C to 52 °C [3]. This result was consistent with the temperature dependence that was observed in an inhibited grout mixture [7]. Utilizing this data in the Arrhenius expression, the activation temperature was determined to be 5339 K. Thus, the final relationship for the temperature dependence may be expressed as:

$$V = A \exp (-5339/T) \quad \text{Equation 7}$$

where V is the hydrogen generation rate as a function of temperature in  $\text{cm}^3/\text{cm}^2/\text{min}$ , A is a constant, and T is the temperature in K.

Substitution of Equations 6 and 7 into Equation 5 yields:

$$Q_0 = 3 \times 10^{-14} \exp(2.1 \cdot \text{pH}) \cdot \exp(-5339 \cdot (1/T - 1/303)) \quad \text{Equation 8.}$$

The total hydrogen generated (Q) also depends on the surface area of aluminum that is actively corroding. Laboratory tests indicated that the initial hydrogen generation rate decreases by 50% every three hours [3]. The decrease in corrosion rate is due to the formation of a corrosion product (principally tricalcium aluminum hydroxide and hydrocalumite) layer on the surface of the aluminum metal. The half-life for the hydrogen generation rate,  $Q_{1/2}$ , may be expressed as:

$$Q_{1/2} = Q_0 \cdot \exp(-0.231 \cdot t) \quad \text{Equation 9}$$

where t is the time in hours. A material balance was performed at time  $t_f$  to determine the hydrogen generated from the surface area of aluminum that is exposed to the grout mixture. Equation 10 represents this material balance.

$$Q A_c H = \int_0^H Q_0 (\exp(-0.231 t_f)) (A_c (dh)) \quad \text{Equation 10}$$

where Q is the total hydrogen gas released due to corrosion,  $A_c$  is the open cross-sectional area of the vessel, H is the height of the reactor vessel, h is the height above the bottom of the reactor vessel. For the calculations it was assumed that the grout fill level in the reactor increases as a linear function of time. Therefore,  $t_f$  is related to the fill height by the following:

$$t_f = h/m \quad \text{Equation 11}$$

where m is the grout fill rate in cm/min.

The solution to Equation 10 is therefore,

$$Q = \frac{Q_0 m}{0.00385 H} \left( 1 - \exp\left(-0.00385 H/m\right) \right) \quad \text{Equation 12}$$

The second part of the model involves the mass transport of the hydrogen gas from the surface of the grout to the top of the reactor. The transport of the relatively light hydrogen gas through the dense air layer above the grout is a process analogous to Fickian diffusion. The concept of a vertical turbulent diffusion has been applied in modeling the upward transport of a lighter fluid through a heavier miscible fluid. Epstein and Burelebach developed the diffusion equation and boundary conditions for a brine/water turbulent diffusion layer [8]. By analogy these equations may be applied to mixing in a heavy gas/ light gas system. The analysis does not account for dissipation of hydrogen between the surface of the grout and the top of the reactor due to advection. Accounting for this phenomenon would minimize the accumulation of hydrogen in this region.

Solution of the diffusion equation allows one to calculate the flux of the hydrogen away from the grout surface. This flux is related to the superficial velocity,  $u_o$ , which may be expressed as:

$$u_o = \beta^2 * [g * H_o * (1 - (M_{H_2}/M_{air})) * X_{LFL}^3]^{1/2} \quad \text{Equation 13}$$

where  $\beta$  is a proportionality constant,  $g$  is the acceleration of gravity,  $H_o$  is the distance between the grout-air interface and the top of the reactor,  $M$  is the molecular weight of either hydrogen or air, and  $X$  is the volume % of hydrogen in air at the lower flammability limit (LFL). In the case of hydrogen the LFL is 4% by volume.

The incipient flammability condition occurs when the gas generation rate due to corrosion equals the flux of hydrogen through air. The boundary condition at the interface between the grout and air is that the hydrogen gas concentration is at the LFL. For safety class operations, with radioactive materials stored within a vessel, a criterion of 60% LFL was utilized for the evaluation. The equation that describes this condition is:

$$Q * A_{Al} = u_o * A_c \quad \text{Equation 14}$$

where  $A_{Al}$  is the surface area of aluminum in contact with grout and  $A_c$  is the open cross-sectional area of the reactor vessel. Equation 14 can be re-arranged to give the critical areal density ratio.

$$[A_{Al}/A_c]_c = u_o/Q \quad \text{Equation 15}$$

For the analysis, a plot of  $[A_{Al}/A_c]_c$  vs.  $H$  is prepared (see Figure 3). If the critical area density is greater than the actual areal density, there is a low probability of a flammable condition. On the other hand if it is less than the actual areal density, there is a possibility of a flammable condition developing.

### **DETERMINATION OF AREAL DENSITY RATIOS**

Actual areal density ratios are being calculated based on current facility process knowledge, surface observations, and drawings of the R- and P-reactor vessels. The predominant aluminum components present in the reactor vessels are the universal sleeve housing (USH) and thimble tubes. It will be assumed that the inner and outer surfaces of these components will be exposed to the grout. The aluminum surface area,  $A_{Al}$ , as a function of the fill level,  $H$ , was calculated from the following relationship:

$$A_{Al}(h) = N_{USH} * \pi * (D_{USH_o} + D_{USH_i}) * H + N_T * \pi * (D_{T_o} + D_{T_i}) * H \quad (7)$$

where  $D$  is the diameter, subscript USH is for the USH tubes, subscript T is for the thimble tubes, subscript o represents the exterior surface, subscript i represents the

interior surface, and N is the quantity of USH or thimble tubes. The calculation did not include the surface area of the ends of the tubes.

The open cross-sectional area of the vessel,  $A_c$ , was calculated by subtracting the cross-sectional area of the USHs, thimble tubes, septifoils and spargers from the total tank cross-sectional area. This is represented by the following equation:

$$A_c = \pi * D_t^2/4 - N_{USH} * \pi * (D_{USH_o}^2 - D_{USH_i}^2)/4 - N_T * \pi * (D_{T_o}^2 - D_{T_i}^2)/4 - N_{ss} * \pi * D_{ss}^2/4 \quad (8)$$

where subscript c is for the cross-sectional area, subscript t is for the tank, and subscript ss is for the septifoils and the spargers. In P-reactor it is estimated that there are 432 USH tubes, 61 septifoils, and 66 thimble tubes and 6 spargers. The USH tubes have outer and inner diameters, 10.8 centimeters and 10.1 centimeters, respectively. The outer and inner diameters for the thimble tubes are 3.8 centimeters and 2.5 centimeters, respectively. The septifoils and spargers were modeled as a cylinder with a diameter of 8.9 centimeters. In R-reactor, it was determined that there are no USH tubes present (i.e., only septifoils, thimbles and spargers are present). The lack of USH tubes means that  $A_{AI}$ , and hence the areal density ratio, for R-reactor is less than that of P-reactor by a factor of approximately 25 (see Figure 3).

## RESULTS

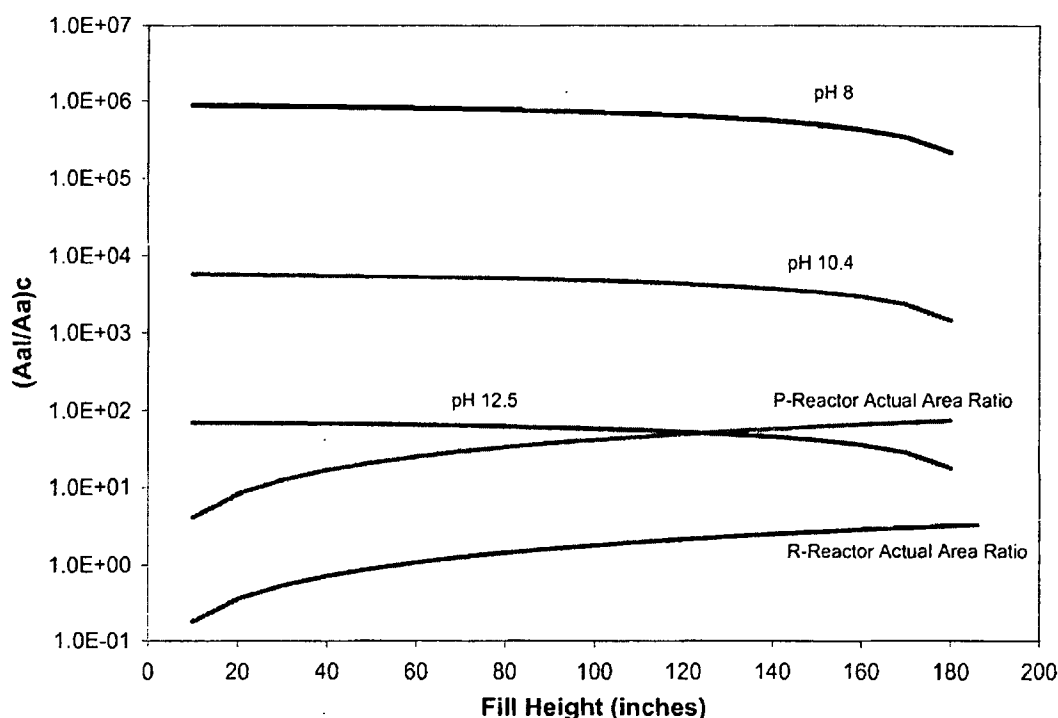
Case studies were performed to evaluate the effects of the grout temperature, fill rate, and grout pH on the hydrogen generation rate. The cases are summarized in Table 1 and an example of a critical. Some of the key trends were:

- An increase in temperature resulted in a lower critical areal density and therefore greater risk of developing a flammable condition.
- An increase in pH resulted in a lower critical areal density and therefore a greater risk of developing a flammable condition (see Figure 3).
- An increase in the fill rate resulted in a lower critical areal density, although the effect was not as great as temperature or pH.
- The 60% LFL criterion provides a significant margin on the risk of developing a flammable condition.
- An increase in the actual areal density ratio results in a greater risk of developing a flammable condition. Thus, as shown in the figures, there is a greater risk of developing a flammable condition in the P-reactor vessel than there is in the R-reactor vessel.

The results of the case studies for the P-reactor vessel demonstrate that two of the grout formulations, the ceramicrete and the CAS, should not result in a flammable condition during reactor vessel grouting operations as long as they are within the parameters of the case studies. Figure 3 shows the base case that was considered (i.e., 70 °C, fill rate of 2.5 cm/min, 60% LFL). Even at 60% LFL the critical areal density ratio for the CAS grout is at least 1 to 2 orders of magnitude greater than the actual areal density ratio, while the ratio for the ceramicrete is 3 to 4 orders of magnitude greater. At 100% LFL these

margins increase further to 2 to 3 orders of magnitude for the CAS grout and 4 to 5 orders of magnitude for the ceramicrete. The portland cement grout is not a viable option for the P-reactor vessel as it exceeds the 60% LFL criterion for each case that was examined. Figure 3 shows that after 120 inches of the pH 12.5 grout has been added, there is a risk that a flammable mixture of gas could form near the surface of the grout.

The results of the case studies for the R-reactor vessel suggest that all three grout formulations may be viable. For example, at the base case conditions (i.e., 70 °C, fill rate of 1 inch/min, 60% LFL, see Figure 3) the critical areal density ratio is a factor of 5.5 greater than the actual areal density ratio for the Portland cement, while the ratio for the CAS grout is 2 to 3 orders of magnitude greater and 4 to 5 orders of magnitude greater for the ceramicrete grout. Although not shown, similar margins would be obtained at a temperature of 80 °C with a fill rate of 1.25 cm/min.



**Figure 3. Flammability evaluation for the P- and R-reactor vessels exposed to grouts with different pH.**

The factor of 5.5 difference between the critical areal density ratio and the actual areal density was examined further to assess the risk associated with utilizing Portland cement grout for R-reactor. The surface area of the aluminum thimbles was approximately 620,800 square centimeters. A total aluminum surface area of approximately 3,415,000 square centimeters could be contained in the R-reactor vessel before the 60% LFL criterion would be exceeded (i.e., there would need to be an additional 2,800,000 square centimeters of aluminum in the reactor vessel). This surface area is roughly equivalent

to 90 USH's. Thus, if the facility is confident in the information provided by current facility process knowledge and drawings, the risk of approaching the LFL is low.

Although these results are encouraging, due to the potential consequences, taking precautions that reduce the likelihood of a flammable condition are recommended. These measures include ensuring that the building has adequate ventilation during the grouting process, minimizing the grout temperature, and operating at a slower fill rate. In order to evaluate the ventilation needs, the volumetric flow rate of hydrogen was calculated for each case for the P and R-reactor vessels utilizing Equation 12. The results are summarized in Tables 2 and 3.

For the P-reactor vessel, the hydrogen flow rates for the pH 8 and pH 10.4 grout are very small, less than 28 liters/min (see Table 2). The flow rates for the pH 12.5 grout are higher than those for the lower pH grouts, ranging between 156 and 2230 liters/min, however, the rates could be manageable with proper ventilation. For the R-reactor vessel (see Table 3), the flow rates are a factor of approximately 25 less than the P-reactor vessel (i.e., proportional to the change in aluminum surface area).

**Table 1. Summary of Case Studies**

Case	Temperature (°C)	Fill Rate (cm/minute)	pH
1	50	2.5	8, 10.4, and 12.5
2	100	2.5	8, 10.4, and 12.5
3	70	2.5	8, 10.4, and 12.5
4	80	2.5	8, 10.4, and 12.5
5	50	1.25	8, 10.4, and 12.5
6	60	1.25	8, 10.4, and 12.5
7	70	1.25	8, 10.4, and 12.5
8	50	5	8, 10.4, and 12.5
9	60	5	8, 10.4, and 12.5
10	70	5	8, 10.4, and 12.5
11	100	5	8, 10.4, and 12.5

**Table 2. Summary of Volumetric Flow Rates of Hydrogen for the P- Reactor Vessel Case Studies.**

Case	Temperature (°C)	Fill Rate (cm/min)	pH 10.4	pH 8	pH 12.5
			Qtot (liters/min)	Qtot (liters/min)	Qtot (liters/min)
1	50	2.5	2.55E+00	1.67E-02	2.12E+02
2	100	2.5	2.33E+01	1.53E-01	1.90E+03
3	70	2.5	6.68E+00	4.25E-02	5.43E+02
4	80	2.5	1.04E+01	6.79E-02	8.43E+02
5	50	1.25	1.92E+00	1.25E-02	1.56E+02
6	60	1.25	3.14E+00	2.07E-02	2.56E+02
7	70	1.25	4.98E+00	3.28E-02	4.08E+02
8	50	5	2.97E+00	1.95E-02	2.43E+02
9	60	5	4.90E+00	3.11E-01	3.99E+02
10	70	5	7.81E+00	5.09E-02	6.37E+02
11	100	5	2.73E+01	1.78E-01	2.23E+03

**Table 3. Summary of Volumetric Flow Rates of Hydrogen for the R- Reactor Vessel Case Studies.**

Case	Temperature (°C)	Fill Rate (cm/min)	pH 10.4	pH 8	pH 12.5
			Qtot (liters/min)	Qtot (liters/min)	Qtot (liters/min)
1	50	2.5	1.13E-01	7.39E-04	9.17E+00
2	100	2.5	1.02E+00	6.79E-03	8.41E+01
3	70	2.5	2.83E-01	1.93E-03	2.41E+01
4	80	2.5	4.58E-01	3.00E-03	3.74E+01
5	50	1.25	8.46E-02	5.52E-04	6.88E+00
6	60	1.25	1.39E-01	9.08E-04	1.13E+01
7	70	1.25	2.22E-01	1.45E-03	1.80E+01
8	50	5	1.32E-01	8.63E-04	1.08E+01
9	60	5	2.18E-01	1.42E-03	1.77E+01
10	70	5	3.45E-01	2.26E-03	2.82E+01
11	100	5	1.22E+00	7.92E-03	9.85E+01

## CONCLUSIONS

An assessment of the potential for hydrogen generation during grouting operations in the R- and P- Reactor vessels was performed. The assessment concluded that either ceramicrete or the CAS grout may be used to safely grout the P-reactor vessel because neither grout will generate enough hydrogen to exceed 60% LFL. The risk of accumulation of a flammable mixture of hydrogen between the grout-air interface and the top of the reactor is very low. Portland cement grout, on the other hand, for the same range of process parameters does not provide a significant margin of safety against the accumulation of flammable gas in the reactor vessel during grouting operations in the P-



reactor vessel. This accumulation of flammable gas exceeds 60% LFL. It is recommended that this grout not be utilized for this task.

Based on current facility process knowledge, drawings and surface observations, the R-reactor vessel contains significantly less aluminum than P-reactor. Thus a Portland cement grout may be considered as well. For example, if the grout fill rate is less than 1 inch/min and the grout temperature is maintained at 70 °C or less, the risk of hydrogen accumulation in the R-reactor vessel is low for the Portland cement. Alternatively, if the grout fill rate is less than 0.5 inch/min and the grout is maintained at a temperature of 80 °C, the risk is again low. In either case, accumulation of flammable gas does not exceed 60% LFL.

Although these calculations are conservative, there are some measures that may be taken to further minimize the potential for hydrogen evolution.

1. Minimize the temperature of the grout as much as practical. Lower temperatures will mean lower hydrogen generation rates. For P-reactor, grout temperatures less than 100 °C should provide an adequate safety margin for the pH 8 and pH 10.4 grout formulations. For R-reactor, grout temperatures less than 70 °C or 80 °C will provide an adequate safety margin for the Portland cement. The other grout formulations are also viable options for R-reactor.
2. Minimize the grout fill rate as much as practical. Lowering the fill rate takes advantage of passivation of the aluminum components and hence lower hydrogen generation rates. For P-reactor, fill rates that are less than 2 inches/min for the ceramcrete and the CAS grouts will reduce the chance of significant hydrogen accumulation. For R-reactor, fill rates less than 1 inch/min will again minimize the risk of hydrogen accumulation.
3. Ventilate the building as much as practical (e.g., leave doors open) to further disperse hydrogen. The volumetric hydrogen generation rates in the P-reactor vessel, however, are low for the pH 8 and pH 10.4 grout i.e., less than 28 liters/min.

## REFERENCES

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- 3) S. M. Short and B. M. Parker, "Potential for Generation of Flammable Mixtures of Hydrogen from Aluminum-Grout Interaction During Basin Grouting", PNNL-15156, April 2005.
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## ACKNOWLEDGEMENTS

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**From:** McNamara, Nancy  
**Sent:** Friday, March 18, 2011 2:38 PM  
**To:** Bradford, Anna  
**Cc:** Lew, David  
**Subject:** RE: Meeting Request Follow Up

Thanks, Anna. FYI. RI held a call with NY state agencies and the 4-country executive staff. We had Benjamin Beasley and John Kauffman from Research give the briefing on GI -199 with respect to what was written in the MSNBC news article. They did an excellent job. At the end of the call, all understood a very complex issue.

Good luck.

**From:** Bradford, Anna  
**Sent:** Friday, March 18, 2011 2:33 PM  
**To:** McNamara, Nancy  
**Subject:** FW: Meeting Request Follow Up

Please see below. They have declined a call with the Chairman and decided they would rather meet with a senior staffer. We'll work with NRR to make it happen.

Thanks for your help!

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

**From:** Hilary Jochmans [mailto:Hilary.Jochmans@exec.ny.gov]  
**Sent:** Friday, March 18, 2011 1:42 PM  
**To:** Pace, Patti  
**Cc:** Thomas Congdon; Bradford, Anna; Warren, Roberta  
**Subject:** RE: Meeting Request Follow Up

Thank you, Patti. I greatly appreciate your assistance. I certainly understand the constraints on the Chairman's time. We would appreciate a meeting with the Senior Staff you suggest on Tuesday in person. Please let me know what other information you need from me, and then who the staffer will be and when where.

Thanks again,  
Hilary

**From:** Pace, Patti [mailto:Patti.Pace@nrc.gov]  
**Sent:** Friday, March 18, 2011 1:37 PM  
**To:** Hilary Jochmans  
**Cc:** Thomas Congdon; Bradford, Anna; Warren, Roberta  
**Subject:** Meeting Request Follow Up

Dear Hilary,

Chairman Jaczko will not be available for a face to face meeting next week due to his role in the ongoing NRC response to the situation in Japan. He values the very good relationship between the NRC and State of New

York. He has offered to make himself available for a phone call next week if that would be acceptable to Lt. Governor Duffy. If the Lt. Governor would prefer to meet with a senior NRC staff person we could work on that as an alternative.

Please let me know how you would like to proceed.

Many thanks,

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

**From:** Hilary Jochmans [mailto:Hilary.Jochmans@exec.ny.gov]  
**Sent:** Thursday, March 17, 2011 3:22 PM  
**To:** Pace, Patti  
**Cc:** Thomas Congdon  
**Subject:** Follow up to Conversation

Hi Patti – It was great to chat with you. Glad to hear you are doing well. Thanks so much for your offer to help with this meeting request.

On Tuesday, the NYS Lt. Governor, Robert Duffy, NYS Director of Operations, Howard Glaser and NYS Deputy Secretary for Energy, Tom Congdon, would like to come to Washington to meet with the Chairman. Specifically, they would like to be briefed on the September 2010 NRC report including the status of the follow up review. If the Chairman is not available, they would like to meet with an appropriate Commissioner or senior staffer.

I greatly appreciate your assistance with this request. Please let me know if you need any additional information.

Thanks,  
Hilary

Hilary E. Jochmans, Director  
New York State Washington Office of the Governor  
202 433-7109

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**From:** Batkin, Joshua  
**Sent:** Friday, March 18, 2011 7:01 AM  
**To:** Loyd, Susan; Montes, David  
**Cc:** Bradford, Anna; Coggins, Angela  
**Subject:** Press

OPA is overwhelmed responding to stuff. We are getting them some help, but in the meantime, can you two take more of an active role monitoring and reviewing how things are coming out so we can know better what we need to be addressing? I.e. Can you start doing short summaries/reports? How does it look yesterday/today? Trends? Nat. Media? Trade press? Any concerns or inaccuracies? Anything to amplify more? Thanks

Joshua C. Batkin  
Chief of Staff  
Chairman Gregory B. Jaczko  
(301) 415-1820

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**From:** Chairman's Digital Sender <chairman.temp@nrc.gov>  
**Sent:** Wednesday, March 16, 2011 1:20 PM  
**To:** Bradford, Anna  
**Subject:** PAGS  
**Attachments:** PAGS.pdf

Please open the attached document. This document was digitally sent to you using an HP Digital Sending device.

Table 2-1

## PAGs for the Early Phase of a Nuclear Incident

Protective Action	PAG (projected dose)	Comments
Evacuation (or sheltering <sup>a</sup> )	1-5 rem <sup>b</sup>	Evacuation (or, for some situations, sheltering <sup>a</sup> ) should normally be initiated at 1 rem. Further guidance is provided in Section 2.3.1
Administration of stable iodine	25 rem <sup>c</sup>	Requires approval of State medical officials.

<sup>a</sup>Sheltering may be the preferred protective action when it will provide protection equal to or greater than evacuation, based on consideration of factors such as source term characteristics, and temporal or other site-specific conditions (see Section 2.3.1).

<sup>b</sup>The sum of the effective dose equivalent resulting from exposure to external sources and the committed effective dose equivalent incurred from all significant inhalation pathways during the early phase. Committed dose equivalents to the thyroid and to the skin may be 5 and 50 times larger, respectively.

<sup>c</sup>Committed dose equivalent to the thyroid from radioiodine.

protective action at projected doses up to 5 rem. In addition, under unusually hazardous environmental conditions use of sheltering at projected doses up to 5 rem to the general population (and up to 10 rem to special groups) may become justified. Sheltering may also provide protection equal to or greater than evacuation due to the nature of the source term and/or in the presence of temporal or other site-specific

conditions. Illustrative examples of situations or groups for which evacuation may not be appropriate at 1 rem include: a) the presence of severe weather, b) competing disasters, c) institutionalized persons who are not readily mobile, and d) local physical factors which impede evacuation. Examples of situations or groups for which evacuation at 1 rem normally would be appropriate include: a) an

The following table shows various protective actions and how emergency personnel apply them during each phase of a nuclear emergency.

### Exposure Pathways and Protective Actions

These are examples of exposure routes and various protective actions. The phases are not set timeframes and protective actions may overlap more than one phase.

POTENTIAL EXPOSURE PATHWAYS	INCIDENT PHASES			PROTECTIVE ACTIONS
1. External radiation from facility	EARLY			1. Sheltering, evacuation, control of access
2. External radiation from plume				2. Sheltering, evacuation, control of access
3. Inhalation of activity in plume				3. Sheltering, administration of stable iodine, evacuation, control of access
4. Contamination of skin and clothes				4. Sheltering, evacuation, decontamination of persons
5. External radiation from ground deposition of activity		INTERMEDIATE	LATE	5. Evacuation, relocation, decontamination of land and property
6. Ingestion of contaminated food, water				6. Food and water controls
7. Inhalation of re-suspended activity				7. Relocation, decontamination of land and property

#### Notes:

Stored animal feed and uncontaminated water could be used to protect domestic animals in the food chain from consuming radioactivity. This can be done in any of the phases. Evacuation occurs in the early, or emergency, phase of a nuclear incident and relocation occurs during the intermediate phase and may continue into the late, or recovery, phase.



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**From:** Coggins, Angela  
**Sent:** Wednesday, March 16, 2011 12:28 PM  
**To:** Bradford, Anna  
**Subject:** Re: FYI: Call from Bechtel

Can you send contact info to email. "RST01 HOC"

Angela Coggins  
Policy Director  
Office of Chairman Gregory B Jaczko  
US Nuclear Regulatory Commission  
[angela.coggins@nrc.gov/301-415-1828](mailto:angela.coggins@nrc.gov/301-415-1828)

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**From:** Bradford, Anna  
**To:** Batkin, Joshua; Coggins, Angela  
**Cc:** Pace, Patti; Hipschman, Thomas; Marshall, Michael  
**Sent:** Wed Mar 16 12:12:39 2011  
**Subject:** FYI: Call from Bechtel

Today I received a call from the President of Bechtel Nuclear. He wanted to extend an offer of any assistance they can provide, including free assistance. He said that they had workers at Three Mile Island, and also currently have workers at Chernobyl because they are the project managers for that site. He wanted to make sure this message got passed on to the Chairman.

He said that the Japanese told Bechtel to call the NRC. I thanked him for reaching out and told him that USAID might be the proper agency to contact since they seem to be handling many arrangements. He said he would do that.

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

---

**From:** Hipschman, Thomas  
**Sent:** Wednesday, March 16, 2011 12:16 PM  
**To:** Bradford, Anna  
**Subject:** RE: 2009 NRC Tsunami Study

We also have done studies of central, eastern us earthquake probability, as well as the shoreline fault near Diablo Canyon. I just think the inner circle should be aware of these things in case the Chairman wants to know. I know people out there are looking for info, and the media or congressional staffers might ask questions in this area.

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

From: Bradford, Anna  
Sent: Wednesday, March 16, 2011 12:08 PM  
To: Hipschman, Thomas  
Subject: RE: 2009 NRC Tsunami Study

Gotcha. I was just expecting numbers! And pictures! And maybe a video!!

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

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

From: Hipschman, Thomas  
Sent: Wednesday, March 16, 2011 12:07 PM  
To: Bradford, Anna  
Subject: Re: 2009 NRC Tsunami Study

Just pointing out what we had done, or not.

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

From: Bradford, Anna  
To: Hipschman, Thomas  
Sent: Wed Mar 16 11:59:51 2011  
Subject: RE: 2009 NRC Tsunami Study

That is not very helpful because it just says how a study of individual plants should be performed. It doesn't really give results.

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

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

From: Hipschman, Thomas

Sent: Wednesday, March 16, 2011 10:03 AM

To: Batkin, Joshua; Bradford, Anna; Coggins, Angela; Loyd, Susan; Pearson, Laura; Marshall, Michael; Monninger, John; Pace, Patti

Subject: 2009 NRC Tsunami Study

<http://www.nrc.gov/reading-rm/doc-collections/nuregs/contract/cr6966/cr6966.pdf>

FYI - I just wanted you to be aware we did a recent study.

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**From:** Chairman's Digital Sender <chairman.temp@nrc.gov>  
**Sent:** Wednesday, March 16, 2011 8:15 AM  
**To:** Bradford, Anna; Speiser, Herald  
**Subject:** RAD COMPARISON 2  
**Attachments:** RAD COMPARISON 2.pdf

Please open the attached document. This document was digitally sent to you using an HP Digital Sending device.

POSSIBLE HEALTH EFFECTS FROM WHOLE-BODY RADIATION DOSES	
<i>Radiation Dose</i>	<i>Possible Health Effects</i>
0-5 rem	Received over a short or long period of time is safe—we don't expect observable health effects.
5-10 rem	Received over a short or long period of time is safe—we don't expect observable health effects. At this level, an effect is either nonexistent or too small to observe.
10-50 rem	Received over a short or long period of time—we don't expect observable health effects although above 10 rem the chances of getting cancer are slightly increased. We may also see short-term blood-cell decreases for doses of 50 rem received in a matter of minutes.
50-100 rem	Received in a short time will likely cause some observable health effects. Received over a long period will increase the chances of getting cancer. Changes in blood cells may be seen, but the blood system will quickly recover.
100-300 rem	Received in a short time will cause nausea, vomiting, and fatigue. Medical attention should be sought. Received over a long period, it increases the chances of getting cancer.
300-500 rem	Received in a short time will cause nausea, vomiting, and diarrhea within hours. Loss of hair and appetite occurs within a week. Medical attention must be sought for survival; half of the people exposed to radiation doses at this level will die if they do not receive medical attention.
500-1,200 rem	Received in a short time will likely lead to death within a few days.
>10,000 rem	Received in a short time will lead to death within hours.

RADIATION SOURCE	EFFECTIVE DOSE	ADDITIONAL CHANCES OF GETTING CANCER**
dental, skull, or chest x ray  annual dose living at nuclear power plant perimeter	Less than (<) or equal to (=) 0.01 rem	<=1 in 60,000
spine, abdomen, pelvis, or hip x ray  mammogram	<=0.1 rem	<=1 in 6,000
kidney series or most barium-related x rays  head CT+  any spine x-ray series  a year of natural background radiation  most nuclear medicine liver, kidney, bone, brain, or lung scans	<=0.5 rem	<=1 in 1,200
barium enema  chest, abdomen, or pelvis CT+	<=1.0 rem	<=1 in 600
cardiac catheterization, coronary angiogram, other heart x-ray studies  most nuclear medicine heart scans	<=5.0 rem	<=1 in 120

+The "odds" numbers in this column are estimated numbers of increased cancers; the real number in each case may be zero up to the number cited. For instance, the odds of 1 in 120 really are "zero up to 1" in 120.

\*Numbers from the National Radiation Protection Board (now the United Kingdom Health Protection Authority).

+CT = computerized tomography; a specialized x-ray exam.

ANNUAL U.S. ESTIMATED RADIATION DOSE PER PERSON*	
Source	Average Annual Effective Dose (mrem)
Radon and other radionuclides ingested or inhaled	257
Radiation from soils, rocks, etc.	21
Cosmic/cosmogenic radiation	33
Human-made sources	311
Total	622

\*NCRP Report 160, 2009.

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Individuals who frequently fly wonder about the extra radiation exposure they receive from flying. That depends on several things, including how long the flight lasts, how high up the plane flies and, of course, how often a person flies. Some of the approximate doses when flying at 36,000 feet are:

- New York to Los Angeles round trip = 4 mrem
- New York to Paris round trip = 6 mrem
- New York to London round trip = 6 mrem
- Los Angeles to Paris round trip = 10 mrem
- Los Angeles to Chicago round trip = 2 mrem

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**From:** Chairman's Digital Sender <chairman.temp@nrc.gov>  
**Sent:** Wednesday, March 16, 2011 8:03 AM  
**To:** Bradford, Anna; Speiser, Herald  
**Subject:** RAD COMPARISON  
**Attachments:** RAD COMPARISON.pdf

Please open the attached document. This document was digitally sent to you using an HP Digital Sending device.



Source of Exposure		
Average Dose to US public from All sources	360 mrem/year	
Average Dose to US Public From Natural Sources	300 mrem/year	
Average Dose to US Public From Medical Sources	53 mrem/year	
Average dose to US Public from Weapons Fallout	< 1 mrem/year	
Average Dose to US Public From Nuclear Power	< 0.1 mrem/year	
Coal Burning Power Plant	0.165 mrem/year	
X-rays from TV set (1 inch)	0.500 mrem/hour	
Airplane ride (39,000 ft.)	0.500 mrem/hour	
Nuclear Power Plant (normal operation at plant boundary)	0.600 mrem/year	
Natural gas in home	9 mrem/year	
Average Natural Background	0.008 mR/hour	0.006-0.015 mR/hour
Average US Cosmic Radiation	27 mrem/year	
Average US Terrestrial Radiation	28 mrem/year	
Terrestrial background (Atlantic coast)	16 mrem/year	
Terrestrial background (Rocky Mountains)	40 mrem/year	
Cosmic Radiation (Sea level)	26 mrem/year	
Cosmic Radiation (Denver)	50 mrem/year	
Background Radiation Total (East, West, Central US)	46 mrem/year	35-75 mrem/year
Background Radiation Total (Colorado Plateau)	90 mrem/year	75-140 mrem/year
Background Radiation Total (Atlantic and Gulf in US)	23 mrem/year	15-35 mrem/year
Radionuclides in the body (i.e., potassium)	39 mrem/year	
Building materials (concrete)	3 mrem/year	
Drinking Water	5 mrem/year	
Pocket watch (radium dial)	6 mrem/year	
Eyeglasses (containing thorium)	6 - 11 mrem/year	
Coast to coast Airplane roundtrip	5 mrem	
Chest x-ray	8 mrem	5 - 20 mrem
Extremities x-ray	1 mrem	
Dental x-ray	10 mrem	
Head/neck x-ray	20 mrem	
Cervical Spine x-ray	22 mrem	
Lumbar spinal x-rays	130 mrem	
Pelvis x-ray	44 mrem	
Hip x-ray	83 mrem	
Shoe Fitting Fluoroscope (not in use now)	170 mrem	
Upper GI series	245 mrem	
Lower GI series	405 mrem	
Diagnostic thyroid exam (to the thyroid)		
Diagnostic thyroid exam (to the Whole Body)		
CT (head and body)	1,100 mrem	
Therapeutic thyroid treatment (dose to the thyroid)	10,000,000 mrad	

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**From:** LIA07 Hoc  
**Sent:** Tuesday, March 15, 2011 3:04 PM  
**To:** Jaczko, Gregory  
**Cc:** Batkin, Joshua; Pace, Patti; Bradford, Anna; Mroz (Sahm), Sara  
**Subject:** RE: Updated information for the Chairman  
**Attachments:** image001.jpg; Talking Points for Chairman 300 pm 3-15-11.doc; USNRC Earthquake-Tsunami Update.031511.1330EDT.docx

Sir,

In reference to numbers 1 and 2 below, please find attached the latest talking points and Status Update. Please let me know if you have any questions or concerns.

Thank you,

Jim Anderson  
Office of Nuclear Security and Incident Response  
US Nuclear Regulatory Commission  
[james.anderson@nrc.gov](mailto:james.anderson@nrc.gov)  
[LIA07.HOC@nrc.gov](mailto:LIA07.HOC@nrc.gov) (Operations Center)

**From:** HOO Hoc  
**Sent:** Tuesday, March 15, 2011 11:08 AM  
**To:** PMT01 Hoc; RST01 Hoc; LIA01 Hoc; LIA02 Hoc; LIA04 Hoc; LIA07 Hoc; LIA11 Hoc; LIA12 Hoc; Gott, William; Marshall, Jane; McDermott, Brian; Morris, Scott; Thorp, John  
**Subject:** FW: Updated information for the Chairman

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



**From:** Bradford, Anna  
**Sent:** Tuesday, March 15, 2011 11:05 AM  
**To:** HOO Hoc; ET07 Hoc  
**Cc:** Pace, Patti  
**Subject:** Updated information for the Chairman

Hello,

The Chairman requests that the most up-to-date information be provided to him later today (times noted below) for the following three items:

1. The attached talking points (as of 3:00 pm today). Please email it directly to him at that time, with a cc: to Josh Batkin, Patti Pace, and myself.
2. The latest SitRep report (as of 3:00 pm today). Please email it directly to him at that time, with a cc: to Josh Batkin, Patti Pace, and myself.
3. Two hardcopies of the briefing book that is here in the Chairman's office. Please come and update the copies in the Chairman's office by 2:00 pm today.

Please confirm. Let me know if you have questions. Thanks.

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

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**From:** Burnell, Scott  
**Sent:** Tuesday, March 15, 2011 11:32 AM  
**To:** Bradford, Anna  
**Cc:** Brenner, Eliot  
**Subject:** Latest Q&A and talking points  
**Attachments:** Chairman JaczkoQA7\_031511.docx; QUAKE\_TP\_3\_15.docx

Anna;

Attached are the documents provided to the EDO and OCA for upcoming briefings for the Chairman's office to share with the rest of the Commission if desired – OIP still working on question of Japanese backup power requirements – fallback answer is that we can only speak to issues under our jurisdiction. Documents are also on WebEOC.

Thanks.

Scott

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**From:** Pace, Patti  
**Sent:** Friday, April 29, 2011 5:37 PM  
**To:** Marshall, Michael; Speiser, Herald  
**Subject:** April 22 - 28  
**Attachments:** USNRC Earthquake-Tsunami Update 042811 Revision 1, 1230 EDT; USNRC Earthquake-Tsunami Update 042811 Revision 0, 1200 EDT; One-Pager 0700 EDT 4/27/11; April 26 - 1500EDT One-Pager-Fukushima Daiichi; USNRC Earthquake-Tsunami Update 042611 1200 EDT (Final email distrubution); April 26 - 0700EDT One-Pager-Fukushima Daiichi; Japan One Pager 2300 EDT 4-25-11; Japan One Pager 1500 EDT 4-25-11; USNRC Earthquake-Tsunami Update 042511 1200 EDT ---- pmt edits ; Japan One Pager 1500 EDT 4-22-11; USNRC Earthquake-Tsunami Update - 1200 EDT (April 22, 2011); April 22 - 0700 EDT One Pager Fukushima Daiichi

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**From:** Pace, Patti  
**Sent:** Friday, April 29, 2011 5:37 PM  
**To:** Marshall, Michael; Speiser, Herald  
**Subject:** April 15 - 21  
**Attachments:** One-Pager - April 21, 2011 - 2300 EDT One-Pager - Fukushima Daiichi; Japan One Pager 1500 EDT 4-21-11; USNRC Earthquake-Tsunami Update - 1200 EDT (April 21, 2011); USNRC Earthquake-Tsunami Update - 1200 EDT (April 21, 2011); 20 APR 0600 SITREP; Japan One Pager 0700 EDT 4-21-11; FW: NRC's Daily Assessment of Conditions at Fukushima Daiichi; One Pager - April 21 - 0700 EDT - Fukushima Daiichi; One Pager - April 20 - 2300 EDT - Fukushima Daiichi; April 20 - 1500 EDT One Pager - Fukushima Daiichi; FW: April 20, 2011 NRC Emergency Operations Center Status Update; FW: April 20, 2011 NRC Emergency Operations Center Status Update; April 19 - 1500 EDT One-Pager Fukushima Daiichi; USNRC Earthquake-Tsunami Update 041911 Revision 1, 1300 EDT; USNRC Earthquake-Tsunami Update 041911 DRAFT 1200EDT; FW: NRC's Daily Assessment of Conditions at Fukushima Daiichi; Japan One Pager 0700 EDT 4-19-11; Japan One Pager 0700 EDT 4-19-11; Japan One Pager 0700 EDT 4-19-11; Japan One Pager 2300 EDT 4-18-11; Japan One Pager 1500 EDT 4-18-11; Japan One Pager 1500 EDT 4-18-11; RESEND: USNRC Emergency Operations Center Status Update; Untitled; RE: April 16 - 2300 EDT One-Pager - Fukushima Daiichi; FW: Japan One Pager 0700 EDT 4-18-11; USNRC Emergency Operations Center Status Update; April 16 - 2300 EDT One-Pager - Fukushima Daiichi; April 16 - 1500EDT One-Pager - Fukushima Daiichi; OUO -- 1200 EDT (April 16, 2011) USNRC Earthquake-Tsunami Update ; April 16 - 0700 EDT One-Pager - Fukushima Daiichi; April 15 - 2300EDT One-Pager - Fukushima Daiichi; OUO -- 1200 EDT (April 15, 2011) USNRC Earthquake-Tsunami Update ; April 15 - 0700EDT One-Pager - Fukushima Daiichi

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**From:** Pace, Patti  
**Sent:** Friday, April 29, 2011 5:36 PM  
**To:** Speiser, Herald; Marshall, Michael  
**Subject:** April 1 - 7 Emails  
**Attachments:** Go Book Update: 1800 EDT, April 7, 2011; USNRC Earthquake/Tsunami Status Update: 0430 EDT, April 7, 2011; One Pager: 1500 EDT April 7; Go Book Update - 0600 EDT, April 7, 2011; RE: Go Book Update - 0600 EDT, April 7, 2011; RE: 0430 EDT (April 7, 2011) USNRC Earthquake/Tsunami Status Update; Go Book Update - 1800 EDT, April 6, 2011; OUO -- 1800 EDT (April 6, 2011) USNRC Earthquake-Tsunami Update ; One Pager - April 6, 1500 EDT; Go Book Update - 0600 EDT, April 6, 2011; 0430 EDT (April 6, 2011) USNRC Earthquake/Tsunami Status Update; Go Book Update - 2300 EDT, April 5, 2011; Go Book Chronology; 1800 EDT (April 5, 2011) USNRC Earthquake-Tsunami Update ; Go Book Update - 1800 EDT, April 5, 2011; "One Pager" - April 5, 1500 EDT; Go Book Update - 0630 EDT, April 5, 2011; 0430 EDT (April 5, 2011) USNRC Earthquake/Tsunami Status Update; 1800 EDT (April 4, 2011) USNRC Earthquake/Tsunami Status Update; Go Book Update - 1800 EDT, April 4, 2011; One Pager for 1500 EDT, April 4; Go Book Update - 0700 EDT, April 4, 2011; Go Book Update - 0600 EDT, April 4, 2011; 0430 EDT (April 4, 2011) USNRC Earthquake/Tsunami Status Update; "Go Book" Update - 2200 EDT, April 3, 2011; One Pager - 2200 EDT April 3, 2011; 1800 EDT (April 3, 2011) USNRC Earthquake/Tsunami Status Update; RE: One Pager - 1500 EDT April 3, 2011; One Pager - 1500 EDT April 3, 2011; Go Book Update: April 3 0700 EDT One Pager; Go Book Update - 0600 EDT, April 3, 2011; 0430 EDT (April 3, 2011) USNRC Earthquake/Tsunami Status Update; Go Book update: 2200 EDT April 2 one-pager attached (EOM); FW: eWASH - WH0169; FW: eWash WH168; "Go Book" Update - 1800 EDT, April 2, 2011; 1800 EDT (April 2, 2011) USNRC Earthquake/Tsunami Status Update; Go Book Update - 0600 EDT, April 2, 2011; 0430 EDT (April 2, 2011) USNRC Earthquake/Tsunami Status Update; One Pager - 2200 EDT, April 1; Go Book Update - 1800 EDT, April 1, 2011; 1800 EDT (April 1, 2011) USNRC Earthquake/Tsunami Status Update; One Pager - 1500 EDT April 1, 2011; FYI - BACKGROUND INFORMATION TO SUPPORT PRINCIPALS MEETING THIS MORNING; Go Book Update - 0630 EDT, April 1, 2011; Go Book Update - 0600 EDT, April 1, 2011; 0430 EDT (April 1, 2011) USNRC Earthquake/Tsunami Status Update

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**From:** Pace, Patti  
**Sent:** Friday, April 29, 2011 5:36 PM  
**To:** Speiser, Herald; Marshall, Michael  
**Subject:** April 8 - 14  
**Attachments:** RE: Japan One Pager 1500 EDT 4-14-11; Japan One Pager 1500 EDT 4-14-11; April 14 - 1500EDT One Pager - Fukushima Daiichi; OUO -- 1200 EDT (April 14, 2011) USNRC Earthquake-Tsunami Update ; April 14 - 0700EDT Briefing Sheet Fukushima Daiichi; April 13 - 2300EDT Briefing Sheet Fukushima Daiichi ; RE: Briefing Sheet Fukushima Daiichi; Headquarters Operations Center Chronology; Briefing Sheet Fukushima Daiichi; RE: Emergency Parking Permits for Response to Japan Event in Operations Center; OUO -- 1200 EDT (April 13, 2011) USNRC Earthquake-Tsunami Update ; RE: OUO -- 1200 EDT (April 12, 2011) USNRC Earthquake-Tsunami Update ; Go Book Update - 1500 EDT, April 11, 2011; OUO -- 1200 EDT (April 11, 2011) USNRC Earthquake-Tsunami Update ; Update for Go Book: 0430 EDT, April 11, 2011; USNRC Earthquake/Tsunami Status Update: 0430 EDT, April 11, 2011 ; Go Book Update - 2200 EDT, April 10, 2011; 1800 EDT (April 10, 2011) USNRC Earthquake/Tsunami Status Update; Go Book Update - 1800 EDT, April 10, 2011; Go Book Update - 0600 EDT, April 10, 2011; 0430 EDT (April 10, 2011) USNRC Earthquake/Tsunami Status Update; Go Book Update - 2200 EDT, April 9, 2011; Updates for the Go Book: 1800 EDT, April 9; USNRC Earthquake/Tsunami Status Update: 1800 EDT, April 9, 2011; One Pager: 1500 EDT, April 9, 2011; Go Book Update - 0630 EDT, April 9, 2011; Go Book Update - 0600 EDT, April 9, 2011; 0430 EDT (April 9, 2011) USNRC Earthquake/Tsunami Status Update; OUO - April 8, 2200 EDT "One Pager"; Go Book Update - 1800 EDT, April 8, 2011; OUO -- 1800 EDT (April 8, 2011) USNRC Earthquake-Tsunami Update ; April 8, 1500 EDT "One Pager"; Go Book Update - 0600 EDT, April 8, 2011; 0430 EDT (April 8, 2011) USNRC Earthquake/Tsunami Status Update



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**From:** Pace, Patti  
**Sent:** Friday, April 29, 2011 5:35 PM  
**To:** Marshall, Michael; Speiser, Herald  
**Subject:** March 25 - 31 Emails  
**Attachments:** March 31, 2011 22:00 "One Pager"; Go Book Update - 1800 EDT, March 31, 2011; 1800 EDT (March 31, 2011) USNRC Earthquake/Tsunami Status Update; FW: eWASH WH0160; RE: Emergency Parking Permits for Response to Japan Event in Operations Center; RE: Emergency Parking Permits for Response to Japan Event in Operations Center; FW: NRC Spent Fuel Storage Safety White Paper; Go Book Update - 0630 EDT, March 31, 2011; Go Book Update - 0600 EDT, March 31, 2011; 0430 EDT (March 31, 2011) USNRC Earthquake/Tsunami Status Update; Go Book Update - 1800 EDT, March 30, 2011; 1800 EDT (March 30, 2011) USNRC Earthquake/Tsunami Status Update; Emergency Parking Permits for Response to Japan Event in Operations Center; Change in Ops Center / CA Call; Updates for Go Book - 0820 EDT March 30, 2011; Go Book Update; Updates for Go Book - 0630 EDT March 30, 2011; 0430 EDT (March 30, 2011) USNRC Earthquake/Tsunami Status Update; 1800 EDT (March 29, 2011) USNRC Earthquake/Tsunami Status Update; Go Book Update - 1800 EDT, March 29, 2011; RE: Updates for Go Book - 0600 EDT March 29, 2011; Updates for Go Book - 0600 EDT March 29, 2011; 0430 EDT (March 29, 2011) USNRC Earthquake/Tsunami Status Update; 1800 EDT (March 28, 2011) USNRC Earthquake/Tsunami Status Update; Go Book Update -- 1800 EDT, March 28, 2011; Updates for Go Book - 0600 EDT March 28, 2011; 0430 EDT (March 28, 2011) USNRC Earthquake/Tsunami Status Update; March 27 2300 EDT one pager.doc; Updates for Go Book; 1800 EDT (March 27, 2011) USNRC Earthquake/Tsunami Status Update; March 27 1300 EDT one pager.doc; Go Book Update - 0600 EDT March 27, 2011; 0430 EDT (March 27, 2011) USNRC Earthquake/Tsunami Status Update; Go Book Update 2200 EDT March 26, 2011; RE: help?; help?; Go Book Update - 1800 EDT, March 26, 2011; 1800 EDT (March 26, 2011) USNRC Earthquake/Tsunami Status Update; Update for Go Books - 0700 EDT, March 26, 2011; Update for Go Books - 0600 EDT, March 26, 2011; 0430 EDT (March 26, 2011) USNRC Earthquake/Tsunami Status Update; Revised Status Update (Round 2); Revised USNRC Earthquake-Tsunami Update -- 1800 EDT, March 25, 2011; Revised Status Update; Resent: 1800 EDT (March 25, 2011) USNRC Earthquake/Tsunami Status Update; Update for Go Books - 1800 EDT, March 25, 2011; 1800 EDT (March 25, 2011) USNRC Earthquake/Tsunami Status Update; Update for Go Books - 0600 EDT, March 25, 2011; UPDATED 0430 EDT (March 25, 2011) USNRC Earthquake/Tsunami Status Update; 0430 EDT (March 25, 2011) USNRC Earthquake/Tsunami Status Update

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**From:** Pace, Patti  
**Sent:** Friday, April 29, 2011 5:35 PM  
**To:** Marshall, Michael; Speiser, Herald  
**Subject:** March 18 - 24 Emails  
**Attachments:** Update for Go Books - 1800 EDT, March 24, 2011; 1800 EDT (March 24, 2011) USNRC Earthquake/Tsunami Status Update; Correction to Update for "Go Books," 0600 3/24/11; Corrected 0600 EDT (March 24, 2011) USNRC Earthquake/Tsunami Status Update; Update for "Go Books," 0600 3/24/11; 0600 EDT (March 24, 2011) USNRC Earthquake/Tsunami Status Update; Update for Go Books - 1800 EDT, March 23, 2011; 1800 EDT (March 23, 2011) USNRC Earthquake/Tsunami Status Update; RE: Call w/NISA; Go Book - One Pager; Update for "Go Books," 0600 3/23/11: Corrected Time Stamp on One Page; Update for "Go Books," 0700 3/23/11: Corrected Status Update; 0700 EDT (March 23, 2011) USNRC Earthquake/Tsunami Status Update Corrected Document; RE: Update for "Go Books," 0600 3/23/11; 0600 EDT (March 23, 2011) USNRC Earthquake/Tsunami Status Update; Update for "Go Books," 0600 3/23/11; One Pager Update for Go Book; Update for Go Books - 1800 EDT, March 22, 2011; 1800 EDT (March 22, 2011) USNRC Earthquake/Tsunami Status Update; FW: eWash Message; Update for Go Books - 0600 EDT, March 22, 2011; 0600 EDT (March 22, 2011) USNRC Earthquake/Tsunami Status Update; Update for Go Books - 1800 EDT, March 21, 2011; 1800 EDT (March 21, 2011) USNRC Earthquake/Tsunami Status Update; Real Event: NRC Press Release #12 - Japan Event Earthquake/Tsunami; Real Event: NRC Press Release #11 - Japan Event Earthquake/Tsunami; Update for Go Books - 0600 EDT March 21, 2011; USNRC Earthquake-Tsunami Update 03.21.11--0600 EDT; Update for Go Books - 1800 EDT, March 20, 2011; USNRC Earthquake-Tsunami Update 03.20.11--1800 EDT; Update for Go Books - 0600 EDT, March 17, 2011; USNRC Earthquake-Tsunami Update 03-20.11--0600 EDT; 1800 EDT (March 19, 2011) USNRC Earthquake/Tsunami Status Update; Update for Go Books - 1800 EDT, March 19, 2011; Report on Meeting between Chairman Jaczko and Japanese Ambassador to the U.S. Ichiro Fujisaki; Update for Go Books - 0600 EDT, March 19, 2011; USNRC Earthquake-Tsunami Update - 0600 EDT (March 19, 2011); Update for Go Books - 1800 EDT, March 18, 2011; USNRC Earthquake-Tsunami Update - 1800 EDT (March 18, 2011); REQUEST: Copy of Document for Mr. Borchardt; REQUEST: Copy of Document for Mr. Borchardt; RE: REQUEST: Talking Points for Chairman; NRC Status Update 3-18-11 0600; Update for Go Books - 0600 EDT, March 18, 2011; USNRC Earthquake-Tsunami Update.031811.0600EDT

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**From:** Pace, Patti  
**Sent:** Friday, April 29, 2011 5:34 PM  
**To:** Marshall, Michael; Speiser, Herald  
**Subject:** March 11 - 17 emails  
**Attachments:** Update for Go Books - 1800 EDT, March 17, 2011; FW: eWASH WH0131; 1700 EDT (March 17, 2011) USNRC Earthquake/Tsunami SitRep; RE: Update for Go Book; 0700 Talking Points Update ; 0700 Update to "Go Books"; 0700 EDT (March 17, 2011) USNRC Earthquake/Tsunami SitRep; Update for Go Book; 0600 EDT (March 17, 2011) USNRC Earthquake/Tsunami SitRep; Updates for the "Go Books", 2030 EDT, March 16 2011; 1900 EDT (March 16, 2011) USNRC Earthquake/Tsunami SitRep; NRC Press Release #8 (revised) through 10 - Japan Event Earthquake/Tsunami; Updates to the "Go Books" with the latest information from the Ops Center; 1400 EDT (March 15, 2011) USNRC Earthquake/Tsunami SitRep; 0630 EDT (March 16, 2011) USNRC Earthquake/Tsunami SitRep; 1930 EDT (March 15, 2011) USNRC Earthquake/Tsunami Status Update; Updated Status Update and Talking Points - 1930 EDT, March 15; RE: Updated information for the Chairman; RE: Updated information for the Chairman; RE: Updated information for the Chairman; 1330 EDT (March 15, 2011) USNRC Earthquake/Tsunami SitRep; FW: Latest Q&A and talking points; 0730 EDT (March 15, 2011) USNRC Earthquake/Tsunami SitRep; 0600 EDT (March 15 2011) USNRC Earthquake/Tsunami SitRep; 2200 EDT (March 14 2011) USNRC Earthquake/Tsunami SitRep; Real Event: NRC Press Release #7 - Japan Event Earthquake/Tsunami; Real Event: NRC Press Release #6 - Japan Event Earthquake/Tsunami; FYI: Talking Points & Q&As ; RE: Talking Points for 4:30 am Meeting (OUO); RE: 1330 EDT (March 14, 2011) USNRC Earthquake/Tsunami SitRep; 1330 EDT (March 14, 2011) USNRC Earthquake/Tsunami SitRep; Untitled; RST/PMT update; NRC/PMT input for White House Briefing; RE: Talking Points for 10 am Meeting (OUO); RE: 0600 EDT (March 14, 2011) USNRC Earthquake/Tsunami SitRep; RE: 0430 EDT (March 14, 2011) USNRC Earthquake/Tsunami SitRep; RE: 2230 EDT (March 13, 2011) USNRC Earthquake/Tsunami SitRep; RE: 2200 EDT (March 13, 2011) USNRC Earthquake/Tsunami SitRep; RE: 2000 EDT (March 13, 2011) USNRC Earthquake/Tsunami SitRep; RE: Talking Points for 4pm Commission Meeting (OUO); NRC Revised Press Release #5; 1600 EDT (March 13, 2011) USNRC Earthquake/Tsunami SitRep; FW: Talking Points for 4pm Commission Meeting (OUO); 1400 EDT (March 13, 2011) USNRC Earthquake/Tsunami SitRep; 0630 Japan event status update; 2330 Japan status update; 1830 EST (March 12, 2011) USNRC Earthquake/Tsunami SitRep; 1300 EST (March 12, 2011) USNRC Earthquake/Tsunami SitRep; 1000 NRC SITREP; 03/12/2011, 0400 NRC Sitrep; HOO Highlight - NOUE Termination at Diablo Canyon; RE: 1600 EST USNRC Earthquake/Tsunami Status Update; 1600 EST USNRC Earthquake/Tsunami Status Update; USNRC Earthquake/Tsunami Status Update; Earthquake/Tsunami Status Update; HOO HIGHLIGHT - NRC IN MONITORING MODE AT 0946; HOO HIGHLIGHT - DIABLO CANYON UNUSUAL EVENT

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**From:** ET02 Hoc  
**Sent:** Friday, April 29, 2011 2:07 AM  
**To:** Zimmerman, Roy; Batkin, Joshua; Boger, Bruce; Carpenter, Cynthia; Castleman, Patrick; Franovich, Mike; Gibbs, Catina; Hipschman, Thomas; Hoc, PMT12; Jaczko, Gregory; Johnson, Michael; LIA08 Hoc; Marshall, Michael; Moore, Scott; Orders, William; Pace, Patti; RST01 Hoc; Snodderly, Michael; Speiser, Herald; Tracy, Glenn; Uhle, Jennifer; Virgilio, Martin; Weber, Michael; Wiggins, Jim  
**Cc:** RST01 Hoc; Hoc, PMT12; LIA08 Hoc  
**Subject:** April 19 - 2200 EDT One-Pager - Fukushima Daiichi  
**Attachments:** Japan One Pager 2200 EDT 4-19-11 (3).pdf

Attached, please find the April 19 - 2200 EDT One-Pager - Fukushima Daiichi

\*\*\*\*\*Please note that this information is "Official Use Only."\*\*\*\*\*

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**Subject:** Phone Call: Deputy COS Nancy DeParle  
**Location:** O17D01

**Start:** Thu 4/28/2011 1:00 PM  
**End:** Thu 4/28/2011 1:15 PM

**Recurrence:** (none)

**Meeting Status:** Accepted

**Organizer:** Gibbs, Catina  
**Required Attendees:** Speiser, Herald

When: Thursday, April 28, 2011 1:00 PM-1:15 PM (GMT-05:00) Eastern Time (US & Canada).  
Where: O17D01

Note: The GMT offset above does not reflect daylight saving time adjustments.

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Deputy COS DeParle's office will initiate the call.

---

**Subject:** Call Time: Administrator D'Agostino  
**Location:** O17D01  
  
**Start:** Wed 4/27/2011 6:20 PM  
**End:** Wed 4/27/2011 6:40 PM  
  
**Recurrence:** (none)  
  
**Meeting Status:** Meeting organizer  
  
**Organizer:** Speiser, Herald  
**Required Attendees:** Pace, Patti; Gibbs, Catina

Admin. D'Agostino will initiate call.

---

**Subject:** Phone Call: Charles "Chip" Pardee of Exelon  
**Location:** O17D01  
  
**Start:** Wed 4/27/2011 2:00 PM  
**End:** Wed 4/27/2011 2:05 PM  
  
**Recurrence:** (none)  
  
**Meeting Status:** Meeting organizer  
  
**Organizer:** Speiser, Herald  
**Required Attendees:** Pace, Patti; Gibbs, Catina; Hipschman, Thomas

Mr. Pardee to initiate.

---

**From:** Speiser, Herald  
**Sent:** Wednesday, April 27, 2011 9:17 AM  
**To:** Clark, Lisa; Coggins, Angela  
**Subject:** Burns/Cordes meeting

Do I need anything for his book for the 9:30 meeting?

Thanks.

*Herald M. Speiser - (301) 415-1830  
Administrative Assistant  
Office of the Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Mailstop: O-16G4  
Rockville, MD 20852*



---

**From:** LIA08 Hoc  
**Sent:** Monday, April 18, 2011 1:30 PM  
**To:** Andersen, James; Anderson, Joseph; Ash, Darren; Baggett, Steven; Barker, Allan; Batkin, Joshua; Boger, Bruce; Borchardt, Bill; Bradford, Anna; Brenner, Eliot; Breskovic, Clarence; Smith, Brooke; Brown, Frederick; Brown, Milton; Bubar, Patrice; Burns, Stephen; Camper, Larry; Carpenter, Cynthia; Castleman, Patrick; Ader, Charles; Casto, Chuck; Coggins, Angela; Collins, Elmo; ConE\_Resource; Copeland, Douglas; Correia, Richard; Craffey, Ryan; Dapas, Marc; Dean, Bill; Decker, David; Diaz-Sanabria, Yoira; Dickman-Disabled-11/14/2010, Paul; Dorman, Dan; Droggitis, Spiros; Dyer, Jim; English, Lance; ET02 Hoc; Evans, Michele; Franovich, Mike; Frye, Timothy; Garmon, David; Apostolakis, George; Gibbs, Catina; Giitter, Joseph; Gott, William; Grobe, Jack; Hahn, Matthew; Haney, Catherine; Harrington, Holly; Hipschman, Thomas; Hoc, PMT12; Holahan, Gary; Holahan, Patricia; HOO Hoc; Howe, Allen; Howell, Art; Howell, Linda; Issa, Alfred; Itzkowitz, Marvin; Foster, Jack; Jackson, Donald; Jaczko, Gregory; Johnson, Andrea; Johnson, Michael; Jones, Cynthia; Kahler, Robert; King, Mark; Foggie, Kirk; Kock, Andrea; Kozal, Jason; Leeds, Eric; LIA01 Hoc; LIA02 Hoc; LIA03 Hoc; LIA06 Hoc; LIA08 Hoc; LIA11 Hoc; Logaras, Haral; Loyd, Susan; Magwood, William; Maier, Bill; Marshall, Jane; Marshall, Michael; McCree, Victor; McDermott, Brian; McIntosh, Angela; McNamara, Nancy; Michalak, Paul; Miller, Charles; Miller, Chris; Monninger, John; Morris, Scott; Nease, Rebecca; Nieh, Ho; NRCHQ; NSIR\_DDSP\_ILTAB\_Distribution; Ordaz, Vonna; Orders, William; OST05 Hoc; Ostendorff, William; Pace, Patti; Patel, Jay; Pearson, Laura; Pederson, Cynthia; Plisco, Loren; Powell, Amy; Quichocho, Jessie; R1 IRC; R2 IRC; R3 IRC; R4 IRC; Reddick, Darani; Reyes, Luis; Devercelly, Richard; Nelson, Robert; Hoc, ROO; Rothschild, Trip; RST01 Hoc; Satorius, Mark; Schmidt, Rebecca; Sharkey, Jeffry; Sheron, Brian; Sigmon, Rebecca; Snodderly, Michael; Sosa, Belkys; Speiser, Herald; Svinicki, Kristine; Tabatabai, Omid; Thoma, John; Thomas, Eric; Tifft, Doug; Kolb, Timothy; Ulses, Anthony; Nakanishi, Tony; Tracy, Glenn; Trapp, James; Trojanowski, Robert; Turtill, Richard; Uhle, Jennifer; Virgilio, Martin; Warnick, Greg; Warren, Roberta; Weber, Michael; Westreich, Barry; Wiggins, Jim; Cook, William; Williams, Kevin; Wittick, Brian; Woodruff, Gena; Zimmerman, Roy; Zimmerman, Roy; Zorn, Jason  
**Subject:** RESEND: USNRC Emergency Operations Center Status Update  
**Attachments:** USNRC Earthquake-Tsunami Update 041811 1200EDT.docx

Resent to internal NRC to include missed contacts.

\*\*\* Attachment is Official Use Only \*\*\*

Liaison Team Coordinator  
US Nuclear Regulatory Commission  
email: [lia08.hoc@nrc.gov](mailto:lia08.hoc@nrc.gov)  
Desk Ph: 301-816-5185

---

**Subject:** Chairman Phone Call: Jim Ellis, INPO  
**Location:** Our office to initiate to 770-644-8200  
  
**Start:** Wed 4/13/2011 9:15 AM  
**End:** Wed 4/13/2011 9:30 AM  
  
**Recurrence:** (none)  
  
**Meeting Status:** Accepted  
  
**Organizer:** Pace, Patti  
**Required Attendees:** Coggins, Angela; Batkin, Joshua; Speiser, Herald

**When:** Wednesday, April 13, 2011 9:15 AM-9:30 AM (GMT-05:00) Eastern Time (US & Canada).  
**Where:** Our office to initiate to 770-644-8200

**Note:** The GMT offset above does not reflect daylight saving time adjustments.

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**Subject:** Chairman Phone Call: Administrator Tom D'Agostino, NNSA  
**Location:** Administrator's office will initiate to Chairman's office, X1820  
  
**Start:** Wed 4/13/2011 10:45 AM  
**End:** Wed 4/13/2011 11:00 AM  
  
**Recurrence:** (none)  
  
**Meeting Status:** Accepted  
  
**Organizer:** Pace, Patti  
**Required Attendees:** Speiser, Herald; Warren, Roberta; Coggins, Angela

When: Wednesday, April 13, 2011 10:45 AM-11:00 AM (GMT-05:00) Eastern Time (US & Canada).  
Where: Administrator's office will initiate to Chairman's office, X1820

Note: The GMT offset above does not reflect daylight saving time adjustments.

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**Subject:** Chairman Phone Call: Senator Tom Carper (DE)  
**Location:** Senator Carper's office will initiate to X1820  
  
**Start:** Tue 4/12/2011 10:00 AM  
**End:** Tue 4/12/2011 10:15 AM  
  
**Recurrence:** (none)  
  
**Meeting Status:** Accepted  
  
**Organizer:** Pace, Patti  
**Required Attendees:** Gibbs, Catina; Speiser, Herald; Batkin, Joshua; Coggins, Angela

When: Tuesday, April 12, 2011 10:00 AM-10:15 AM (GMT-05:00) Eastern Time (US & Canada).  
Where: Senator Carper's office will initiate to X1820

Note: The GMT offset above does not reflect daylight saving time adjustments.

\*~\*~\*~\*~\*~\*~\*~\*~\*~\*

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**Subject:** Chairman Phone Call: Dr. Richard Meserve  
**Location:** Our office to initiate to, 202-387-6404  
  
**Start:** Wed 4/13/2011 10:30 AM  
**End:** Wed 4/13/2011 10:45 AM  
  
**Recurrence:** (none)  
  
**Meeting Status:** Accepted  
  
**Organizer:** Pace, Patti  
**Required Attendees:** Gibbs, Catina; Speiser, Herald; Warren, Roberta; Coggins, Angela

When: Wednesday, April 13, 2011 10:30 AM-10:45 AM (GMT-05:00) Eastern Time (US & Canada).  
Where: Our office to initiate to, 202-387-6404

Note: The GMT offset above does not reflect daylight saving time adjustments.

\*~\*~\*~\*~\*~\*~\*~\*~\*~\*

Topic: Japan  
Bobbi to support

---

**From:** Speiser, Herald  
**Sent:** Wednesday, April 06, 2011 10:50 AM  
**To:** Clark, Lisa  
**Cc:** Gibbs, Catina  
**Subject:** Directors Decision

The Director's Decision we had on the action item report was open for Commission input only thru 4/4/11 so I removed it from the report. Please give us the pink ticket to close out.

Thanks.

Herald

\*\*\*\*\*

*Herald M. Speiser - (301) 415-1830  
Administrative Assistant  
Office of the Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Mailstop: O-16G4  
Rockville, MD 20852*

---

**Subject:** R3 plant status periodic set for 4/27!!! update book

**Start:** Thu 4/14/2011 11:00 AM

**End:** Thu 4/14/2011 11:30 AM

**Recurrence:** (none)

**Organizer:** Speiser, Herald

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**From:** Speiser, Herald  
**Sent:** Wednesday, April 06, 2011 10:41 AM  
**To:** Adler, James; Batkin, Joshua; Bradford, Anna; Clark, Lisa; Coggins, Angela; Dhir, Neha; Fopma, Melody; Gibbs, Catina; Hipschman, Thomas; Loyd, Susan; Marshall, Michael; Monninger, John; Montes, David; Pace, Patti; Pearson, Laura; Speiser, Herald; Warren, Roberta  
**Subject:** Update to list of FOIAs  
**Attachments:** LIST OF CURRENT FOIAs.docx

Attached please find an updated list of FOIA requests to which one new request has been added. New request (FOIA-11-0161) highlighted in yellow at the end of the list. Please substitute this list for the one attached to your pink action ticket.

Thanks.

Herald

\*\*\*\*\*

*Herald M. Speiser - (301) 415-1830  
Administrative Assistant  
Office of the Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Mailstop: O-16G4  
Rockville, MD 20852*



## FOIA Requests requiring staff response as of 4/6/11

**FOIA-11-0118** – All communications (email, fax, letter, etc) between NRC, DOE, GE Energy and Hitachi-GE Nuclear Energy pertaining to the Japanese nuclear incidents **(PERIOD FROM 3/11/11 TO 3/16/11 ONLY)** Requester - Associated Press

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**FOIA-11-0119** – Internal communications with the NRC pertaining to the Japanese nuclear incidents **(PERIOD FROM 3/11/11 TO 3/16/11 ONLY)** Requester – Associated Press

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**FOIA-11-0120** – All communications between the NRC and government counterparts in Japan pertaining to the Japanese nuclear incident **(PERIOD FROM 3/11/11 TO 3/16/11 ONLY)** Requester – Associated Press

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**FOIA-11-0121** - Correspondence, email, etc containing words Vogtle and Japan or Summer and Japan **(PERIOD FROM 3/11/11 TO 3/16/11 ONLY)** Requester – Associated Press

\*\*\*\*\*

**FOIA-11-0130** – All direct correspondence, reports, etc. requested by or provided to Senator Scott Brown **(PERIOD FROM 2/4/11 TO 3/21/11)** Requestor – Anjan Mukherjee, Democratic Senatorial Campaign Committee

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**FOIA-11-0139\*\*\*** – All internal/external email sent/received, including any attachments thereto, photographs, etc. **(\*\*\* Specifically requested only from Chairman, Batkin, Coggins, Loyd, Monninger, Hipschman, Montes) (PERIOD FROM 12:00 am on 3/11/11 thru 11:59pm on 3/18/11)** Requestor – MSNBC

\*\*\*\*\*

**FOIA-11-0147** – Any and all documentation regarding ongoing nuclear crisis in Japan **(PERIOD FROM 3/11 TO 3/24 ONLY)** Requester – Greenpeace

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**FOIA-11-0161** – Correspondence between members of Congress and the NRC involving the Yucca Mountain storage project, **(Period from 2008 – present [4/1/11])** Requester – Center for Public Integrity

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**From:** LIA07 Hoc  
**Sent:** Wednesday, March 30, 2011 7:17 PM  
**To:** Speiser, Herald  
**Subject:** RE: Date of 1st status update  
**Attachments:** USNRC Japan SitRep.031211.1330EST.docx; USNRC Earthquake-Tsunami Update.031411.2200EDT.docx; USNRC Earthquake-Tsunami Update.031211.1830EST.docx; USNRC Earthquake-Tsunami Update.031211.2330EST.docx; USNRC Earthquake-Tsunami Update.031211.0730EST.docx; USNRC Earthquake-Tsunami Update.031311.1400EDT.docx; USNRC Earthquake-Tsunami Update.031311.2000EDT.docx; USNRC Earthquake-Tsunami Update.031311.2200EDT.docx; USNRC Earthquake-Tsunami Update.031311.2230EDT.docx; USNRC Earthquake-Tsunami Update.031411.0430EDT.docx; USNRC Earthquake-Tsunami Update.031411.0600EDT.docx; USNRC Earthquake-Tsunami Update.031411.1330EDT.docx; Sitrep.031211.0400.docx; Sitrep.031211.1330.docx; Sitrep.031211.0900.docx

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

**Categories:** Follow up

Herald,  
Please see the attached. The format of the update changed for a bit the first night, so those don't look like the rest.  
Let me know if you need anything else!  
-Sara

**From:** Speiser, Herald  
**Sent:** Wednesday, March 30, 2011 6:34 PM  
**To:** LIA07 Hoc  
**Subject:** Date of 1st status update

We do not have any status updates between March 11, 2011 @ 1330 hrs and March 14, 2011 @ 2200 hrs. My apologies if I have not properly retained these copies. May I request an email copy of the status updates between those 2 dates to complete our book?

Thanks.

Herald

\*\*\*\*\*  
Herald M. Speiser - (301) 415-1830  
Administrative Assistant

*Office of the Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Mailstop: O-16G4  
Rockville, MD 20852*

---

**From:** Pace, Patti on behalf of Speiser, Herald  
**Sent:** Wednesday, March 30, 2011 5:42 PM  
**To:** Akstuliewicz, Brenda; Armstrong, Janine; Belmore, Nancy; Ellis, Marv; Hudson, Sharon; Kreuter, Jane; Lewis, Antoinette; Mayberry, Theresa; Pulley, Deborah; Taylor, Renee; Wright, Darlene; Quesenberry, Jeannette; Shannon, Valerie  
**Cc:** Batkin, Joshua; Coggins, Angela; Gibbs, Catina; Pace, Patti  
**Subject:** Confirming the 8:30 meeting for Thursday, 3/31/11

Tomorrow's meeting will take place as scheduled.

Thank you.

Herald

\*\*\*\*\*  
*Herald M. Speiser - (301) 415-1830  
Administrative Assistant  
Office of the Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Mailstop: O-16G4  
Rockville, MD 20852*

---

**From:** LIA07 Hoc  
**Sent:** Wednesday, March 30, 2011 5:30 PM  
**To:** Andersen, James; Anderson, Joseph; Ash, Darren; Baggett, Steven; Barker, Allan; Batkin, Joshua; Boger, Bruce; Borchardt, Bill; Bradford, Anna; Brenner, Eliot; Smith, Brooke; Brown, Milton; Bubar, Patrice; Burns, Stephen; Camper, Larry; Carpenter, Cynthia; Castleman, Patrick; Ader, Charles; Casto, Chuck; Coggins, Angela; Collins, Elmo; ConE\_Resource; Copeland, Douglas; Correia, Richard; Craffey, Ryan; Dapas, Marc; Dean, Bill; Decker, David; Diaz-Sanabria, Yoira; Dickman-Disabled-11/14/2010, Paul; Dorman, Dan; Droggitis, Spiros; Dyer, Jim; English, Lance; ET02 Hoc; Evans, Michele; Franovich, Mike; Frye, Timothy; Garmon, David; Apostolakis, George; Gibbs, Catina; Giitter, Joseph; Gott, William; Grobe, Jack; Hahn, Matthew; Haney, Catherine; Harrington, Holly; Hipschman, Thomas; Hoc, PMT12; Holahan, Gary; Holahan, Patricia; HOO Hoc; Howe, Allen; Howell, Art; Howell, Linda; Issa, Alfred; Itzkowitz, Marvin; Foster, Jack; Jackson, Donald; Jaczko, Gregory; Johnson, Andrea; Johnson, Michael; Jones, Cynthia; Kahler, Robert; King, Mark; Foggie, Kirk; Kock, Andrea; Kozal, Jason; Leeds, Eric; LIA01 Hoc; LIA02 Hoc; LIA03 Hoc; LIA06 Hoc; LIA08 Hoc; LIA11 Hoc; Logaras, Haral; Loyd, Susan; Magwood, William; Maier, Bill; Marshall, Jane; Marshall, Michael; McCree, Victor; McDermott, Brian; McNamara, Nancy; Miller, Charles; Miller, Chris; Monninger, John; Morris, Scott; Nease, Rebecca; Nieh, Ho; NRCHQ; NSIR\_DDSP\_ILTAB\_Distribution; Ordaz, Vonna; Orders, William; OST05 Hoc; Ostendorff, William; Pace, Patti; Patel, Jay; Pearson, Laura; Pederson, Cynthia; Plisco, Loren; Powell, Amy; Quichocho, Jessie; R1 IRC; R2 IRC; R3 IRC; R4 IRC; Reddick, Darani; Reyes, Luis; Devercelly, Richard; Nelson, Robert; Hoc, ROO; Rothschild, Trip; RST01 Hoc; Satorius, Mark; Schmidt, Rebecca; Sharkey, Jeffry; Sheron, Brian; Sigmon, Rebecca; Snodderly, Michael; Sosa, Belkys; Speiser, Herald; Svinicki, Kristine; Tabatabai, Omid; Thoma, John; Thomas, Eric; Tifft, Doug; Kolb, Timothy; Ulses, Anthony; Nakanishi, Tony; Tracy, Glenn; Trapp; Trapp, James; Trojanowski, Robert; Uhle, Jennifer; Virgilio, Martin; Warnick, Greg; Warren, Roberta; Weber, Michael; Westreich, Barry; Wiggins, Jim; Cook, William; Williams, Kevin; Wittick, Brian; Woodruff, Gena; Zimmerman, Roy; Zimmerman, Roy; Zorn, Jason  
**Subject:** Change in Ops Center / CA Call

The CA briefing call will now take place once daily at 10am EDT. If conditions change, warranting an additional call or an adjustment in the call schedule, you will be notified.

Please share this information with anyone I may have missed who participates in the call.

Please let me know if there are any questions.

-Sara

Sara Mroz  
Executive Briefing Team Coordinator  
[LIA07.HOC@nrc.gov](mailto:LIA07.HOC@nrc.gov) (Operations Center)

**From:** LIA07 Hoc  
**Sent:** Wednesday, March 30, 2011 3:14 PM  
**To:** Speiser, Herald  
**Subject:** RE: Per your request: Ops Ctr Status Updates in Word

Thanks Herald. We'll continue to send only the Adobe version.  
-Sara

**From:** Speiser, Herald  
**Sent:** Wednesday, March 30, 2011 3:10 PM  
**To:** LIA07 Hoc  
**Subject:** RE: Per your request: Ops Ctr Status Updates in Word

Yen, thank you again for your help. We have determined that we do not need Word versions of any of the older status updates. Also, please cancel our request to receive Word versions of future updates. We will be fine with just the Adobe version. The names I had given you were:

Herald Speiser  
Catina Gibbs  
Patti Pace

Please confirm your receipt of this email.

Thanks.

Herald

\*\*\*\*\*  
*Herald M. Speiser - (301) 415-1830  
Administrative Assistant  
Office of the Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Mailstop: O-16G4  
Rockville, MD 20852*

**From:** LIA07 Hoc  
**Sent:** Wednesday, March 30, 2011 2:03 PM  
**To:** Speiser, Herald  
**Subject:** Per your request: Ops Ctr Status Updates in Word

Herald:

Attached are the daily Status Updates since March 27 in Word. Let me know if you need earlier updates.

As discussed, I will add Catina, Patti, and you to the list to receive the updates in Word.

Yen

---

**Subject:** Phone Call: Dep Sec Poneman  
**Location:** O17D01  
  
**Start:** Fri 4/1/2011 1:45 PM  
**End:** Fri 4/1/2011 2:00 PM  
  
**Recurrence:** (none)  
  
**Meeting Status:** Accepted  
  
**Organizer:** Gibbs, Catina  
**Required Attendees:** Pace, Patti; Speiser, Herald

When: Friday, April 01, 2011 1:45 PM-2:00 PM (GMT-05:00) Eastern Time (US & Canada).  
Where: O17D01

Note: The GMT offset above does not reflect daylight saving time adjustments.

\*~\*~\*~\*~\*~\*~\*~\*~\*~\*

Our office will initiate the call to 202-586-5500



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**From:** LIA07 Hoc  
**Sent:** Wednesday, March 30, 2011 7:16 AM  
**To:** Gibbs, Catina  
**Cc:** Speiser, Herald; Bradford, Anna  
**Subject:** RE: Go Book Update

Yes. We will bring it over now.

**From:** Gibbs, Catina  
**Sent:** Wednesday, March 30, 2011 7:14 AM  
**To:** LIA07 Hoc  
**Cc:** Speiser, Herald; Bradford, Anna  
**Subject:** RE: Go Book Update

Can you please have it delivered.

Thanks,

Catina M. Gibbs  
Admin. Assistant to  
Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1750 (office)  
301-415-3504 (fax)

**From:** LIA07 Hoc  
**Sent:** Wednesday, March 30, 2011 7:09 AM  
**To:** Gibbs, Catina  
**Cc:** Speiser, Herald; Bradford, Anna  
**Subject:** RE: Go Book Update

Yes. We do have a updated book here in the Ops Ctr. Do you want to pick it up or be delivered to Chairman's Office?

**From:** Gibbs, Catina  
**Sent:** Wednesday, March 30, 2011 7:04 AM  
**To:** LIA07 Hoc  
**Cc:** Speiser, Herald; Bradford, Anna  
**Subject:** RE: Go Book Update

Good morning, can we please get another up to date Go Book for Chairman Jaczko.

Thanks,

Catina M. Gibbs  
Admin. Assistant to  
Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission

301-415-1750 (office)  
301-415-3504 (fax)

**From:** LIA07 Hoc

**Sent:** Wednesday, March 30, 2011 6:39 AM

**To:** Borchardt, Bill; Bradford, Anna; Cohen, Shari; Collins, Elmo; Cooper, LaToya; Dyer, Jim; ET07 Hoc; Flory, Shirley; Gibbs, Catina; Haney, Catherine; Hudson, Sharon; Jaczko, Gregory; Johnson, Michael; Leeds, Eric; Loyd, Susan; Pace, Patti; Schwarz, Sherry; Sheron, Brian; Speiser, Herald; Sprogeris, Patricia; Taylor, Renee; Virgilio, Martin; Walker, Dwight; Walls, Lorena; Weber, Michael

**Subject:** Go Book Update

Please find attached the 0600 3/30/11 One-Pager

Thank you,

Jim Anderson

[LIA07.hoc@nrc.gov](mailto:LIA07.hoc@nrc.gov)

---

**From:** Speiser, Herald  
**Sent:** Tuesday, March 29, 2011 2:42 PM  
**To:** Clark, Lisa  
**Subject:** Please come to GBJ's office for a call now

\*\*\*\*\*

*Herald M. Speiser - (301) 415-1830  
Administrative Assistant  
Office of the Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Mailstop: O-16G4  
Rockville, MD 20852*

---

**Subject:** cancel reservation at basking ridge  
**Start:** Wed 3/30/2011 8:30 AM  
**End:** Wed 3/30/2011 9:00 AM  
**Recurrence:** (none)  
**Organizer:** Speiser, Herald

Cancelled via email 4/6/11 – make sure I receive cancellation confirmation.

STANDARD

Herald Speiser,

Thank you for making a reservation at Dolce Basking Ridge

Your confirmation number is: 18658SY096591

Arrival Date: Friday, April 15, 2011

Departure Date: Sunday, April 17, 2011

Number of guests: 3

Room Rate: USD 165.60

Rate Name: Dolce Winter Escape Package

Rate Description: Rate includes overnighn accommodations & breakfast for two.

Room Type: King Deluxe Suite

Check in time: anytime after 3:00 PM

Check out time: anytime before 12 Noon.

Please Note that quoted rate does not include applicable taxes.

This hotel adheres to a 24 hour cancellation policy. If for any reason, you must cancel your stay with us, please do so before 6:00pm on the day before arrival. You will be issued a cancellation number and will incur no charges.

However, if you fail to cancel you will be subject to a one night charge.

We look forward to you arrival and wish you a pleasant stay with us.

Sincerely,

Reservations Department

Dolce Basking Ridge, a Dolce Hotel & Conference Destination.

If you have any questions, please call the Dolce Basking Ridge reservation department at 908-953-3000 or send an email to [dbrrreservations@dolce.com](mailto:dbrrreservations@dolce.com).

Dolce Basking Ridge  
300 North Maple Avenue  
Basking Ridge, NJ 07920

---

**From:** Clark, Lisa  
**Sent:** Tuesday, March 29, 2011 12:22 PM  
**To:** Speiser, Herald  
**Subject:** FW: For Your Information "ONLY"  
**Attachments:** FOIA-11-0148.pdf

Another FOIA,

Lisa

**From:** Champ, Billie  
**Sent:** Tuesday, March 29, 2011 12:03 PM  
**To:** Clark, Lisa; Reddick, Darani; Davis, Roger; Bupp, Margaret; Zorn, Jason  
**Cc:** Vietti-Cook, Annette; Mike, Linda; McKelvin, Sheila  
**Subject:** For Your Information "ONLY"

Billie A. C-Lopes  
March 29, 2011

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**From:** Speiser, Herald  
**Sent:** Monday, March 28, 2011 7:23 AM  
**To:** Speiser, Herald  
**Subject:** NRR : Power Reactor Status Report - Summary Information

<http://nrr10.nrc.gov/roe/reactor-status/PD/ps-summary-index.cfm>

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**From:** Speiser, Herald  
**Sent:** Monday, March 28, 2011 7:23 AM  
**To:** Speiser, Herald  
**Subject:** NRC News Summary - March 22, 2011

<http://www.bulletinnews.com/NRC/>

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**Subject:** Long Term Scheduling  
**Location:** O17D01

**Start:** Fri 3/25/2011 10:30 AM  
**End:** Fri 3/25/2011 11:00 AM

**Recurrence:** Weekly  
**Recurrence Pattern:** every Friday from 2:00 PM to 2:30 PM

**Meeting Status:** Accepted

**Organizer:** Jaczko, Gregory  
**Required Attendees:** Batkin, Joshua; Pace, Patti; Coggins, Angela; Loyd, Susan; Bradford, Anna; Speiser, Herald; Monninger, John; Gibbs, Catina

When: Friday, March 25, 2011 10:30 AM-11:00 AM (GMT-05:00) Eastern Time (US & Canada).  
Where: O17D01

Note: The GMT offset above does not reflect daylight saving time adjustments.

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**From:** Clark, Lisa  
**Sent:** Wednesday, March 23, 2011 9:17 AM  
**To:** Speiser, Herald  
**Subject:** FW: FOIAs 11-0118, 119,120,and 121

More on FOIAs

**From:** Champ, Billie  
**Sent:** Monday, March 21, 2011 2:35 PM  
**To:** Clark, Lisa; Reddick, Darani; Davis, Roger; Bupp, Margaret; Zorn, Jason  
**Cc:** Mike, Linda  
**Subject:** FOIAs 11-0118, 119,120,and 121

Good afternoon,  
It is requested that these FOIAs be expedited. For your information, the Office of the Secretary did not identify any documents subject to these requests.

Billie A. C-Lopes  
March 21, 2011

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**From:** Clark, Lisa  
**Sent:** Wednesday, March 23, 2011 9:16 AM  
**To:** Speiser, Herald  
**Subject:** FW: FOIAs 11-0118, 119,120,and 121

Herald,

Regarding our recent FOIAs; could you please pass on the info?

Lisa

**From:** Champ, Billie  
**Sent:** Monday, March 21, 2011 3:22 PM  
**To:** Clark, Lisa; Reddick, Darani; Davis, Roger; Bupp, Margaret; Zorn, Jason  
**Cc:** Mike, Linda; Hart, Ken  
**Subject:** FOIAs 11-0118, 119,120,and 121

Note received from the FOIA Branch....FYI  
Good afternoon.

I wanted to inform you of the following with regard to the FOIA requests from the Associated Press on Japan:

1. A reminder that these requests cover records from March 11<sup>th</sup> thru March 16<sup>th</sup> only (the date the NRC received the FOIA requests.
2. FYI, the requester is not willing to narrow the scope of the requests.
3. NRR will be providing all the OPE daily event emails from March 11-16, 2011. You do not need to provide these emails.
4. You do not need to provide e-mails and other records relating to who at the NRC is available to travel to Japan and other administrative travel documents.
5. Please let me know ASAP if other offices should have been assigned FOIA's 2011-00118, 119 and 120. The assignments were made to EDO, NSIR, IP, PA and SECY for 2011-0118 and 120. Assignments were made to EDO, NSIR, NRR, IP, PA, RES and SECY for 2011-0119.

Thanks

Good afternoon,

It is requested that these FOIAs be expedited. For your information, the Office of the Secretary did not identify any documents subject to these requests.

Billie A. C-Lopes  
March 21, 2011

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**From:** LIA07 Hoc  
**Sent:** Saturday, March 19, 2011 5:23 PM  
**To:** Speiser, Herald  
**Subject:** RE: Report on Meeting between Chairman Jaczko and Japanese Ambassador to the U.S. Ichiro Fujisaki

They are ready now! Amy Salus has them. She is going to call you.

**From:** Speiser, Herald  
**Sent:** Saturday, March 19, 2011 5:02 PM  
**To:** LIA07 Hoc  
**Subject:** RE: Report on Meeting between Chairman Jaczko and Japanese Ambassador to the U.S. Ichiro Fujisaki

Great, thanks. When should I come over?

\*\*\*\*\*  
*Herald M. Speiser - (301) 415-1830  
Administrative Assistant  
Office of the Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Mailstop: O-16G4  
Rockville, MD 20852*

**From:** LIA07 Hoc  
**Sent:** Saturday, March 19, 2011 5:01 PM  
**To:** Speiser, Herald  
**Subject:** RE: Report on Meeting between Chairman Jaczko and Japanese Ambassador to the U.S. Ichiro Fujisaki

Yes. We will print the Excel table for you.  
-Sara

**From:** Speiser, Herald  
**Sent:** Saturday, March 19, 2011 4:57 PM  
**To:** LIA07 Hoc  
**Subject:** FW: Report on Meeting between Chairman Jaczko and Japanese Ambassador to the U.S. Ichiro Fujisaki

I am not able to print the excel document on Japan aid. Do you have that ability there, and could I please have 4 copies if so? I can come pick them up. I need them for a package I'm putting together for the Chairman.

Please let me know as soon as you can.

Thanks.

Herald

\*\*\*\*\*

*Herald M. Speiser - (301) 415-1830  
Administrative Assistant  
Office of the Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Mailstop: O-16G4  
Rockville, MD 20852*

**From:** LIA07 Hoc  
**Sent:** Saturday, March 19, 2011 6:25 AM  
**Subject:** Report on Meeting between Chairman Jaczko and Japanese Ambassador to the U.S. Ichiro Fujisaki

Dear Colleagues,

Attached is the report summarizing Chairman Jaczko's meeting with Japanese Ambassador to the U.S. Ichiro Fujisaki, held on March 18, 2011, at 1600 hours EST. We have also included other key documents which provide additional information pertinent to the recent events. Please note this information is "official use only" and is only being shared within the federal family. Please call the Headquarters Operations Office at 301-816-5100 with questions.

International Liaison Team  
U.S. Nuclear Regulatory Commission

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**From:** Pace, Patti  
**Sent:** Friday, March 18, 2011 5:06 PM  
**To:** Adams, Ian  
**Cc:** Speiser, Herald  
**Subject:** RE: Confirmation: Phone Call at 5:00PM

Ian, thanks, I just heard from the Chairman's Chief of Staff. The Chairman will be available at 5:30pm. Thanks for your flexibility!

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

**From:** Adams, Ian [mailto:Ian.Adams@Hq.Doe.Gov]  
**Sent:** Friday, March 18, 2011 4:58 PM  
**To:** Pace, Patti  
**Cc:** Speiser, Herald  
**Subject:** RE: Confirmation: Phone Call at 5:00PM

Sure – that will be fine. Just let me know.  
Thanks  
Ian

**From:** Pace, Patti [mailto:Patti.Pace@nrc.gov]  
**Sent:** Friday, March 18, 2011 4:57 PM  
**To:** Adams, Ian  
**Cc:** Speiser, Herald  
**Subject:** RE: Confirmation: Phone Call at 5:00PM  
**Importance:** High

Ian – Would it be possible to push the call to 5:15p or 5:30p? I haven't heard from the Chairman and I am not sure that he will be available for 5:00p call. Thanks

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

**From:** Adams, Ian [mailto:Ian.Adams@Hq.Doe.Gov]  
**Sent:** Friday, March 18, 2011 3:24 PM  
**To:** Pace, Patti  
**Cc:** Speiser, Herald  
**Subject:** RE: Confirmation: Phone Call at 5:00PM

Great, this sounds good.

Thanks much.

Ian

**From:** Pace, Patti [mailto:Patti.Pace@nrc.gov]

**Sent:** Friday, March 18, 2011 2:03 PM

**To:** Adams, Ian

**Cc:** Speiser, Herald

**Subject:** Confirmation: Phone Call at 5:00PM

Dear Ian,

This is just to confirm details of our discussion. Our office will initiate a call for Chairman Jaczko and Secretary Chu at 5:00PM tonight, to 202-586-9585.

Please let us know if anything changes.

Thanks,

Patti Pace

Assistant to Chairman Gregory B. Jaczko

U.S. Nuclear Regulatory Commission

301-415-1820 (office)

301-415-3504 (fax)

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**From:** LIA07 Hoc  
**Sent:** Friday, March 18, 2011 10:15 AM  
**To:** Speiser, Herald  
**Subject:** RE: Update for Go Books - 0600 EDT, March 18, 2011

Ms. Bradford has been added to the go book update distribution.

Thank you,

-Jim

Jim Anderson  
Office of Nuclear Security and Incident Response  
US Nuclear Regulatory Commission  
[james.anderson@nrc.gov](mailto:james.anderson@nrc.gov)  
[LIA07.HOC@nrc.gov](mailto:LIA07.HOC@nrc.gov) (Operations Center)

**From:** Speiser, Herald  
**Sent:** Friday, March 18, 2011 9:46 AM  
**To:** LIA07 Hoc  
**Cc:** Bradford, Anna  
**Subject:** RE: Update for Go Books - 0600 EDT, March 18, 2011

Please add Anna Bradford of the Chairman's office to the go book update emails.

Thank you.

\*\*\*\*\*  
*Herald M. Speiser - (301) 415-1830  
Administrative Assistant  
Office of the Chairman  
Nuclear Regulatory Commission  
11555 Rockville Pike  
Mailstop: O-16G4  
Rockville, MD 20852*

**From:** LIA07 Hoc  
**Sent:** Friday, March 18, 2011 6:21 AM  
**To:** Borchardt, Bill; Cohen, Shari; Flory, Shirley; Gibbs, Catina; Haney, Catherine; Johnson, Michael; Leeds, Eric; Loyd, Susan; Pace, Patti; Schwarz, Sherry; Sheron, Brian; Speiser, Herald; Virgilio, Martin; Walls, Lorena; Weber, Michael  
**Subject:** Update for Go Books - 0600 EDT, March 18, 2011

Please find attached updated information for the "Go Books".

---

**From:** Bradford, Anna  
**Sent:** Thursday, March 17, 2011 7:40 AM  
**To:** Speiser, Herald  
**Subject:** FW: Updates for the "Go Books", 2030 EDT, March 16 2011

See below.

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

**From:** Batkin, Joshua  
**Sent:** Thursday, March 17, 2011 7:40 AM  
**To:** Bradford, Anna  
**Subject:** Re: Updates for the "Go Books", 2030 EDT, March 16 2011

Probably but stand by

Joshua C. Batkin  
Chief of Staff  
Chairman Gregory B. Jaczko  
(301) 415-1820

---

**From:** Bradford, Anna  
**To:** Pace, Patti; Batkin, Joshua; Coggins, Angela  
**Cc:** Speiser, Herald  
**Sent:** Thu Mar 17 07:34:53 2011  
**Subject:** RE: Updates for the "Go Books", 2030 EDT, March 16 2011

Staff is asking about the 8:00. Do we need someone here at the agency on the 8:00 videoconference, or no?

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

**From:** Pace, Patti  
**Sent:** Wednesday, March 16, 2011 10:39 PM  
**To:** Batkin, Joshua; Bradford, Anna; Coggins, Angela  
**Subject:** Fw: Updates for the "Go Books", 2030 EDT, March 16 2011

FYI - Josh let us know if you think we need to try and get hard copies of this info down to you at the White House in the morning.

Also, I am going to shoot the HOO and Bern Stapleton an email to let them know the Chairman will be at the White House. Will you expect anyone from NRC to still participate by SVTC?

Thanks  
Patti Pace



---

**From:** LIA07 Hoc

**To:** Borchardt, Bill; Virgilio, Martin; Weber, Michael; Pace, Patti; Speiser, Herald; Gibbs, Catina; Leeds, Eric; Haney, Catherine; Walker, Dwight; Sheron, Brian; Johnson, Michael

**Sent:** Wed Mar 16 20:39:46 2011

**Subject:** Updates for the "Go Books", 2030 EDT, March 16 2011

Please find attached updated information for the "Go Books" provided earlier today.

The updates include:

- The 1900, 3/16/11 Status Update
- The 19400, 3/16/11 Talking Points Two-Pager
- The latest ET Chronology
- The latest NRC Press Release (11-050)
- The latest NRC OPA Talking Points
- The latest TEPCO Press Releases
- Statement from US Embassy Tokyo re: protective actions for American citizens in Japan

We are working on pulling together a few other items that were requested, including the Chairman's prepared statement for today's hearing and a set of briefing slides. We will send those out once we have them.

Please let me know if you have any questions or concerns.

-Sara

Sara Mroz  
Office of Nuclear Security and Incident Response  
US Nuclear Regulatory Commission  
[sara.mroz@nrc.gov](mailto:sara.mroz@nrc.gov)  
[LIA07.HOC@nrc.gov](mailto:LIA07.HOC@nrc.gov) (Operations Center)

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**Subject:** Chairman Phone Call: Senator Carper  
**Location:** TBD  
  
**Start:** Mon 3/14/2011 9:15 AM  
**End:** Mon 3/14/2011 9:30 AM  
  
**Recurrence:** (none)  
  
**Meeting Status:** Accepted  
  
**Organizer:** Pace, Patti  
**Required Attendees:** Batkin, Joshua; Gibbs, Catina; Speiser, Herald

When: Monday, March 14, 2011 9:15 AM-9:30 AM (GMT-05:00) Eastern Time (US & Canada).  
Where: TBD

Note: The GMT offset above does not reflect daylight saving time adjustments.

\*~\*~\*~\*~\*~\*~\*~\*~\*~\*

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**From:** Peterson, Teresa D. (b)(6)  
**Sent:** Tuesday, March 29, 2011 2:50 PM  
**To:** Gibbs, Catina  
**Cc:** Banks, Krista J. (Contractor)  
**Subject:** RE: DC on Japan, Wednesday, March 30

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Have your SVTS team phone (b)(6)

---

**From:** Gibbs, Catina [mailto:Catina.Gibbs@nrc.gov]  
**Sent:** Tuesday, March 29, 2011 2:39 PM  
**To:** Peterson, Teresa D.  
**Subject:** RE: DC on Japan, Wednesday, March 30

Teresa, Bruce Boger is the ET Director that will participate via SVTC. Please provide instructions. Do you need any additional information on him?

Thanks,

Catina M. Gibbs  
Admin. Assistant to  
Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1750 (office)  
301-415-3504 (fax)

---

**From:** Peterson, Teresa D. [mailto:(b)(6)]  
**Sent:** Tuesday, March 29, 2011 2:27 PM  
**To:** Gibbs, Catina; Pace, Patti  
**Subject:** RE: DC on Japan, Wednesday, March 30

Car and driver has been approved for pick up on State Place.

---

**From:** Gibbs, Catina [mailto:Catina.Gibbs@nrc.gov]  
**Sent:** Tuesday, March 29, 2011 2:05 PM  
**To:** Pace, Patti; Peterson, Teresa D.  
**Subject:** RE: DC on Japan, Wednesday, March 30

Ms. Peterson, I have confirmed with the Chairman that he would like his ET Director to participate via SVTC. Please provide instructions for the SVTC.

Also, will the Chairman's driver be able to pick him at 9:00AM tomorrow? Please provide pickup instructions, i.e., best possible pick-up location.

Thanks,

Catina M. Gibbs  
Admin. Assistant to  
Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1750 (office)  
301-415-3504 (fax)

---

**From:** Pace, Patti  
**Sent:** Monday, March 28, 2011 4:23 PM  
**To:** Peterson, Teresa D.  
**Cc:** Gibbs, Catina  
**Subject:** RE: DC on Japan, Wednesday, March 30

Ms. Peterson,

I will be out of the office on Tuesday and Wednesday. Please work with my colleague, Catina Gibbs, for any unresolved questions (possibility of Chairman's driver picking him up, whether NRC will also participate via SVTC). She is copied, above, and may be reached at 301-415-1750.

Thanks!

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

---

**From:** Peterson, Teresa D. [mailto:(b)(6)]  
**Sent:** Monday, March 28, 2011 1:41 PM  
**To:** Pace, Patti  
**Subject:** RE: DC on Japan, Wednesday, March 30

Thank you.

They should enter the Appointment Gate located at 17<sup>th</sup> and State Place. They will proceed down the sidewalk to the South West security gate. Once they have cleared through the South West gate, they will proceed down the sidewalk toward the white awning of the West Wing. They will then enter through the double doors and will be greeted by security and directed to the appropriate room.

---

**From:** Pace, Patti [mailto:Patti.Pace@nrc.gov]  
**Sent:** Monday, March 28, 2011 1:24 PM  
**To:** Peterson, Teresa D.  
**Subject:** RE: DC on Japan, Wednesday, March 30

**Information for Attendees:**

**Information for Driver:**

**Vehicle Information**

2010 Black Lincoln Town Car  
US Government Plates "NRC001"

I will instruct Chairman Jaczko and Josh to enter via the South West gate. As you noted, they will not be required to have an escort. Please confirm where they should proceed upon entry.

Please let me know when you find out if the Chairman's driver will be permitted to pick him up at 9:00AM on Wednesday.

I will let you know as soon as I speak to the Chairman about whether he would like to also have the Executive Team Director from the NRC Emergency Operations Center participate by SVTC.

Many thanks for your assistance!

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

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**From:** Joshi, M. Kay [mailto:(b)(6)]  
**Sent:** Friday, March 25, 2011 3:49 PM  
**To:** Joshi, M. Kay; Esquivel, Hilda V.; Peterson, Teresa D.; Gutierrez, Heather R.  
**Subject:** DC on Japan, Wednesday, March 30

There will be a DC on Japan **via secure video teleconference (SVTS) on Wednesday, March 30, 2011, from 8:00-9:15 a.m.**

Please "reply all" to this email to when providing your agency's participation (only those on the TO line (NSS Executive Secretary Staff Officers) will receive your response).

If you need to be cleared in, new clearance procedures are in place. Please note new information that **MUST** be provided or clearance cannot be completed.

**First Name** (must be the first name on identification, not a nickname)

**Middle Name** (if there is no middle name, you must indicate NMN)

**Last Name**

**Gender \*** (male/female)

**Date of Birth\*** (month day, year)

**U.S. Citizen\*** (yes/no)

**Social Security Number\***

**Country of Birth\*** (country where the individual was born)

**City and State of Residence\*** (This is the individual's primary residence; for foreign visitors, the city and state of residence should be the location where they are staying while in the United States)

\* This information will not be included in the monthly disclosure report of visitors to the White House complex.

Thank you.

Kay

---

**From:** Gibbs, Catina  
**Sent:** Tuesday, March 29, 2011 3:00 PM  
**To:** OST02 HOC  
**Cc:** OST01 HOC; Boger, Bruce; Stapleton, Bernard; Batkin, Joshua  
**Subject:** RE: Deputies Committee Meeting, 3/30/11  
**Attachments:** image001.jpg

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

The meeting start time is 8:00AM, 3/30/11. Mr. Boger should call in to (b)(6) His name was provided to Teresa Peterson at the WH.

Thanks,

Catina M. Gibbs  
Admin. Assistant to  
Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1750 (office)  
301-415-3504 (fax)

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**From:** OST02 HOC  
**Sent:** Tuesday, March 29, 2011 2:56 PM  
**To:** Gibbs, Catina  
**Cc:** OST01 HOC; Boger, Bruce  
**Subject:** FW: Deputies Committee Meeting, 3/30/11

Catina,

We have created a tasking for this, and will ensure Bruce Boger is made aware. Let us know if you need anything else.

Thanks,  
EST Admin. Assistant

---

**From:** OST02 HOC  
**Sent:** Tuesday, March 29, 2011 2:44 PM  
**To:** ET05 Hoc  
**Subject:** FW: Deputies Committee Meeting, 3/30/11

Please make a tasking for this issue.

Thanks!

---

**From:** HOO Hoc  
**Sent:** Tuesday, March 29, 2011 2:39 PM

**To:** LIA07 Hoc; OST01 HOC; OST02 HOC; OST03 HOC  
**Subject:** FW: Deputies Committee Meeting, 3/30/11

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



---

**From:** Gibbs, Catina  
**Sent:** Tuesday, March 29, 2011 2:16 PM  
**To:** HOO Hoc; Stapleton, Bernard  
**Subject:** Deputies Committee Meeting, 3/30/11

All, the Chairman has advised that he would like the ET Director to participate in the above referenced meeting via SVTC tomorrow at 8:00AM. I am awaiting SVTC instructions from my contact at the White House, Teresa Peterson. What is the name of the ET Director that will participate in this meeting tomorrow?

Thanks,

Catina M. Gibbs  
Admin. Assistant to  
Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1750 (office)  
301-415-3504 (fax)

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**From:** Marshall, Michael  
**Sent:** Tuesday, April 26, 2011 6:51 AM  
**To:** Dhir, Neha  
**Cc:** Hipschman, Thomas; Warren, Roberta  
**Subject:** Response: Questions and Comments on FY13 Proposed Budget Request

Hello Neha,

Here are my suggested questions and comments. In addition, I have a couple questions about how NRO presented the new rectors scenario A and B.

(b)(5)



(b)(5)

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**From:** Dhir, Neha  
**Sent:** Friday, April 15, 2011 2:37 PM  
**To:** Speiser, Herald  
**Subject:** FW: FY 2013 Budget Follow-up - Responses to Questions from DEDO Budget Briefings  
**Attachments:** New Reactor BL Summary Q and A Responses to 4-8-11 DEDO Budget Briefing.docx; Spent Fuel BL Summary Q and A Responses to 4-6-11 DEDO Budget Briefing.docx; Decomm and LLW BL Summary Q and A Responses to 4-6-11 DEDO Budget Briefing.docx; Fuel Facilities BL Summary Q and A Responses to 4-6-11 DEDO Budget Briefing.docx; Nuclear Materials Users BL Summary Q and A Responses to 4-6-11 DEDO Budget Briefing.docx; Info Tech PL Q and A responses from 4-4-11 DEDO Meeting - BLS.docx; Administrative Services PL Q and A responses from 4-4-11 DEDO Meeting - BLS.docx; Financial Management PL Q and A responses from 4-4-11 DEDO Meeting - BLS.docx; Human Resource Mgmt PL Q and A responses from 4-4-11 DEDO Meeting - BLS.docx; Info Mgmt PL Q and A responses from 4-4-11 DEDO Meeting - BLS.docx; Outreach PL Q and A responses from 4-4-11 DEDO Meeting - BLS.docx; NRC Rent and Construction Costs FY 11 - FY 13 rev-4-12-11.xls

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**From:** Jacobs-Baynard, Elizabeth  
**Sent:** Tuesday, April 12, 2011 2:04 PM  
**To:** Weber, Michael; Virgilio, Martin; Ash, Darren  
**Cc:** Borchardt, Bill; Muessle, Mary; Andersen, James; Kasputys, Clare; Jacobs-Baynard, Elizabeth; Dhir, Neha; Smolik, George; McLaughlin, Terri; Davis, Kristin  
**Subject:** FY 2013 Budget Follow-up - Responses to Questions from DEDO Budget Briefings

Attached are the business lines summaries with the questions and responses (highlighted in color) received during the budget briefings, incorporated in the applicable pages, for the Reactor Safety (still awaiting NRR's response) and Materials and Waste Safety business lines, and Corporate Support product line summaries. The DEDOs will be provided with a hard copy for your review and use.

Please let me know if you have any questions. Thanks,

Liz

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Administrative Services**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Administrative Services**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Administrative Services**

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Administrative Services**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Administrative Services**

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— OFFICIAL USE ONLY —

Chapter 4

-7-





**Business Line: Corporate Support**

**Product Line: Administrative Services**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Administrative Services**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Administrative Services**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Administrative Services**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Administrative Services**

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Administrative Services**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Administrative Services**

(b)(5), Outside of Scope

**Business Line: Decommissioning and LLW**

(b)(5), Outside of Scope



**Business Line: Decommissioning and LLW**

(b)(5), Outside of Scope

**Business Line: Decommissioning and LLW**

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**Business Line: Decommissioning and LLW**

(b)(5), Outside of Scope

**Business Line: Decommissioning and LLW**

(b)(5), Outside of Scope

**Business Line: Decommissioning and LLW**

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(b)(5), Outside of Scope

**Business Line: Decommissioning and LLW**

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**Business Line: Decommissioning and LLW**

(b)(5), Outside of Scope

**Business Line: Decommissioning and LLW**

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(b)(5), Outside of Scope



**Business Line: Decommissioning and LLW**

(b)(5), Outside of Scope

**Business Line: Decommissioning and LLW**

(b)(5), Outside of Scope

**Business Line: Decommissioning and LLW**

(b)(5), Outside of  
Scope

**Business Line: Decommissioning and LLW**

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(b)(5), Outside of Scope

**Business Line: Decommissioning and LLW**

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Financial Management**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Financial Management**

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(b)(5), Outside of Scope



**Business Line:** *Corporate Support*

**Product Line:** *Financial Management*

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(b)(5), Outside of Scope





**Business Line: Corporate Support**

**Product Line: Financial Management**

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(b)(5).Outside of Scope



**Business Line: Corporate Support**

**Product Line: Financial Management**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Financial Management**

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(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Financial Management**

(b)(5), Outside of Scope



**Business Line:** *Corporate Support*

**Product Line:** *Financial Management*

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(b)(5), Outside of Scope

**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope



**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope

**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope



**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope

**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope

**Business Line: Fuel Facilities**

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**Business Line: Fuel Facilities**

(b)(5), Outside of Scope



**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope

**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope

**Business Line: Fuel Facilities**

(b)(5), Outside of Scope

**Business Line: Fuel Facilities**

(b)(5), Outside of Scope



**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope

**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope

**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope

**Business Line: Fuel Facilities**

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(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Human Resource Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Human Resource Mgmt.**

(b)(5), Outside of Scope



**Business Line / Product Line Summary**  
**U.S. Nuclear Regulatory Commission**

**Business Line: Corporate Support**

**Product Line: Human Resource Mgmt.**

(b)(5), Outside of Scope



**Business Line:** Corporate Support

**Product Line:** Human Resource Mgmt.

(b)(5), Outside of Scope





**Business Line / Product Line Summary**  
**U.S. Nuclear Regulatory Commission**

**Business Line: Corporate Support**

**Product Line: Human Resource Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Human Resource Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Human Resource Mgmt.**

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(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Human Resource Mgmt.**

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(b)(5), Outside of Scope



**Business Line / Product Line Summary**  
**U.S. Nuclear Regulatory Commission**

**Business Line: Corporate Support**

**Product Line: Human Resource Mgmt.**

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Human Resource Mgmt.**

(b)(5), Outside of Scope



**Business Line / Product Line Summary**  
**U.S. Nuclear Regulatory Commission**

**Business Line: Corporate Support**

**Product Line: Human Resource Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Human Resource Mgmt.**

(b)(5), Outside of Scope





**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line:** Corporate Support

**Product Line:** Information Mgmt.

(b)(5), Outside of Scope





**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Mgmt.**

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Information Technology**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Technology**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Technology**

(b)(5), Outside of Scope





**Business Line: Corporate Support**

**Product Line: Information Technology**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Technology**

(b)(5), Outside of Scope



**Business Line:** Corporate Support

**Product Line:** Information Technology

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Information Technology**

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**Business Line: Corporate Support****Product Line: Information Technology**

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**Business Line: Corporate Support****Product Line: Information Technology**

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**Business Line: Corporate Support**

**Product Line: Information Technology**

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**Business Line: Corporate Support****Product Line: Information Technology**

(b)(5), Outside of Scope





**Business Line: Corporate Support**

**Product Line: Information Technology**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Technology**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Technology**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Technology**

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Information Technology**

(b)(5), Outside of Scope



**Business Line:** Corporate Support

**Product Line:** Information Technology

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Information Technology**

(b)(5), Outside of Scope



**Business Line:** Corporate Support

**Product Line:** Information Technology

(b)(5), Outside of Scope





**Business Line: Corporate Support**

**Product Line: Information Technology**

(b)(5)

**Business Line: New Reactors**

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(b)(5), Outside of Scope

**Business Line: New Reactors**

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(b)(5), Outside of Scope

**Business Line: New Reactors**

(b)(5), Outside of Scope

**Business Line: New Reactors**

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(b)(5), Outside of Scope

**Business Line: New Reactors**

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**Business Line: New Reactors**

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**Business Line: New Reactors**

(b)(5), Outside of Scope





**Business Line: New Reactors**

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**Business Line: New Reactors**

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**Business Line: New Reactors**

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**Business Line: New Reactors**

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**Business Line: New Reactors**

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**Business Line: New Reactors**

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(b)(5), Outside of Scope



**Business Line: New Reactors**

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**Business Line: New Reactors**

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**Business Line: New Reactors**

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(b)(5), Outside of Scope

**Business Line: New Reactors**

(b)(5), Outside of Scope

(b)(5), Outside of Scope

**Business Line: Nuclear Materials Users**

(b)(5), Outside of Scope

**Business Line: Nuclear Materials Users**

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**Business Line: Nuclear Materials Users**

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**Business Line: Nuclear Materials Users**

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**Business Line: Nuclear Materials Users**

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**Business Line: Nuclear Materials Users**

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**Business Line: Nuclear Materials Users**

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**Business Line: Nuclear Materials Users**

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**Business Line: Nuclear Materials Users**

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(b)(5), Outside of Scope



**Business Line: Nuclear Materials Users**

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(b)(5), Outside of Scope





**Business Line: Nuclear Materials Users**

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(b)(5), Outside of Scope



**Business Line: Nuclear Materials Users**

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**Business Line: Nuclear Materials Users**

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(b)(5), Outside of Scope



**Business Line: Nuclear Materials Users**

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(b)(5), Outside of Scope

**Business Line: Nuclear Materials Users**

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Outreach**

(b)(5), Outside of Scope



**Business Line: Corporate Support**

**Product Line: Outreach**

(b)(5), Outside of Scope



**Business Line: Corporate Support****Product Line: Outreach**

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Outreach**

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**Business Line: Corporate Support**

**Product Line: Outreach**

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Outreach**

(b)(5), Outside of Scope



**Business Line:** Corporate Support

**Product Line:** Outreach

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Outreach**

(b)(5), Outside of Scope

**Business Line: Corporate Support****Product Line: Outreach**

(b)(5), Outside of Scope



**Business Line:** Corporate Support

**Product Line:** Outreach

(b)(5), Outside of Scope





**Business Line: Corporate Support**

**Product Line: Outreach**

(b)(5), Outside of Scope



**Business Line: Spent Fuel Storage and Transportation**

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(b)(5), Outside of Scope

**Business Line: Spent Fuel Storage and Transportation**

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(b)(5), Outside of Scope

**Business Line: Spent Fuel Storage and Transportation**

(b)(5), Outside of Scope

**Business Line: Spent Fuel Storage and Transportation**

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**Business Line: Spent Fuel Storage and Transportation**

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**Business Line: Spent Fuel Storage and Transportation**

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**Business Line: Spent Fuel Storage and Transportation**

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**Business Line: Spent Fuel Storage and Transportation**

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**Business Line: Spent Fuel Storage and Transportation**

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**Business Line: Spent Fuel Storage and Transportation**

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**Business Line: Spent Fuel Storage and Transportation**

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**Business Line: Spent Fuel Storage and Transportation**

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**Business Line: Spent Fuel Storage and Transportation**

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**Business Line: Spent Fuel Storage and Transportation**

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(b)(5), Outside of Scope

**Business Line: Spent Fuel Storage and Transportation**

(b)(5), Outside of Scope



**Business Line: Spent Fuel Storage and Transportation**

(b)(5), Outside of Scope

**Business Line: Spent Fuel Storage and Transportation**

(b)(5), Outside of Scope

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**From:** Dyer, Jim  
**Sent:** Wednesday, April 13, 2011 5:50 PM  
**To:** Dhir, Neha  
**Subject:** RE: results/action items RE: Interagency meeting on Japan Funding Coordination and Reimbursements (FOUO)

(b)(5)

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**From:** Dhir, Neha  
**Sent:** Wednesday, April 13, 2011 4:50 PM  
**To:** Dyer, Jim  
**Subject:** RE: results/action items RE: Interagency meeting on Japan Funding Coordination and Reimbursements (FOUO)

Jim,

What happened with this? Did we send a response to OMB?

Neha

---

**From:** Dyer, Jim  
**Sent:** Friday, April 08, 2011 8:18 AM  
**To:** Batkin, Joshua; Coggins, Angela; Dhir, Neha  
**Cc:** Virgilio, Martin; Ash, Darren; Weber, Michael; Golder, Jennifer; Brown, Milton; Mitchell, Reggie  
**Subject:** FW: results/action items RE: Interagency meeting on Japan Funding Coordination and Reimbursements (FOUO)

See summary from yesterday's meeting. I am working on updated costs and would propose to OMB that (b)(5)

(b)(5)

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**From:** McDonald, Christine [mailto:(b)(6)]  
**Sent:** Thursday, April 07, 2011 8:22 PM  
**To:** Zerr, Thomas J.; Quinn, Andrew; Reed, Richard A.; (b)(6)  
(b)(6) Shalini.Benson@hq.doe.gov; Steven.Aoki@nnsa.doe.gov; Dyer, Jim; Deming, Rust M; Lane, Aikojean CIV OSD POLICY; Gross, Laura, CIV, OSD-POLICY; Uribe, Ernesto; Dresser, Heather L (EAP/J); Kern, Dab; jsherman@usaid.gov; hcohen@usaid.gov; mbartolini@usaid.gov; (b)(6)  
Bahar, Michael; Evans, Michele; (b)(6)  
**Cc:** Schwartz, Nancy; Falk Curtin, Edna F.  
**Subject:** results/action items RE: Interagency meeting on Japan Funding Coordination and Reimbursements (FOUO)

Thank you all for attending the meeting on reimbursement from Japan for USG support that the GOJ has requested or requests going forward. Here's a quick summary of the action items and results from the meeting. We need to receive all the action items that we laid out at the meeting by 9am tomorrow. Please send these items to Christine McDonald ([cmcdonald@omb.eop.gov](mailto:cmcdonald@omb.eop.gov)), Nancy Schwartz ([nschwartz@omb.eop.gov](mailto:nschwartz@omb.eop.gov)), and Edna Falk Curtin ([efalkcurtin@omb.eop.gov](mailto:efalkcurtin@omb.eop.gov)). We understand that is a very challenging deadline. As you are aware, we are under pressure to get information compiled for review very quickly by our policy officials.

Thank you for your assistance.

(b)(5)

**Action Items:**

Agencies should send OMB any suggested additional criteria or modifications to the above list.

**Vetting Process**

We did not get to discuss this in great detail. A follow-up discussion will likely be scheduled to follow up on this issue and others that may need to be addressed.

Please let us know if you have any questions. Thanks again for your cooperation.

~~(FOUO)~~

-----  
**Christine McDonald**

Office of Management and Budget, Energy Branch  
(202) 395-6944

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

**From:** McCartan, Emily M.

**Sent:** Wednesday, April 06, 2011 2:52 PM

**To:** McCartan, Emily M.; Kosiak, Steve; Ericsson, Sally C.; McDonald, Christine; Falk Curtin, Edna F.; Schwartz, Nancy; Zerr, Thomas J.; Quinn, Andrew; Reed, Richard A.; Landau, Zachary L.; Johnson, Daniel H.; Baron, Elysa (DCHA/OFDA);

(b)(6)

(b)(6)

Joyce.Connery@hq.doe.gov; Shalini.Benson@hq.doe.gov; Steven.Aoki@nnsa.doe.gov; jim.dyer@nrc.gov; llindborg@usaid.gov; Hudson, Sharon; Deming, Rust M; Lane, Aikojean CIV OSD POLICY; Gross, Laura, CIV, OSD-POLICY; Uribe, Ernesto; Dresser, Heather L (EAP/J); Clark, Ngoc CIV OSD POLICY

**Cc:** DeGolia, Alexander H.; Peroff, Kathleen; Siclari, Mary Jo; Hoff, Joanne Cianci; Fairweather, Rob; Jenkins, Carol D.; Norris, Abigail

**Subject:** Interagency meeting on Japan Funding Coordination and Reimbursements

**When:** Thursday, April 07, 2011 3:00 PM-4:00 PM (UTC-05:00) Eastern Time (US & Canada).

**Where:** NEOB 10103

When: Thursday, April 07, 2011 3:00 PM-4:00 PM (UTC-05:00) Eastern Time (US & Canada).

Where: NEOB 10103

Note: The GMT offset above does not reflect daylight saving time adjustments.

\*~\*~\*~\*~\*~\*~\*~\*~\*~\*

Good morning everyone,

Below is the current list of confirmed participants for today's meeting on Japan funding. I have received clearance information for everyone on this list; if you have staff who plan to attend who do not appear below, please send me their information asap so I can make sure they are in the system. Feel free to contact me with any questions; we look forward to seeing you all this afternoon.

Thanks,

Emily

**Required clearance information:**

Full Name:

DOB:

SSN:

US Citizen?

Country of birth:

City/State of Current Residence:

**Current Participant List:**

OMB:

Sally Ericsson

Steve Kosiak

Joanne Hoff

Nancy Schwartz

Christine McDonald

Edna Curtin

Abby Norris

NSS:

Richard Reed

TJ Zerr

Drew Quinn

**DOE:**

Steve Aoki  
Shalini Benson

**NRC:**

Jim Dyer  
Michele Evans

**DOD:**

Bill Campbell  
Marcia Case  
John Trigilio  
Melissa Hanlon  
Aiko Lane  
Christopher Johnstone  
Laura Gross

**USAID:**

Hal Cohen  
Mark Bartolini

**State:**

Rust Deming  
Heather Dresser  
Ernesto Uribe

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**From:** Dhir, Neha  
**Sent:** Wednesday, April 13, 2011 8:43 AM  
**To:** (b)(6)  
**Subject:** RE: cman

Not really. Did you see my message about us going (b)(6)?

---

**From:** (b)(6) mailto:(b)(6)  
**Sent:** Wednesday, April 13, 2011 8:09 AM  
**To:** Dhir, Neha  
**Subject:** Re: cman

Sorry I've missed all the c-span stuff. I haven't had a chance to breathe at work. Anything interesting?

Sent from my Verizon Wireless Phone

----- Reply message -----

**From:** "Dhir, Neha" <Neha.Dhir@nrc.gov>

**Date:** Tue, Apr 12, 2011 3:01 pm

**Subject:** cman

**To:** "Alok Dhir" (b)(6) "Shukla Neerav" (b)(6)

The Chairman is testifying at a hearing on the hill about Japan. Should be interesting.

<http://www.c-span.org/Live-Video/C-SPAN3/>

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**From:** Dhir, Neha  
**Sent:** Tuesday, April 05, 2011 11:34 AM  
**To:** Muessle, Mary  
**Subject:** Marty's testimony

Mary,

Angela gave me copy of the draft testimony for the hearing tomorrow. It states that we have 250 NRC staff working "on a rotating basis" on the Japan response. Is this inconsistent with the 500 positions we identified for OMB last week? Or is it that we need 500 staff members to fill the 250 positions on a rotating basis?

I'm not feeling well so I'm going to head home soon but I'll be checking email and you can call me if you want to talk about this.

Thanks,

Neha

Neha Dhir  
Policy Advisor for Financial Modernization  
Office of Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1834 (office)  
(b)(6) (mobile)



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**From:** Coggins, Angela  
**Sent:** Tuesday, April 05, 2011 10:45 AM  
**To:** Dhir, Neha  
**Cc:** Batkin, Joshua  
**Subject:** RE: Congressional Response Sandia on Modeling

(b)(5)

Angela B. Coggins  
Policy Director  
Office of Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
[301-415-1828/angela.coggins@nrc.gov](mailto:301-415-1828/angela.coggins@nrc.gov)

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**From:** Dhir, Neha  
**Sent:** Tuesday, April 05, 2011 10:39 AM  
**To:** Coggins, Angela  
**Subject:** RE: Congressional Response Sandia on Modeling

(b)(5)

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**From:** Coggins, Angela  
**Sent:** Tuesday, April 05, 2011 10:37 AM  
**To:** Dhir, Neha  
**Subject:** FW: Congressional Response Sandia on Modeling

Neha, what did we ever do with this and did OMB push back on our post-shutdown figures?

Angela B. Coggins  
Policy Director  
Office of Chairman Gregory B. Jaczko  
U.S. Nuclear Regulatory Commission  
[301-415-1828/angela.coggins@nrc.gov](mailto:301-415-1828/angela.coggins@nrc.gov)

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**From:** Dhir, Neha  
**Sent:** Monday, April 04, 2011 5:17 PM  
**To:** Coggins, Angela; Batkin, Joshua  
**Subject:** FW: Congressional Response Sandia on Modeling

The SAC Energy and Water Subcommittee has asked how much the NRC spends annually on modeling work for the NRC regarding reactor safety at Sandia National Laboratories. The proposed response is attached. It provides information on the FY10 obligations at SNL for modeling. Let me know if you have any comments on the language. OCA/OCFO want to provide this information as soon as possible.

Neha

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**From:** Peterson, Gordon  
**Sent:** Friday, April 01, 2011 4:22 PM  
**To:** Dhir, Neha  
**Cc:** Golder, Jennifer; Decker, David; Powell, Amy; Allwein, Russell; Kasputys, Clare; Tabakov, Emil  
**Subject:** Congressional Response Sandia on Modeling

Neha,

Attached is the response to a Congressional inquiry about modeling at Sandia National Labs. The question was submitted to NRC via email from a Congressional staffer. OCA is prepared to forward it today. Please let me know if you have any questions.

Thanks,  
Gordon

Gordon S. Peterson, Deputy Director  
Division of Planning and Budget  
Office of the Chief Financial Officer  
Nuclear Regulatory Commission  
301-415-7348  
[gordon.peterson@nrc.gov](mailto:gordon.peterson@nrc.gov)

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**From:** Bradford, Anna  
**Sent:** Friday, April 01, 2011 10:01 AM  
**To:** Dhir, Neha  
**Subject:** RE: (b)(6)

And warmer.

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

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**From:** Dhir, Neha  
**Sent:** Friday, April 01, 2011 9:58 AM  
**To:** Bradford, Anna  
**Subject:** RE: (b)(6)

Thanks. I think the water in Japan is probably safer to be in.

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

**From:** Bradford, Anna  
**Sent:** Friday, April 01, 2011 9:57 AM  
**To:** Dhir, Neha  
**Subject:** RE: (b)(6)

OK. Have fun wading in the Chesapeake!

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

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**From:** Dhir, Neha  
**Sent:** Friday, April 01, 2011 8:40 AM  
**To:** Bradford, Anna; Monninger, John  
**Subject:** (b)(6)

I need to (b)(6) I'll put it on the calendar. Let me know if it's a problem.  
Thanks.

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**From:** Dhir, Neha  
**Sent:** Tuesday, March 29, 2011 5:00 PM  
**To:** Speiser, Herald; Gibbs, Catina  
**Subject:** FW: Emailing: Excepted Staffing Level Chairman Memo.docx; Justification for NRC Staffing During Government Shutdown.docx,  
**Attachments:** Justification for NRC Staffing During Government Shutdown.docx; Excepted Staffing Level Chairman Memo.docx

A hard copy of this memo should be coming over from EDO late today or early tomorrow - can you make sure it gets to me? I need to get it to the Chairman for approval tomorrow.

Thanks!!! - Neha

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

**From:** Golder, Jennifer  
**Sent:** Tuesday, March 29, 2011 4:48 PM  
**To:** Muessle, Mary; Dhir, Neha  
**Subject:** FW: Emailing: Excepted Staffing Level Chairman Memo.docx; Justification for NRC Staffing During Government Shutdown.docx,

Mary, Neha,

Here is the memo - we are going to throw it into concurrence quickly to get it over to the Chairman. It may not arrive until tomorrow morning

Jennifer Golder

Budget Director  
Office of the Chief Financial Officer  
United States Nuclear Regulatory Commission

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

**From:** Powell, Marlon  
**Sent:** Tuesday, March 29, 2011 4:45 PM  
**To:** Golder, Jennifer  
**Subject:** Emailing: Excepted Staffing Level Chairman Memo.docx; Justification for NRC Staffing During Government Shutdown.docx,

Please see attached.

Marlon

(b)(5)

(b)(5)

(b)(5)

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**From:** Loyd, Susan  
**Sent:** Tuesday, March 29, 2011 3:30 PM  
**To:** Batkin, Joshua  
**Cc:** Dhir, Neha; Coggins, Angela  
**Subject:** Oral Testimony for Thurs House Approps Subc on Energy and Water  
**Attachments:** ORAL Testimony for HOUSE Approps Energy and Wtr.3.31.11.DRAFT.docx

Here is the oral testimony for Thursday. It begins with Japan and then segues to the agency and its budget. It's about 13 min long.

Susan K. Loyd  
Communications Director  
Office of the Chairman  
U.S. Nuclear Regulatory Commission  
Tele: 301-415-1838  
[Susan.Loyd@nrc.gov](mailto:Susan.Loyd@nrc.gov)



STATEMENT  
BY GREGORY B. JACZKO, CHAIRMAN  
UNITED STATES NUCLEAR REGULATORY COMMISSION  
TO THE  
HOUSE COMMITTEE ON APPROPRIATIONS  
ENERGY AND WATER DEVELOPMENT AND RELATED AGENCIES  
MARCH 31, 2011

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**From:** Golder, Jennifer  
**Sent:** Tuesday, March 29, 2011 11:21 AM  
**To:** Dhir, Neha  
**Cc:** Dyer, Jim; Brown, Milton  
**Subject:** FW: Shutdown Number  
**Attachments:** Shutdown Number Justification.docx

**Importance:** High

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Hi Neha,

FYI on attached. This is being sent over to OMB later today. Will let you know if we receive any feedback or questions.

Thanks

Jennifer Golder

Budget Director  
Office of the Chief Financial Officer  
United States Nuclear Regulatory Commission

## Justification for NRC Staffing During Government Shutdown

(b)(5)



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**From:** Dhir, Neha  
**Sent:** Monday, March 28, 2011 4:08 PM  
**To:** Batkin, Joshua  
**Subject:** FW: last call on FW: DOE (Lyons) Appropriations Statements on DOE Nuclear Budget and Situation in Japan  
**Attachments:** 2011 03 Lyons HEWD Testimony on FY12 NE Budget Request ready for OMB.DOC; SEWD Hearing on Japan March 30 2011 ready for OMB.docx  
**Importance:** High

FYI - DOE's written testimony for the two hearings this week. I'll print them out and provide them to the Chairman tomorrow.

It looks like it's too late to comment but let me know if you see anything that concerns you.

Does it seem weird that OMB is asking us to comment on the DOE testimony?

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

**From:** Clark, Lisa  
**Sent:** Monday, March 28, 2011 4:01 PM  
**To:** Dhir, Neha  
**Subject:** FW: last call on FW: DOE (Lyons) Appropriations Statements on DOE Nuclear Budget and Situation in Japan  
**Importance:** High

Neha,

I think this is yours,

Lisa

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

**From:** Hirsch, Patricia  
**Sent:** Monday, March 28, 2011 3:50 PM  
**To:** Muessele, Mary; Powell, Amy; Schmidt, Rebecca; Clark, Lisa; Batkin, Joshua; Zorn, Jason; Reddick, Darani; Bupp, Margaret; Davis, Roger  
**Cc:** Rothschild, Trip  
**Subject:** FW: last call on FW: DOE (Lyons) Appropriations Statements on DOE Nuclear Budget and Situation in Japan  
**Importance:** High

Well, we only had 10 minutes in the best of cases, and I didn't see it when it first came in. Comments to Holly directly?

Pat Hirsch  
Assistant General Counsel for Legal Counsel, Legislation and Special Projects Mail Stop O-15 D21  
301-415-0563

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

**From:** Fitter, E. Holly [mailto:E.\_Holly\_Fitter@omb.eop.gov]

Sent: Monday, March 28, 2011 3:35 PM  
To: LLO Resource; Rothschild, Trip  
Cc: McDonald, Christine  
Subject: last call on FW: DOE (Lyons) Appropriations Statements on DOE Nuclear Budget and Situation in Japan  
Importance: High

Unless you advise Christine by 3:45, she will assume the NRC has no comments on these statements

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

From: Fitter, E. Holly  
Sent: Monday, March 28, 2011 11:40 AM  
To: 'NRC'; NSS; DL-NSS-ASIA  
Cc: McDonald, Christine; Carroll, J. Kevin; Burnim, John D.  
Subject: DOE (Lyons) Appropriations Statements on DOE Nuclear Budget and Situation in Japan  
Importance: High

Attached are two statements to be given by Peter Lyons, Acting DOE Assistant Secretary for Nuclear Energy.

The first is for a 3/31 House Appropriations s/c hearing on the FY 2012 budget request for DOE's Office of Nuclear Energy.

The second is for a 3/30 Senate Appropriations s/c hearing on DOE's response to the nuclear accident in Japan.

Please review both of these statements and advise Christine McDonald of any comments by 3:00 PM today. Thanks.

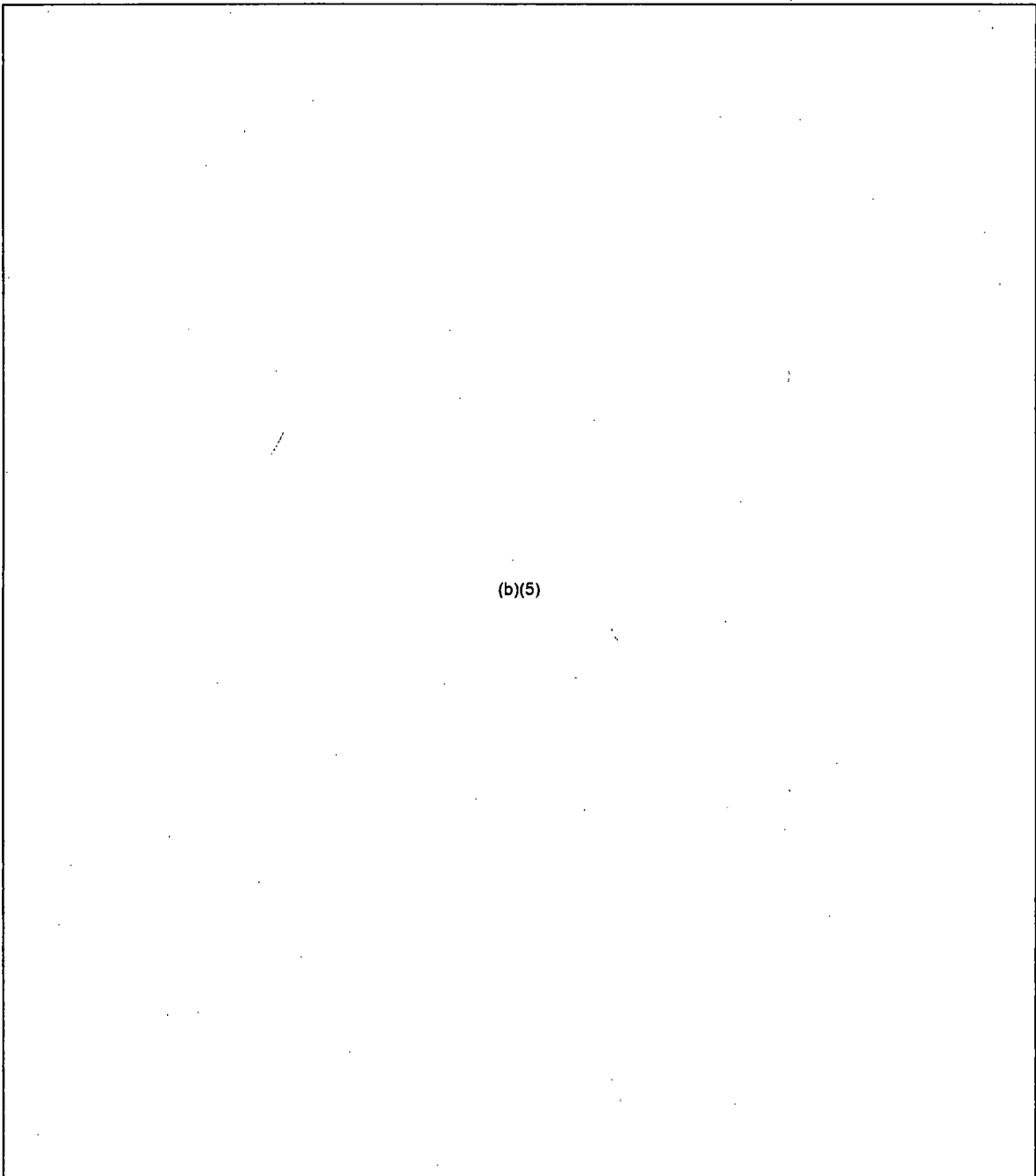
OMB CONTACT: McDonald, Christine  
E-Mail: [Christine\\_A\\_McDonald@omb.eop.gov](mailto:Christine_A_McDonald@omb.eop.gov)  
PHONE: (202) 395-6944

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(b)(5)

**Statement of Peter Lyons  
Acting Assistant Secretary for Nuclear Energy  
U.S. Department of Energy  
Before the  
Subcommittee on Energy and Water Development, and Related Agencies  
Committee on Appropriations  
U.S. Senate**

**March 30, 2011**

(b)(5)

(b)(5)

(b)(5)

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**From:** Loyd, Susan  
**Sent:** Thursday, March 24, 2011 1:37 PM  
**To:** Batkin, Joshua; Coggins, Angela  
**Cc:** Dhir, Neha  
**Subject:** DRAFT Oral Testimony for House Approps March 31  
**Attachments:** Chairman ORAL Testimony for 3.31.11.DRAFT.docx

Here is the draft ORAL testimony for the House Appropriations Subcommittee on Thurs, March 31. I included very little specifics, but the Written Testimony has the #s, breakdown and background. Jim Dyer said they would like to handle the supplemental request for funding related to Japan work in the Q&A session...not in the Oral testimony or Written Testimony.

(b)(5)

(b)(5)

Please let me know what you think ASAP.

I am going to now turn to the Senate Approps, testimony for next Weds. I have to do both written and oral for that one, so am scrambling. Thanks.

Susan K. Loyd  
Communications Director  
Office of the Chairman  
U.S. Nuclear Regulatory Commission  
Tele: 301-415-1838  
[Susan.Loyd@nrc.gov](mailto:Susan.Loyd@nrc.gov)

STATEMENT  
BY GREGORY B. JACZKO, CHAIRMAN  
UNITED STATES NUCLEAR REGULATORY COMMISSION  
TO THE  
HOUSE COMMITTEE ON APPROPRIATIONS  
ENERGY AND WATER DEVELOPMENT AND RELATED AGENCIES  
MARCH 31, 2011

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**From:** Coggins, Angela  
**Sent:** Wednesday, March 23, 2011 1:10 PM  
**To:** Dhir, Neha  
**Subject:** Chairman's COMSECY FY 2011 Supplemental Appropriations 3-23-11.docx  
**Attachments:** Chairman's COMSECY FY 2011 Supplemental Appropriations 3-23-11.docx

MEMORANDUM TO: Commissioner Svinicki  
Commissioner Apostolakis  
Commissioner Magwood  
Commissioner Ostendorff

FROM: Chairman Jaczko

SUBJECT: FY 2011 SUPPLEMENTAL APPROPRIATIONS LEGISLATION

(b)(5)

SECY, please track.

cc: CFO  
EDO  
OGC  
SECY

---

**From:** Smolik, George  
**Sent:** Wednesday, March 23, 2011 11:30 AM  
**To:** Dhir, Neha  
**Cc:** Golder, Jennifer; Peterson, Gordon; Allwein, Russell  
**Subject:** Basis for (b)(5) FY 2011 Supplemental Appropriations Legislation

Neha,  
Based on our discussion, below for your information is the basis for the (b)(5) amount in the FY 2011 supplemental funding request.  
George

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**From:** Dyer, Jim  
**Sent:** Monday, March 21, 2011 5:35 PM  
**To:** Borchardt, Bill; Virgilio, Martin; Ash, Darren; Weber, Michael; Muessle, Mary; Jacobs-Baynard, Elizabeth; Kasputys, Clare  
**Cc:** Brown, Milton; Golder, Jennifer; Peterson, Gordon  
**Subject:** Supplemental Funding Request for Japan Event Support

The Chairman requested OCFO prepare a package for a proposed supplemental funding for the Japan Event Response and Lessons Learned efforts. OCFO has developed preliminary cost estimates for the following event response scenario and I took a shot at ballparking the lessons learned effort. (b)(5)

(b)(5)

(b)(5)



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**From:** Dyer, Jim  
**Sent:** Wednesday, March 23, 2011 11:23 AM  
**To:** Dhir, Neha; Coggins, Angela  
**Cc:** Golder, Jennifer; Smolik, George; Allwein, Russell; Brown, Milton  
**Subject:** FW: Proposed FY 2011 Supplemental Appropriations Legislation  
**Attachments:** Chairman's COMSECY FY 2011 Supplemental Appropriations 3-23-11.docx

Neha & Angela,

Additional information and minor correction.

(b)(5)

Let us know if you want to discuss.

Jim

---

**From:** Smolik, George  
**Sent:** Wednesday, March 23, 2011 10:30 AM  
**To:** Dhir, Neha  
**Cc:** Golder, Jennifer; Peterson, Gordon; Allwein, Russell; Williams-Johnson, Patrice; Dorfman, Joel  
**Subject:** Proposed FY 2011 Supplemental Appropriations Legislation

Neha,

Attached is a proposed COMSECY from the Chairman to the Commission for FY 2011 Supplemental Appropriations Legislation.

Please note that the supplemental appropriations is "bounded" at 20 million, which includes \$5 million for

Please call me if you have any questions.  
Thank you.  
George

MEMORANDUM TO: Commissioner Svinicki  
Commissioner Apostolakis  
Commissioner Magwood  
Commissioner Ostendorff

FROM: Chairman Jaczko

SUBJECT: FY 2011 SUPPLEMENTAL APPROPRIATIONS LEGISLATION

(b)(5)

(b)(5)

SECY, please track.

cc: CFO  
EDO  
OGC  
SECY

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**From:** Smolik, George  
**Sent:** Tuesday, March 22, 2011 11:22 AM  
**To:** Dhir, Neha  
**Cc:** Allwein, Russell  
**Subject:** Supplemental Funding Request for Japan Event Support

Neha,

As we discussed, below are the estimates for the supplemental funding request. The total amount is (b)(5)

(b)(5)

George

---

**From:** Dyer, Jim  
**Sent:** Monday, March 21, 2011 5:35 PM  
**To:** Borchardt, Bill; Virgilio, Martin; Ash, Darren; Weber, Michael; Muessle, Mary; Jacobs-Baynard, Elizabeth; Kasputys, Clare  
**Cc:** Brown, Milton; Golder, Jennifer; Peterson, Gordon  
**Subject:** Supplemental Funding Request for Japan Event Support

The Chairman requested OCFO prepare a package for a proposed supplemental funding for the Japan Event Response and Lessons Learned efforts. OCFO has developed preliminary cost estimates for the following event response scenario and I took a shot at ballparking the lessons learned effort. (b)(5)

(b)(5)

(b)(5)

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**From:** Weber, Michael  
**Sent:** Thursday, March 31, 2011 6:27 PM  
**To:** Bradford, Anna  
**Cc:** Coggins, Angela; Batkin, Joshua; Borchardt, Bill  
**Subject:** RESPONSE - Summary of IPC meeting, Temporary Radiological Standards for International Cargo Transborder Supply Chain Security IPC

We're on it. Teams in the Ops Center will develop overnight.

---

**From:** Bradford, Anna  
**Sent:** Thursday, March 31, 2011 6:10 PM  
**To:** Weber, Michael; Borchardt, Bill; HOO Hoc  
**Cc:** Pace, Patti; Batkin, Joshua; Coggins, Angela  
**Subject:** FW: FYI - Summary of IPC meeting, Temporary Radiological Standards for International Cargo Transborder Supply Chain Security IPC  
**Importance:** High

Bill and Mike,

Can you please provide talking points/key messages for the Chairman for his 11:00 meeting at the White House tomorrow, including a bullet or two that covers the topic below? First thing in the morning would be great.

Thanks!

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

---

**From:** Coggins, Angela  
**Sent:** Thursday, March 31, 2011 4:41 PM  
**To:** Bradford, Anna  
**Subject:** Fw: FYI - Summary of IPC meeting, Temporary Radiological Standards for International Cargo Transborder Supply Chain Security IPC

Angela Coggins  
Policy Director  
Office of Chairman Gregory B Jaczko  
US Nuclear Regulatory Commission  
angela.coggins@nrc.gov/301-415-1828

---

**From:** Weber, Michael  
**To:** Jaczko, Gregory  
**Cc:** Coggins, Angela; Batkin, Joshua; Borchardt, Bill; Burns, Stephen; Doane, Margaret; Mamish, Nader  
**Sent:** Thu Mar 31 16:16:13 2011  
**Subject:** FYI - Summary of IPC meeting, Temporary Radiological Standards for International Cargo Transborder Supply Chain Security IPC

Good afternoon, Chairman. As you see below, Rob Lewis and John Cook participated in an IPC discussion this afternoon that may be raised in tomorrow morning's Principals' Meeting at the White House. In short, (b)(5)

(b)(5)

If you need any additional information, please advise.

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**From:** Lewis, Robert

**Sent:** Thursday, March 31, 2011 3:12 PM

**To:** Milligan, Patricia; Weber, Michael; Wiggins, Jim; Moore, Scott; Virgilio, Martin; Haney, Catherine; Ordaz, Vonna; Evans, Michele; Cool, Donald; DeCicco, Joseph; Reis, Terrence; Luehman, James; Zimmerman, Roy; McDermott, Brian; Brock, Kathryn; Deegan, George; Cook, John; Owens, Janice; Mamish, Nader; Rothschild, Trip; Doane, Margaret; PMT03 Hoc; PMT04 Hoc; PMT07 Hoc

**Subject:** FYI: Summary of IPC meeting, Temporary Radiological Standards for International Cargo Transborder Supply Chain Security IPC

John Cook and I attended the "NATIONAL SECURITY STAFF, TRANSBORDER SECURITY INTERAGENCY POLICY COMMITTEE meeting on Supply Chain Security on Thursday March 31, 2011, in the White House Conference Center. The attached handout (same as yesterday was used for the meeting). Below is a summary.

(b)(5)

(b)(5)



(b)(5)

(b)(5)

(b)(5)

(b)(5)

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**From:** Hipschman, Thomas  
**Sent:** Tuesday, March 29, 2011 11:30 AM  
**To:** Batkin, Joshua  
**Cc:** Bradford, Anna; Clark, Lisa  
**Subject:** RE: Can you

Outside of Scope

Thomas Hipschman  
Policy Advisor for Reactors  
Office of Chairman Gregory B. Jaczko  
301-415-1832

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

**From:** Batkin, Joshua  
**Sent:** Tuesday, March 29, 2011 11:25 AM  
**To:** Dacus, Eugene; Schmidt, Rebecca; Hipschman, Thomas; Powell, Amy; Bradford, Anna; Warren, Roberta  
**Cc:** Gibbs, Catina  
**Subject:** Re: Can you

Tom, did you get to marty on #2?

Joshua C. Batkin  
Chief of Staff  
Chairman Gregory B. Jaczko  
(301) 415-1820

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

**From:** Dacus, Eugene  
**To:** Schmidt, Rebecca; Hipschman, Thomas; Batkin, Joshua; Powell, Amy; Bradford, Anna; Warren, Roberta  
**Cc:** Gibbs, Catina  
**Sent:** Tue Mar 29 11:05:49 2011  
**Subject:** RE: Can you

Tom  
Two things the delegations will be wanting to hear....

(b)(5)

Outside of Scope

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

From: Schmidt, Rebecca

Sent: Tuesday, March 29, 2011 10:47 AM

To: Hipschman, Thomas; Batkin, Joshua; Powell, Amy; Dacus, Eugene; Bradford, Anna; Warren, Roberta

Cc: Gibbs, Catina

Subject: Re: Can you

They will press on decommissioning now. Is the chr ready to give the delegation something on decommissioning early?

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

From: Hipschman, Thomas

To: Batkin, Joshua; Powell, Amy; Dacus, Eugene; Schmidt, Rebecca; Bradford, Anna; Warren, Roberta

Cc: Gibbs, Catina

Sent: Tue Mar 29 10:42:49 2011

Subject: RE: Can you

Patti has background info I put together for him on VY (summary attached), and working on NJ.

What's the purpose of the meetings?

Thomas Hipschman

Policy Advisor for Reactors

Office of Chairman Gregory B. Jaczko

301-415-1832

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

From: Batkin, Joshua

Sent: Tuesday, March 29, 2011 10:32 AM

To: Powell, Amy; Dacus, Eugene; Schmidt, Rebecca; Bradford, Anna; Hipschman, Thomas; Warren, Roberta

Cc: Gibbs, Catina

Subject: Can you

Please work together to develop 3-4 points gbj should make in both meetings this pm and get them on a card for him?

Joshua C. Batkin

Chief of Staff

Chairman Gregory B. Jaczko

(301) 415-1820

---

**From:** Hipschman, Thomas  
**Sent:** Monday, March 28, 2011 10:59 AM  
**To:** Loyd, Susan  
**Cc:** Bradford, Anna  
**Subject:** RE: Questions about Senate Testimony

Here what we did on day one.

Diablo Canyon Power Plant declared a Notice of Unusual Event at 0423 EST based on receipt of a tsunami warning for the local coastal area. The licensee anticipates a maximum wave surge of approximately 3 feet at the intake structure. The licensee does not expect a surge of this magnitude to impact plant operation. The licensee intends to keep both units at full power through the event. The licensee also sent all nonessential personnel offsite, and placed the circulating water screen wash system into manual operation to provide continuous flushing of the screens to prevent potential fouling. The resident inspectors are on site and monitoring plant conditions and licensee actions from the control room.

At 0946 EST, the NRC entered Monitoring Mode.

At 1130 EST, the licensee observed potential tsunami effects of one foot based on buoy information. The licensee expects this to build to approximately a three foot surge over the ensuing 1-2 hours. This change is within the normal tidal range and not expected to impact plant operation.

The effects of the tsunami at San Onofre Nuclear Generating Station are expected to be less severe than at Diablo Canyon. San Onofre is under a tsunami advisory and has not reached any EAL thresholds. Both units continue to operate at essentially full power.

Region IV has identified 17 licensees in the states of Hawaii and Alaska that possess Category 1 or 2 sources. All of these are sealed-source users, primarily radiographers and irradiators. There is one NRC licensee at Camp McClellan in Sacramento. Region IV has commenced contacting these licensees.

The decommissioned Humboldt Bay nuclear plant has contacted the NRC and reported that they are staffed onsite and preparing for any tsunami effects. The Humboldt Bay fossil plant observed a one foot surge from the tsunami.

Region IV has been in contact with the Radiation Control Program Director for California. He has identified no Category 1 or 2 licensees that would be threatened. California has fully activated its coastal and southern Regional Operations Centers. The California Emergency Operations Center is partially activated. Region IV has contacted Radiation Control Program Directors in Washington and Oregon. Washington does not currently anticipate activating its Emergency Operations Center. Oregon does not currently anticipate activating its Emergency Operations Center.

The state of Hawaii has fully activated its Emergency Operations Center. The state has received Federal support from the Department of Homeland Security, the U.S. Coast Guard and the Federal Emergency Management Agency (FEMA). The highest waves reported in Hawaii were six feet above sea level.

At 1130 EST, the Diablo Canyon observed potential tsunami effects of 1 foot based on buoy information. The surge expanded to approximately three feet at its peak. This change was within the normal tidal range and did not impact plant operation. On March 12, 2011, both units continue to operate at full power.

#### **San Onofre Nuclear Generating Station (SONGS)**

The effects of the tsunami at SONGS were negligible. SONGS was within the area of the tsunami advisory but did not reach any Emergency Action Level thresholds. On March 12, 2011, both units continue to operate at essentially full power.

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

## PURPOSE

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

Written Testimony – It mixes licensees requirements and Temporary Instruction Inspection that we are doing. I think that should be separated better which would help in the clarification.. Additionally, the TI are to be completed by April 29, and the inspection report May 13.

Additionally, on page 2 we might mention the industry consortium, who's in charge, and what they are doing. On page 3, last sentence of the second paragraph. We should be consistent with the President's, Chairman's and EDO public statements concerning radioactive release in the US. Something the effect of no harmful exposure.... From his testimony on March 16th

"Within the U.S., the NRC has been coordinating its efforts with other federal agencies as part of the government response to the situation. This includes monitoring radioactive releases and predicting their path. Given the thousands of miles between Japan and the United States, Hawaii, Alaska, the U.S. territories and the West Coast, we are not expected to experience any harmful levels of radioactivity."

Thomas Hipschman  
Policy Advisor for Reactors  
Office of Chairman Gregory B. Jaczko  
301-415-1832

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**From:** Loyd, Susan  
**Sent:** Monday, March 28, 2011 10:20 AM  
**To:** Hipschman, Thomas  
**Subject:** Questions about Senate TEstimony

The questions for you were:

(b)(5)

Thanks, Tom  
Susan

Susan K. Loyd  
Communications Director  
Office of the Chairman  
U.S. Nuclear Regulatory Commission  
Tele: 301-415-1838  
Susan.Loyd@nrc.gov



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**From:** Fettus, Geoffrey <gfettus@nrdc.org>  
**Sent:** Friday, March 25, 2011 1:50 PM  
**To:** Batkin, Joshua; Bradford, Anna  
**Subject:** FW: Electronic Letter to President Obama RE: Nuclear Crisis in Japan  
**Attachments:** NRDC Letter to President Obama RE Nuclear Crisis in Japan 3-25-11 FINAL LR.pdf

**Importance:** High

fyi -- Josh, I got a hold of Anna at the time that this went out. She can pass on my explicit message to the Chairman.

cheers,

Geoff  
NRDC  
(202) 289 2371  
or cell at any time

(b)(6)

**From:** Beinecke, Frances  
**Sent:** Friday, March 25, 2011 1:03 PM  
**To:** [president@whitehouse.gov](mailto:president@whitehouse.gov)  
**Cc:** (b)(6)  
the.secretary@hq.doe.gov; Ali.zaidi@hq.doe.gov; Jackson.lisa@epa.gov; dickerson.aaron@epa.gov; gbj@nrc.gov; Joshua.batkin@nrc.gov  
**Subject:** Electronic Letter to President Obama RE: Nuclear Crisis in Japan  
**Importance:** High

Frances Beinecke

President

NRDC

P: 212-727-4465

[fbeinecke@nrdc.org](mailto:fbeinecke@nrdc.org)



NATURAL RESOURCES DEFENSE COUNCIL

March 25, 2011

The Honorable Barack Obama  
President of the United States  
The White House  
1600 Pennsylvania Ave. NW  
Washington, DC 20500

Dear Mr. President:

I am writing on behalf of the members of the Natural Resources Defense Council to commend you for your response to the tragedy in Japan by providing assistance to the Japanese people and helping to address the ongoing threat at the Fukushima Daiichi Nuclear Power Station. Our thoughts and prayers are with you and the people of Japan. I am also writing because the severe accident at this power plant, involving a simultaneous loss of control over six nuclear units, demonstrates the grave risks posed by nuclear power, and how little we still know about anticipating and mitigating those risks. Therefore, we strongly endorse your call for a comprehensive review of nuclear reactor safety in the United States.

We further call on you to add an independent review of key safety issues, which we believe must then be followed by prompt implementation of necessary corrective actions to reduce the chance of any such nuclear incident occurring in the United States.

Your continued leadership is needed at this critical moment to move the nation to a safer energy future that will phase out reliance on older nuclear technology with known design weaknesses, responsibly manage and dispose of spent nuclear fuel, and reassess emergency preparedness requirements for all operating and planned nuclear power reactors in the United States. It is because of the need for a full vetting of these issues that we urge you to commission an independent inquiry which will help to ensure the adequacy of, and increase public confidence in, the measures to be taken in response to Japan's nuclear crisis and to promptly take corrective actions to further nuclear safety in the U.S.

The top priority for now remains assisting Japan in bringing its reactors under control, and providing resources and humanitarian relief to Japan for the radiological consequences of the accident and its aftermath. Yet we must also learn from this tragedy. Nuclear reactor siting, regulation, and licensing – for both the 104 operating nuclear power plants in the United States and any new plants that may be built – need to be thoroughly reviewed and reconsidered in light of the serious events at Fukushima. Of particular and urgent concern are the Boiling Water Reactors in the United States with

Mark 1 and 2 containments, which are similar in design to the Fukushima units. Indeed, by building upon the lessons drawn from this national review, the U.S. could lead a renewed effort to work with other countries to integrate these findings into the safety strategies for their existing and future nuclear plants.

With that in mind, we recommend the following steps to address the safety of the nation's nuclear power plants:

1. The administration should appoint a truly independent commission, similar to the Kemeny Commission that investigated the Three Mile Island accident in 1979, that can help to engender public confidence by thoroughly examining nuclear safety issues, including assessing the conclusions and proposed corrective actions arrived at by both the nuclear industry and the NRC in its "90-day safety review".
2. The NRC should suspend the granting of nuclear power plant license renewals in high seismic hazard areas until the findings of the NRC's 90-day review are finalized and vetted by the independent commission.
3. The NRC should consider on a case-by-case basis the rescission of license renewals already granted for nuclear power plants located in high seismic hazard areas that were built to standards that no longer conform to our modern understanding of the full extent of the earthquake threat to the facility.
4. The NRC should direct the licensees of Boiling Water Reactors with elevated spent fuel storage pools to remove all spent fuel from wet pools as soon as it has cooled sufficiently to be stored in dry casks. We estimate that currently 60 thousand tons of spent fuel are stored nearby U.S. reactors, much of it in poorly protected and overloaded pools; and for 31 reactors these pools are located above and outside the containment, as they are at the Fukushima Daiichi plant.
5. The NRC should ensure that no emergency generator at a reactor is located where it is subject to flooding or other forms of potentially crippling damage.

We believe it is important that you now establish an independent commission to explore the root causes and consequences of the still unfolding disaster at Fukushima Daiichi in light of the renewed public concern regarding the serious hazards to public safety. This includes threats may be triggered by so-called "beyond design basis" events—both natural and man-made— that could occur at U.S. nuclear power plants. Review of the implications of this disaster should not be limited to the NRC assessing the adequacy of its own previous rules and decisions. This would be problematic for any entity, but is particularly the case for the NRC, which has long been seen as a weak regulator with insufficient independence from the industry it oversees. Thus an independent commission can help objectively determine national and global ramifications for the siting and safe operation of nuclear power plants and provide a credible assessment of the adequacy of what the NRC and the nuclear power industry will recommend as the appropriate responses to the accident.

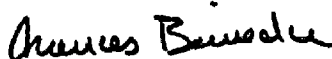
We believe the best model is the Kemeny Commission, which was appointed by President Carter, chaired by the then President of Dartmouth College, and involved individuals with diverse opinions and backgrounds. Such a commission must be primarily comprised of independent experts and other knowledgeable, fair-minded persons of wide experience and good judgment whose current and future livelihoods do not depend on staying in the good graces of either the nuclear industry or the regulatory agency whose past and prospective courses of conduct will be under review. The commission should also hold public hearings, and hear from a wide range of witnesses and perspectives before reaching its own independent determination of the best path forward to improved nuclear safety.

The investigation should include but not be limited to the following issues:

- The causal factors in Japan's nuclear accident;
- Whether the design basis of existing and future designs should cover more severe accident precursors, including earthquakes, flooding and extended loss of off-site power;
- How such accidents can be anticipated and prevented in the future given similar U.S. reactor designs;
- The management of excess hydrogen produced by a loss of coolant and partial fuel melt in the core;
- The safety design and permissible loading limits of spent fuel storage pools;
- Provisions for supplying emergency backup power for longer periods of time;
- The adequacy of the nation's emergency preparedness for reactor accidents; and
- The implications of these findings for locating nuclear plants near large population centers, along seacoasts, and in areas at risk of being subjected to powerful earthquakes or other natural and man-made events, such as terrorism, tornadoes, and fires potentially capable of triggering a prolonged and potentially disastrous "station blackout" as occurred at the Fukushima Daichi plant.

While the situation at Fukushima remains dire and the full extent of the damage to life and property unknown, it is already clear that clinging to the status quo offers inadequate insurance against the occurrence of such a catastrophic nuclear event in the U.S. By taking these steps, your administration would help ensure that the lessons of this disaster can be used to strengthen the regulation of nuclear power generation in the U.S. and worldwide, and contribute to charting a rigorously careful path for the appropriate deployment of this technology in support of our nation's and the world's energy future.

Sincerely,



Frances Beinecke  
President

cc: The Honorable Nancy Sutley, Chair of the White House Council on  
Environmental Quality  
The Honorable John Holdren, Assistant to the President for Science and  
Technology  
The Honorable Heather Zichal, Deputy Assistant to the President for Energy and  
Climate Change Policy  
The Honorable Steven Chu, Secretary of Energy  
The Honorable Lisa Jackson, Administrator of the Environmental Protection  
Agency  
The Honorable Gregory Jaczko, Chairman of the Nuclear Regulatory Commission

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**From:** Abrams, Charlotte  
**Sent:** Thursday, March 24, 2011 3:36 PM  
**To:** Bradford, Anna  
**Cc:** Mamish, Nader; Doane, Margaret; Borchardt, Bill; Emche, Danielle; Weber, Michael; Virgilio, Martin; Coggins, Angela; Batkin, Joshua; Loyd, Susan  
**Subject:** FW: Talking Points for 5:30 PM call with NISA, Director Terasaka  
**Attachments:** Talking Points for Chairman telecom with NISA Director General.docx

The purpose of the call is to support NISA in its role as the critical, key governmental player to ensure that TEPCO responds promptly, adequately, and effectively to the nuclear related events in Japan. At this point the purpose of the call is to get the conversation going and to build trust with a very positive dialog.

(b)(5)

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**From:** Bradford, Anna  
**Sent:** Thursday, March 24, 2011 2:19 PM  
**To:** Emche, Danielle; Borchardt, Bill; Weber, Michael; Virgilio, Martin  
**Cc:** Abrams, Charlotte; Batkin, Joshua; Coggins, Angela; Loyd, Susan  
**Subject:** RE: Talking Points for 5:30 PM call with NISA, Director Terasaka  
**Importance:** High

Bill,

OIP has provided the Chairman with some talking points for his 5:30 call with NISA, and I understand that you had some input to those. The Chairman reviewed them, and he wants more specific information to discuss rather than these high-levels generalities. Can someone please work to get that together? The Chairman said that he thought that Bruce Boger had mentioned getting together specific talking points.

Thanks.

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

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**From:** Emche, Danielle  
**Sent:** Thursday, March 24, 2011 1:57 PM  
**To:** Bradford, Anna  
**Cc:** Abrams, Charlotte  
**Subject:** RE: Talking Points for 5:30 PM call with NISA, Director Terasaka

(b)(5)

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**From:** Bradford, Anna  
**Sent:** Thursday, March 24, 2011 1:41 PM  
**To:** Emche, Danielle  
**Cc:** Abrams, Charlotte  
**Subject:** RE: Talking Points for 5:30 PM call with NISA, Director Terasaka

Danielle, (b)(5)

Anna Bradford  
Policy Advisor for Nuclear Materials  
Office of Chairman Jaczko  
U.S. Nuclear Regulatory Commission  
301-415-1827

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**From:** Marshall, Michael  
**Sent:** Thursday, March 24, 2011 1:14 PM  
**To:** Emche, Danielle  
**Cc:** Abrams, Charlotte; Bradford, Anna  
**Subject:** RE: Talking Points for 5:30 PM call with NISA, Director Terasaka

Danielle,

No problem. I gave a copy to Angela Coggins to discuss with the Chairman, and I will give the other copy to Anna. I am sure our office will get back to you in a timely manner.

Best Regards,

Michael L. Marshall, Jr.  
Policy Advisor for Reactors  
Office of the Chairman  
U.S. Nuclear Regulatory Commission

Phone: 301-415-1750  
Email: [michael.marshall@nrc.gov](mailto:michael.marshall@nrc.gov)

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**From:** Emche, Danielle  
**Sent:** Thursday, March 24, 2011 1:12 PM  
**To:** Marshall, Michael; Bradford, Anna  
**Cc:** Abrams, Charlotte  
**Subject:** Talking Points for 5:30 PM call with NISA, Director Terasaka

Hi Mike,  
Thanks for letting us hand the talking points off to you. We plan to share these with the interpreters and Director Terasaka at 3 PM. This is so the interpreters can prepare. You can email or call when they are ready or if you have questions.  
Danielle

X2644



**Talking Points for Chairman telecom with NISA Director General Terasaka**  
**(March 24, 2011)**

(b)(5)

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**From:** Frazier, Alan  
**Sent:** Thursday, March 17, 2011 11:37 AM  
**To:** Bradford, Anna; Thoma, John; Baggett, Steven; Tadesse, Rebecca; Kock, Andrea  
**Subject:** FW: RASCAL Runs justifying U.S. PARs  
**Attachments:** RASCAL Run of 03152011\_0251AM (used in 03162011 NRC Press Release).pdf; RASCAL Run of 03162011\_1224PM (used in 03162011 NRC Press Release).pdf; RASCAL Run of 03152011\_0256AM.pdf

FYI

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**From:** Wittick, Brian  
**Sent:** Thursday, March 17, 2011 11:36 AM  
**To:** Castleman, Patrick; Warnick, Greg; Marshall, Michael; Hipschman, Thomas; Snodderly, Michael; Orders, William; Franovich, Mike  
**Cc:** Frazier, Alan; PMTERDS Hoc; Brock, Kathryn; Merzke, Daniel  
**Subject:** RASCAL Runs justifying U.S. PARs

Attached are the requested RASCAL runs for your information.

Please let us know if you desire additional information.

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)

Re-run of 3/15/11 2:51 run found in  
press release. Ignore run date/time on  
this copy.

## Summary Report

Case description: Fukushima Unit 2 mid night release 14MAR  
Run date/time: 2011/03/15 03:04

## Maximum Dose Values (rem) - Close-In

Dist from release miles (kilometers)	0.5 (0.8)	1. (1.61)	1.5 (2.41)	2. (3.22)	3. (4.83)	5. (8.05)	7. (11.27)	10. (16.09)
Total EDE	<u>5.4E+03</u>	<u>2.0E+03</u>	<u>1.2E+03</u>	<u>8.2E+02</u>	<u>4.8E+02</u>	<u>2.4E+02</u>	<u>1.6E+02</u>	<u>9.5E+01</u>
Thyroid CDE	<u>2.8E+04</u>	<u>1.1E+04</u>	<u>6.2E+03</u>	<u>4.3E+03</u>	<u>2.5E+03</u>	<u>1.3E+03</u>	<u>8.4E+02</u>	<u>5.1E+02</u>
Inhalation CEDE	<u>3.7E+03</u>	<u>1.4E+03</u>	<u>8.0E+02</u>	<u>5.6E+02</u>	<u>3.3E+02</u>	<u>1.7E+02</u>	<u>1.1E+02</u>	<u>6.7E+01</u>
Cloudshine	<u>1.9E+01</u>	<u>9.3E+00</u>	<u>5.8E+00</u>	<u>4.1E+00</u>	<u>2.5E+00</u>	<u>1.4E+00</u>	<u>9.7E-01</u>	<u>6.2E-01</u>
4-day Groundshine	<u>1.7E+03</u>	<u>6.5E+02</u>	<u>3.8E+02</u>	<u>2.6E+02</u>	<u>1.5E+02</u>	<u>7.3E+01</u>	<u>4.6E+01</u>	<u>2.8E+01</u>
Inter Phase 1st Yr	<u>2.4E+04</u>	<u>9.3E+03</u>	<u>5.4E+03</u>	<u>3.8E+03</u>	<u>2.2E+03</u>	<u>1.0E+03</u>	<u>6.6E+02</u>	<u>3.9E+02</u>
Inter Phase 2nd Yr	<u>1.1E+04</u>	<u>4.4E+03</u>	<u>2.6E+03</u>	<u>1.8E+03</u>	<u>1.0E+03</u>	<u>4.9E+02</u>	<u>3.1E+02</u>	<u>1.8E+02</u>

### Notes:

- Doses exceeding PAGs are underlined.
- Early-Phase PAGs: TEDE - 1 rem, Thyroid (iodine) CDE - 5 rem
- Intermediate-Phase EPA PAGs: 1st year - 2 rem, 2nd year - 0.5 rem
- \*\*\* indicates values less than 1 mrem
- To view all values - use Detailed Results | Numeric Table
- Total EDE = Inhalation CEDE + Cloudshine + 4-Day Groundshine

## Maximum Dose Values (rem) - To 50 mi

Dist from release miles (kilometers)	15 (24.1)	20 (32.2)	30 (48.3)	40 (64.4)	50 (80.5)
Total EDE	<u>8.6E+01</u>	<u>6.3E+01</u>	<u>3.7E+01</u>	<u>1.8E+01</u>	<u>8.1E+00</u>
Thyroid CDE	<u>3.3E+02</u>	<u>2.7E+02</u>	<u>1.3E+02</u>	<u>5.9E+01</u>	<u>2.5E+01</u>
Inhalation CEDE	<u>3.9E+01</u>	<u>3.1E+01</u>	<u>1.3E+01</u>	<u>4.4E+00</u>	<u>1.3E+00</u>
Cloudshine	<u>4.5E-01</u>	<u>3.8E-01</u>	<u>1.7E-01</u>	<u>7.4E-02</u>	<u>2.9E-02</u>
4-day Groundshine	<u>4.7E+01</u>	<u>3.2E+01</u>	<u>2.4E+01</u>	<u>1.3E+01</u>	<u>6.7E+00</u>
Inter Phase 1st Yr	<u>7.1E+02</u>	<u>4.7E+02</u>	<u>3.8E+02</u>	<u>2.2E+02</u>	<u>1.3E+02</u>
Inter Phase 2nd Yr	<u>3.4E+02</u>	<u>2.3E+02</u>	<u>1.8E+02</u>	<u>1.1E+02</u>	<u>6.9E+01</u>

### Notes:

- Doses exceeding PAGs are underlined.
- Early-Phase PAGs: TEDE - 1 rem, Thyroid (iodine) CDE - 5 rem
- Intermediate-Phase PAGs: 1st year - 2 rem, 2nd year - 0.5 rem
- \*\*\* indicates values less than 1 mrem
- To view all values - use Detailed Results | Numeric Table
- Total EDE = CEDE Inhalation + Cloudshine + 4-Day Groundshine
- Total Acute Bone = Bone Inhalation + Cloudshine + Period Groundshine

## Case Summary

Event Type Nuclear Power Plant

### Location

Name: Fukushima Unit 2  
City, county, state: <undefined>, <undefined>, <undefined>  
Lat / Long / Elev: 37.4214° N, 141.0325° E, 0 m  
UTC Offset: 9 hours  
Population: not available

### Reactor Parameters

## Summary Report

Reactor power: 2350 MWt  
Average fuel burn-up: 30000 MWD / MTU  
Containment type: BWR Mark I  
Containment volume: 2.50E+05 ft<sup>3</sup>  
Design pressure: 60 lb/in<sup>2</sup>  
Design leak rate: 0.54 %/d  
Coolant mass: 1.25E+05 kg  
Assemblies in core: 550

### Source Term

Type: Time Core Is Uncovered  
Shutdown: 2011/03/11 14:46  
Core uncovered: 2011/03/15 00:00  
Core recovered: No

### Release Pathway

Type: BWR - Release Through Dry Well  
via direct, unfiltered pathway  
Description: Unit 2 mid-night release 3-14-11  
Release height: 10. m

### Release events

2011/03/15 00:00 Sprays Off  
2011/03/15 00:00 Leak rate (% vol) Total failure

### Meteorology

Type: Actual Observations  
Dataset name: Fukushima 2011 03-14 1600  
Dataset desc: Obs/fcsts for Fukushima Unit 1

Summary of data at release point:	Type	Dir deg	Speed m/s	Stab class	Precip	Temp °C
2011/03/12 14:00	Obs	265	1.0	B	?	
2011/03/12 15:00	Obs	265	1.0	B	?	
2011/03/12 16:00	Obs	277	1.3	B	?	
2011/03/12 17:00	Obs	260	2.4	B	?	
2011/03/12 18:00	Obs	241	1.4	E	?	
2011/03/12 19:00	Obs	236	2.1	E	?	
2011/03/12 20:00	Obs	239	2.1	E	?	
2011/03/12 21:00	Obs	229	3.8	E	?	
2011/03/12 22:00	Obs	224	5.1	E	?	
2011/03/12 23:00	Obs	226	3.9	E	?	
2011/03/13 00:00	Obs	228	4.1	E	?	
2011/03/13 01:00	Obs	235	2.6	E	?	
2011/03/13 02:00	Obs	233	3.9	E	?	
2011/03/13 03:00	Obs	225	1.8	E	?	
2011/03/13 04:00	Obs	225	1.3	E	?	
2011/03/13 05:00	Obs	225	2.2	E	?	
2011/03/13 06:00	Obs	225	2.2	E	?	
2011/03/13 07:00	Obs	248	2.7	E	?	
2011/03/13 08:00	Obs	248	2.7	E	?	
2011/03/13 09:00	Obs	270	3.1	E	?	
2011/03/13 12:00	Obs	271	7.4	D	?	
2011/03/13 13:00	Obs	276	6.2	D	?	
2011/03/13 14:00	Obs	312	2.8	B	?	
2011/03/14 18:00	Obs	258	4.8	unk	?	
2011/03/14 19:00	Obs	268	5.0	unk	?	

## Summary Report

2011/03/14 20:00	Obs	330	2.2	unk	?
2011/03/14 21:00	Fcst	337	4.6	unk	?
2011/03/14 22:00	Fcst	323	7.2	unk	?
2011/03/14 23:00	Fcst	305	6.6	unk	?
2011/03/15 00:00	Fcst	015	8.6	unk	?
2011/03/15 02:00	Fcst	002	7.5	unk	?
2011/03/15 03:00	Fcst	347	5.2	E	None
2011/03/15 04:00	Fcst	332	5.6	E	None
2011/03/15 05:00	Fcst	332	4.0	E	None
2011/03/15 06:00	Fcst	344	3.5	E	Lgt rain
2011/03/15 07:00	Fcst	026	3.8	E	Lgt rain
2011/03/15 08:00	Fcst	044	4.4	E	Lgt rain
2011/03/15 09:00	Fcst	020	4.2	E	Lgt rain
2011/03/15 10:00	Fcst	010	3.4	E	None
2011/03/15 11:00	Fcst	030	3.5	D	Lgt rain
2011/03/15 12:00	Fcst	027	3.0	D	Lgt rain
2011/03/15 13:00	Fcst	037	3.4	D	Lgt rain
2011/03/15 14:00	Fcst	053	3.7	B	None
2011/03/15 15:00	Fcst	058	3.7	B	None
2011/03/15 16:00	Fcst	067	3.2	C	Lgt rain
2011/03/15 17:00	Fcst	081	3.9	C	Lgt rain
2011/03/15 18:00	Fcst	089	4.7	B	None
2011/03/15 19:00	Fcst	085	4.4	B	None
2011/03/15 20:00	Fcst	083	4.4	B	Lgt rain
2011/03/15 21:00	Fcst	074	4.6	C	Lgt rain
2011/03/15 22:00	Fcst	054	5.0	D	Lgt rain
2011/03/15 23:00	Fcst	029	5.6	D	Rain
2011/03/16 00:00	Fcst	011	5.1	D	Lgt rain
2011/03/16 01:00	Fcst	346	4.3	C	Lgt rain
2011/03/16 02:00	Fcst	350	5.3	D	Lgt rain
2011/03/16 03:00	Fcst	323	5.6	D	Lgt rain
2011/03/16 04:00	Fcst	316	5.4	D	None
2011/03/16 05:00	Fcst	298	4.8	D	None
2011/03/16 06:00	Fcst	314	5.6	D	None
2011/03/16 07:00	Fcst	312	4.7	D	None
2011/03/16 08:00	Fcst	331	4.9	D	None
2011/03/16 09:00	Fcst	353	4.1	D	None

Dataset options:      Est. missing stability using: Wind speed, time of day, etc.  
Adjust stability for consistency: No  
Modify winds for topography: Yes

## Calculations

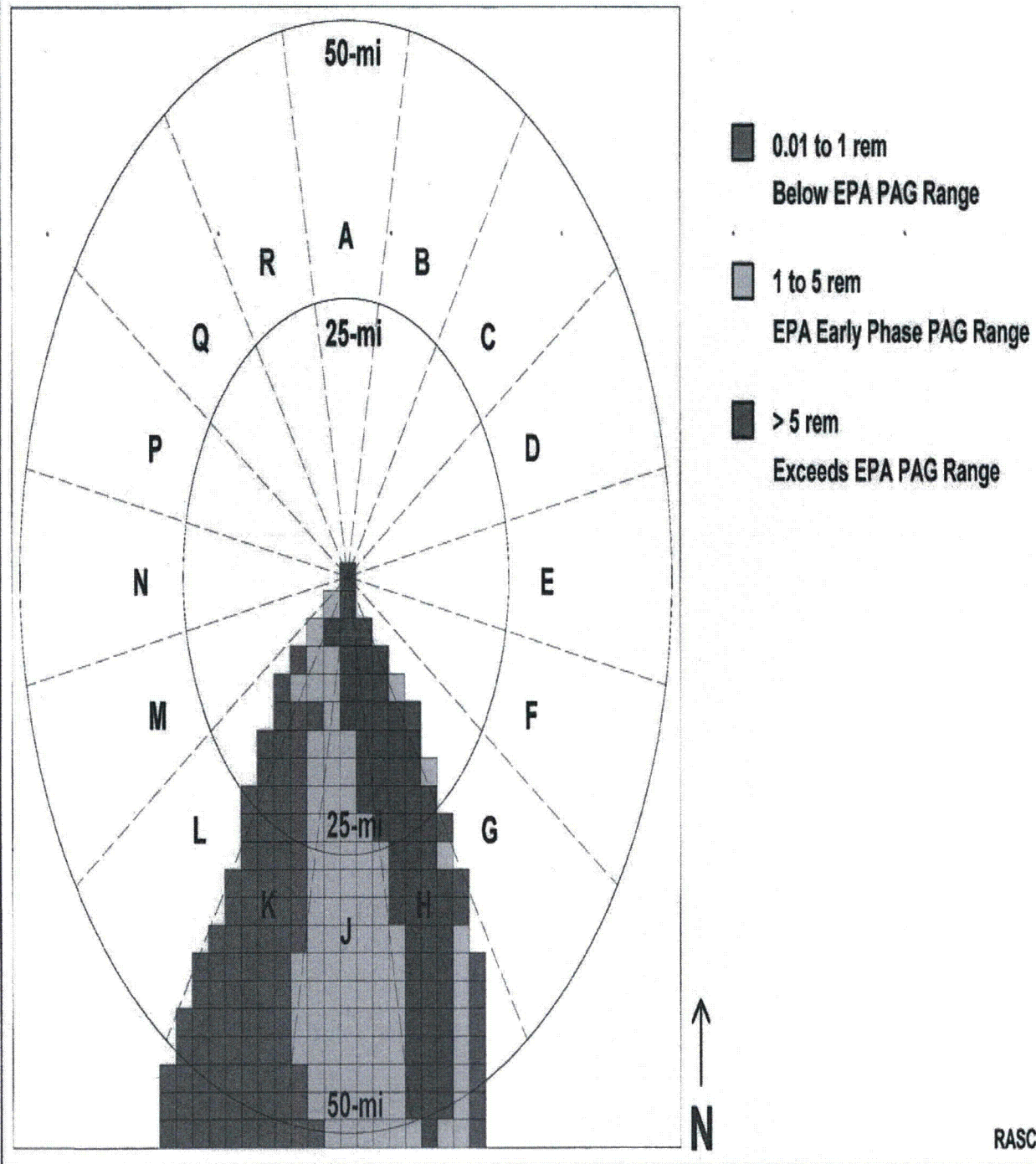
Case description:      Fukushima Unit 2 mid night release 14MAR  
End of calculations:      2011/03/15 16:00  
Start of release to atmosphere + 16 h  
Distance of calculation:      Close-in + to 50 miles  
Close-in distances:      0.5, 1.0, 1.5, 2.0, 3.0, 5.0, 7.0, 10.0 miles

# Total Effective Dose Equivalent

Accumulated between 2011/03/15 00:00 and 2011/03/15 16:00

Fukushima Unit 2 mid night release 14MAR

Fukushima Unit 2



RASCAL v4.1

RASCAL run to justify  
expansion to 50 mile EPZ

## Summary Report

Case description: Fukushima Unit 2 mid day release 15MAR  
Run date/time: 2011/03/15 02:56

## Maximum Dose Values (rem) - Close-In

Dist from release miles (kilometers)	0.5 (0.8)	1. (1.61)	1.5 (2.41)	2. (3.22)	3. (4.83)	5. (8.05)	7. (11.27)	10. (16.09)
Total EDE	4.1E+03	1.7E+03	1.0E+03	7.2E+02	4.4E+02	8.7E+01	4.5E+01	4.1E+00
Thyroid CDE	9.9E+03	2.9E+03	1.4E+03	8.2E+02	4.4E+02	1.0E+02	6.2E+01	7.2E+00
Inhalation CEDE	1.2E+03	3.3E+02	1.5E+02	8.7E+01	4.4E+01	8.8E+00	4.8E+00	4.7E-01
Cloudshine	8.4E+00	3.1E+00	1.5E+00	7.5E-01	2.9E-01	2.0E-01	1.4E-01	5.8E-02
4-day Groundshine	2.9E+03	1.4E+03	8.6E+02	6.3E+02	3.9E+02	7.8E+01	4.0E+01	3.6E+00
Inter Phase 1st Yr	4.5E+04	2.1E+04	1.3E+04	9.9E+03	6.1E+03	1.2E+03	6.1E+02	5.4E+01
Inter Phase 2nd Yr	2.2E+04	1.1E+04	6.6E+03	4.9E+03	3.0E+03	5.9E+02	3.0E+02	2.6E+01

### Notes:

- Doses exceeding PAGs are underlined.
- Early-Phase PAGs: TEDE - 1 rem, Thyroid (iodine) CDE - 5 rem
- Intermediate-Phase EPA PAGs: 1st year - 2 rem, 2nd year - 0.5 rem
- \*\*\* indicates values less than 1 mrem
- To view all values - use Detailed Results | Numeric Table
- Total EDE = Inhalation CEDE + Cloudshine + 4-Day Groundshine

## Maximum Dose Values (rem) - To 50 mi

Dist from release miles (kilometers)	15 (24.1)	20 (32.2)	30 (48.3)	40 (64.4)	50 (80.5)
Total EDE	2.1E+00	2.8E+00	2.7E+00	5.6E-01	1.7E-01
Thyroid CDE	2.0E+01	1.7E+01	1.1E+01	5.0E+00	3.5E+00
Inhalation CEDE	1.3E+00	1.0E+00	6.2E-01	2.0E-01	1.4E-01
Cloudshine	2.9E-02	2.5E-02	1.7E-02	8.1E-03	5.8E-03
4-day Groundshine	1.6E+00	2.5E+00	2.0E+00	3.6E-01	3.7E-02
Inter Phase 1st Yr	2.5E+01	3.8E+01	2.3E+01	2.1E+00	3.2E-01
Inter Phase 2nd Yr	1.2E+01	1.9E+01	1.0E+01	6.6E-01	1.2E-01

### Notes:

- Doses exceeding PAGs are underlined.
- Early-Phase PAGs: TEDE - 1 rem, Thyroid (iodine) CDE - 5 rem
- Intermediate-Phase PAGs: 1st year - 2 rem, 2nd year - 0.5 rem
- \*\*\* indicates values less than 1 mrem
- To view all values - use Detailed Results | Numeric Table
- Total EDE = CEDE Inhalation + Cloudshine + 4-Day Groundshine
- Total Acute Bone = Bone Inhalation + Cloudshine + Period Groundshine

## Case Summary

Event Type Nuclear Power Plant

### Location

Name: Fukushima Unit 2  
City, county, state: <undefined>, <undefined>, <undefined>  
Lat / Long / Elev: 37.4214° N, 141.0325° E, 0 m  
Time zone: <undefined>  
Population: not available

### Reactor Parameters

## Summary Report

Reactor power: 2350 MWt  
Average fuel burn-up: 30000 MWD / MTU  
Containment type: BWR Mark I  
Containment volume: 2.50E+05 ft<sup>3</sup>  
Design pressure: 60 lb/in<sup>2</sup>  
Design leak rate: 0.54 %/d  
Coolant mass: 1.25E+05 kg  
Assemblies in core: 550

## Source Term

Type: Time Core Is Uncovered  
Shutdown: 2011/03/11 14:46  
Core uncovered: 2011/03/15 00:00  
Core recovered: No

## Release Pathway

Type: BWR - Release Through Dry Well  
via direct, unfiltered pathway  
Description: Unit 2 mid-day release 3-15-11  
Release height: 10. m

## Release events

2011/03/15 00:00 Sprays Off  
2011/03/15 11:45 Leak rate (% vol) Total failure

## Meteorology

Type: Actual Observations  
Dataset name: Fukushima 2011 03-14 1600  
Dataset desc: Obs/fcsts for Fukushima Unit 1

Summary of data at release point:	Type	Dir deg	Speed m/s	Stab class	Precip.	Temp °C
2011/03/12 14:00	Obs	265	1.0	B	?	
2011/03/12 15:00	Obs	265	1.0	B	?	
2011/03/12 16:00	Obs	277	1.3	B	?	
2011/03/12 17:00	Obs	260	2.4	B	?	
2011/03/12 18:00	Obs	241	1.4	E	?	
2011/03/12 19:00	Obs	236	2.1	E	?	
2011/03/12 20:00	Obs	239	2.1	E	?	
2011/03/12 21:00	Obs	229	3.8	E	?	
2011/03/12 22:00	Obs	224	5.1	E	?	
2011/03/12 23:00	Obs	226	3.9	E	?	
2011/03/13 00:00	Obs	228	4.1	E	?	
2011/03/13 01:00	Obs	235	2.6	E	?	
2011/03/13 02:00	Obs	233	3.9	E	?	
2011/03/13 03:00	Obs	225	1.8	E	?	
2011/03/13 04:00	Obs	225	1.3	E	?	
2011/03/13 05:00	Obs	225	2.2	E	?	
2011/03/13 06:00	Obs	225	2.2	E	?	
2011/03/13 07:00	Obs	248	2.7	E	?	
2011/03/13 08:00	Obs	248	2.7	E	?	
2011/03/13 09:00	Obs	270	3.1	E	?	
2011/03/13 12:00	Obs	271	7.4	D	?	
2011/03/13 13:00	Obs	276	6.2	D	?	
2011/03/13 14:00	Obs	312	2.8	B	?	
2011/03/14 18:00	Obs	258	4.8	unk	?	
2011/03/14 19:00	Obs	268	5.0	unk	?	



## Summary Report

2011/03/14 20:00	Obs	330	2.2	unk	?
2011/03/14 21:00	Fcst	337	4.6	unk	?
2011/03/14 22:00	Fcst	323	7.2	unk	?
2011/03/14 23:00	Fcst	305	6.6	unk	?
2011/03/15 00:00	Fcst	015	8.6	unk	?
2011/03/15 02:00	Fcst	002	7.5	unk	?
2011/03/15 03:00	Fcst	347	5.2	E	None
2011/03/15 04:00	Fcst	332	5.6	E	None
2011/03/15 05:00	Fcst	332	4.0	E	None
2011/03/15 06:00	Fcst	344	3.5	E	Lgt rain
2011/03/15 07:00	Fcst	026	3.8	E	Lgt rain
2011/03/15 08:00	Fcst	044	4.4	E	Lgt rain
2011/03/15 09:00	Fcst	020	4.2	E	Lgt rain
2011/03/15 10:00	Fcst	010	3.4	E	None
2011/03/15 11:00	Fcst	030	3.5	D	Lgt rain
2011/03/15 12:00	Fcst	027	3.0	D	Lgt rain
2011/03/15 13:00	Fcst	037	3.4	D	Lgt rain
2011/03/15 14:00	Fcst	053	3.7	B	None
2011/03/15 15:00	Fcst	058	3.7	B	None
2011/03/15 16:00	Fcst	067	3.2	C	Lgt rain
2011/03/15 17:00	Fcst	081	3.9	C	Lgt rain
2011/03/15 18:00	Fcst	089	4.7	B	None
2011/03/15 19:00	Fcst	085	4.4	B	None
2011/03/15 20:00	Fcst	083	4.4	B	Lgt rain
2011/03/15 21:00	Fcst	074	4.6	C	Lgt rain
2011/03/15 22:00	Fcst	054	5.0	D	Lgt rain
2011/03/15 23:00	Fcst	029	5.6	D	Rain
2011/03/16 00:00	Fcst	011	5.1	D	Lgt rain
2011/03/16 01:00	Fcst	346	4.3	C	Lgt rain
2011/03/16 02:00	Fcst	350	5.3	D	Lgt rain
2011/03/16 03:00	Fcst	323	5.6	D	Lgt rain
2011/03/16 04:00	Fcst	316	5.4	D	None
2011/03/16 05:00	Fcst	298	4.8	D	None
2011/03/16 06:00	Fcst	314	5.6	D	None
2011/03/16 07:00	Fcst	312	4.7	D	None
2011/03/16 08:00	Fcst	331	4.9	D	None
2011/03/16 09:00	Fcst	353	4.1	D	None

Dataset options: Est. missing stability using: Wind speed, time of day, etc.  
 Adjust stability for consistency: No  
 Modify winds for topography: Yes

## Calculations

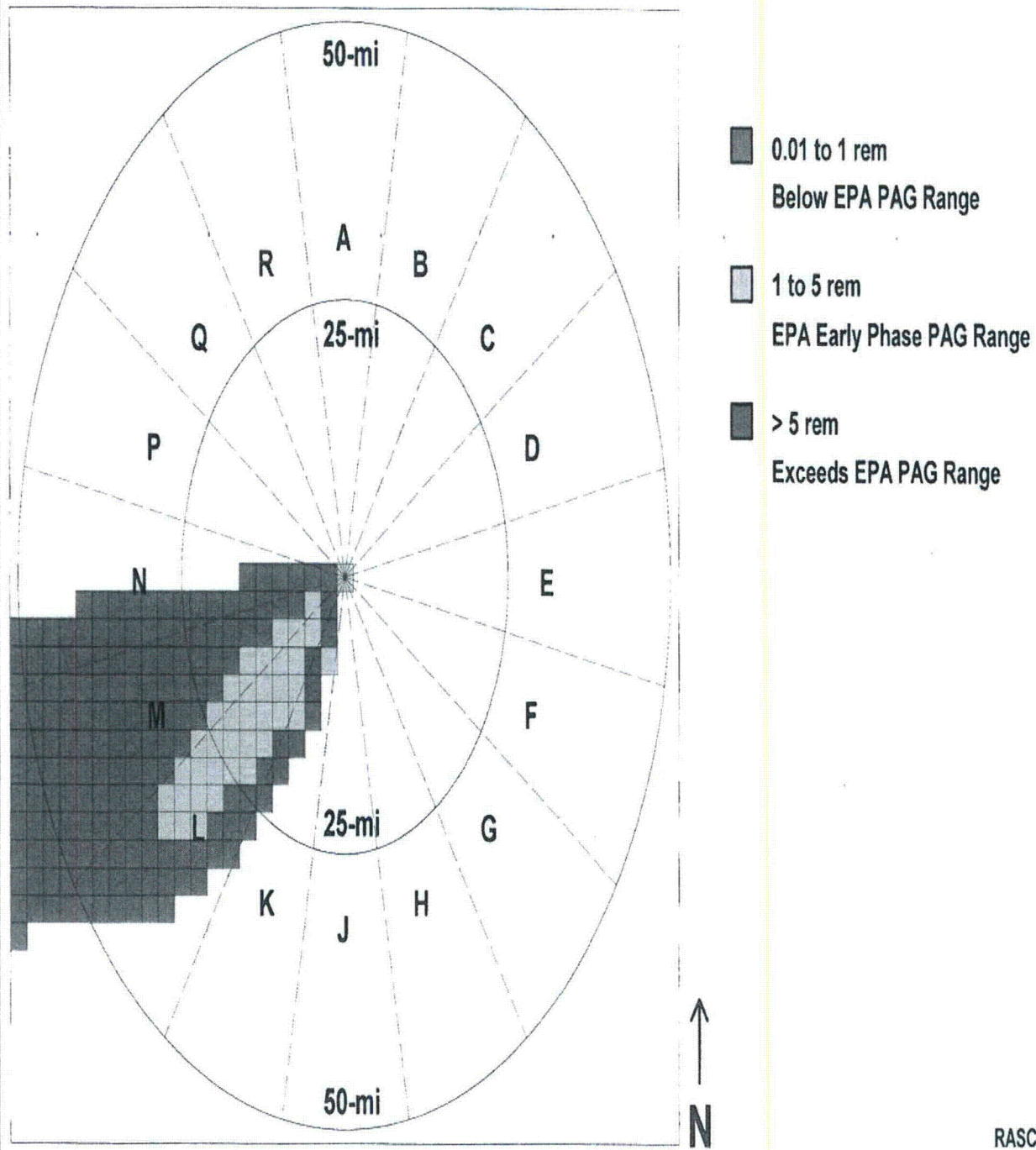
Case description: Fukushima Unit 2 mid day release 15MAR  
 End of calculations: 2011/03/16 03:45  
 Start of release to atmosphere + 16 h  
 Distance of calculation: Close-in + to 50 miles  
 Close-in distances: 0.5, 1.0, 1.5, 2.0, 3.0, 5.0, 7.0, 10.0 miles

# Total Effective Dose Equivalent

Accumulated between 2011/03/15 11:45 and 2011/03/16 03:45

Fukushima Unit 2 mid day release 15MAR

Fukushima Unit 2

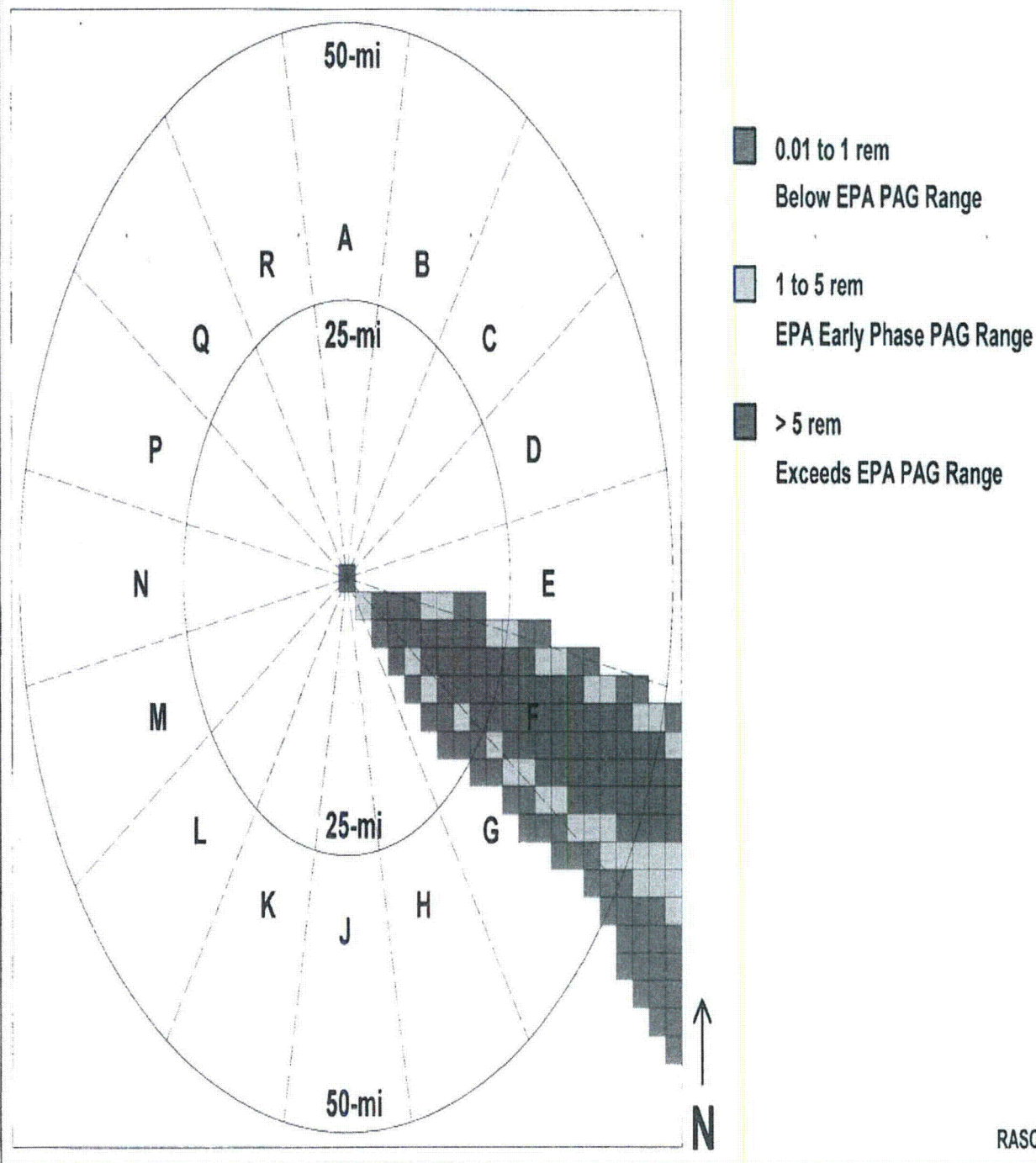


# Total Effective Dose Equivalent

Accumulated between 2011/03/16 19:50 and 2011/03/17 10:50

Fukushima U2, U3 and U4 SFP approximate site release

Fukushima U4





# What is a Protective Action Guide?

- **PAG**—A **value** against which to compare the **projected dose** to a defined individual from a release of radioactive material at which a specific protective action to reduce or avoid that dose is warranted.
- **Projected dose** is a dose that can be averted by protective actions.



# Incident Response Phases

- **Early Phase:** Can last from hours to days until the release has stopped
- **Intermediate Phase:** Can last from a week to months
- **Late Phase:** Can last from months to years





# Early Phase

1992

- Evacuation/Shelter 1-5 rem (10-50 mSv)
- KI 25 rem (250 mSv) thyroid dose (adult)
- Worker 5, 10, 25+ rem (50, 100, 250+ mSv)

2007

- Evacuation/Shelter 1-5 rem (10-50 mSv)
- KI threshold 5 rem (50 mSv) thyroid dose (child)
- Worker 5, 10, 25+ rem (50, 100, 250+ mSv)





# Intermediate Phase

1992

- Relocate population
  - $\geq 2$  rem (20 mSv) (projected dose)
- Apply dose reduction techniques
  - $< 2$  rem (20 mSv)
- Food (FDA 1982)
  - 0.5 rem (50 mSv) annual dose equivalent
- Drinking water
  - Promised

2007

- Relocate population
  - $\geq 2$  rem (20 mSv) (projected dose)
- Apply dose reduction techniques
  - $< 2$  rem (20 mSv)
- Food (FDA 1998): Act based on most limiting of
  - 0.5 rem (5 mSv) whole body or
  - 5 rem (50 mSv) to most exposed organ or tissue
- Drinking water
  - 0.5 rem (5 mSv) first year CEDE





# Protective Actions

Protective Action Recommendation	PAG (projected dose)	Comments
Relocate the general population	$\geq 2$ rem (20 mSv) First year	Beta dose to skin may be up to 50 times higher
Apply simple dose reduction techniques	$< 2$ rem (20 mSv) First year	Reduce doses to as low as practical levels
Longer term objectives	0.5 rem (5 mSv)	In any single year after the first
	$\leq 5$ rem (50 mSv)	Cumulative dose over 50 years





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**From:** Pace, Patti  
**Sent:** Friday, March 25, 2011 8:45 AM  
**To:** Gail.Scowcroft@hse.gsi.gov.uk  
**Cc:** Speiser, Herald  
**Subject:** RE: Request for a telephone meeting Mike Weightman and Chairman Jaczko

Greetings Ms. Scowcroft,

Chairman Jaczko is delayed this morning. Would it be possible to shift the start time of his call with Dr. Weightman by 15 minutes, to 9:15AM Eastern Time?

Many thanks,

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

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**From:** Gail.Scowcroft@hse.gsi.gov.uk [mailto:Gail.Scowcroft@hse.gsi.gov.uk] **On Behalf Of** Mike.Weightman@hse.gsi.gov.uk  
**Sent:** Thursday, March 24, 2011 11:04 AM  
**To:** Stahl, Eric; Mike.Weightman@hse.gsi.gov.uk  
**Cc:** Leeds, Eric; Lindsey.Moore@hse.gsi.gov.uk; Liz.Bibby@hse.gsi.gov.uk; Doane, Margaret; Mamish, Nader; Abrams, Charlotte; Pace, Patti; Speiser, Herald; Pearson, Laura; Warren, Roberta  
**Subject:** RE: Request for a telephone meeting Mike Weightman and Chairman Jaczko

Hi Eric

Thanks for the response. That time is suitable for Mike also. Please thank Chairman Jaczko for accommodating Mike's request.

Can you please give me a number to ring Chairman Jaczko's office or shall I call you for connection?

Regards  
Gail

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**From:** Stahl, Eric [mailto:Eric.Stahl@nrc.gov]  
**Sent:** 24 March 2011 14:29  
**To:** Mike Weightman; Gail Scowcroft  
**Cc:** Leeds, Eric; Lindsey Moore; Liz Bibby; Doane, Margaret; Mamish, Nader; Abrams, Charlotte; Pace, Patti; Speiser, Herald; Pearson, Laura; Warren, Roberta  
**Subject:** RE: Request for a telephone meeting Mike Weightman and Chairman Jaczko

Dr. Weightman –

Chairman Jaczko would be pleased to speak with you. Would it be possible to hold the call tomorrow (Friday, 25 March) instead? We propose the 30 minute call be held at 9:00-9:30am (Washington-time). If another time is preferable, Chairman Jaczko's schedule is flexible.

Best regards,  
Eric

Eric Stahl  
Office of International Programs  
U.S. Nuclear Regulatory Commission  
eric.stahl@nrc.gov  
Tel: +1 301-415-0246  
Mob: (b)(6)

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**From:** Gail.Scowcroft@hse.gsi.gov.uk [mailto:Gail.Scowcroft@hse.gsi.gov.uk] **On Behalf Of** Mike.Weightman@hse.gsi.gov.uk  
**Sent:** Thursday, March 24, 2011 6:09 AM  
**To:** Stahl, Eric  
**Cc:** Leeds, Eric; Johnson, Michael; Lindsey.Moore@hse.gsi.gov.uk  
**Subject:** Request for a telephone meeting Mike Weightman and Chairman Jaczko  
**Importance:** High

Hi Eric  
Hope you are well.  
Would it be possible for the message below from Mike to be passed to Chairman Jaczko office.? I don't appear to have the Chairman's contact details.  
Many thanks  
Regards, Gail  
for Mike Weightman

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Good Morning

I write from the office of Dr Mike Weightman, would it be possible for Mike to have a telephone conversation/meeting with Chairman Jaczko today for approx 30minutes?

Mike would like to discuss the UK Government review that he is leading and also if we can co-operate in our separate, distinct but parallel reviews, sharing information etc.

Look forward to hearing from you

Kind Regards  
Gail Scowcroft  
PA to Dr Mike Weightman  
HM Chief Inspector Nuclear Installations  
Nuclear Directorate  
Tel: 00 44 151 951 4170  
email: [gail.scowcroft@hse.gsi.gov.uk](mailto:gail.scowcroft@hse.gsi.gov.uk)

**From:** Hayden, Elizabeth [mailto:Elizabeth.Hayden@nrc.gov]  
**Sent:** 23 March 2011 22:16  
**To:** 'wgpcnews@oecd-nea.org'  
**Subject:** [wgpcnews] Latest USNRC Press Release on Japan Assessment

Dear all,

For your information, here is our press release announcing NRC's plans for reviewing the Japan event. <http://www.nrc.gov/reading-rm/doc-collections/news/2011/11-055.pdf>

Regards,

**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**

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