

something comes up.

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**From:** John Bernetich [<mailto:bernetichj@ayreslawgroup.com>]  
**Sent:** Friday, November 21, 2014 4:59 PM  
**To:** Mullins, Charles  
**Cc:** Richard E. Ayres; Jessica Olson  
**Subject:** Re: My current view of the Record

Chuck,

Thanks for sending this over. Are you free to talk about the record and scheduling matters on the phone at 2pm on Monday? You can call Dick at 202-452-9200 x1.

--

John Bernetich  
Associate Attorney  
Ayres Law Group LLP  
Ph: (202) 452-9200  
Dir: (202) 416-0241  
[www.ayreslawgroup.com](http://www.ayreslawgroup.com)

On Nov 21, 2014, at 4:36 PM, Mullins, Charles  
<[Charles.Mullins@nrc.gov](mailto:Charles.Mullins@nrc.gov)> wrote:

John;

This reflects my current view of the record in this case – the documents related to Rev 21 and the documents pending before the Commission.

Obviously, if you guys think I should add some more, I will take a look at them.

Have a good weekend.

Chuck  
<14-1213(D.C.Cir.)CurrentRecord.pdf>

**From:** [Mullins, Charles](#)  
**To:** [Markley, Michael](#)  
**Subject:** Observation  
**Date:** Friday, November 21, 2014 5:15:41 PM

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Michael;

I went back and read the petition.

(b)(5)

yourself.

I will bring it down on Monday and you can read it

Have a great weekend.

Chuck

**From:** [Sebrosky, Joseph](#)  
**To:** [Roth\(OGC\), David](#); [Harris, Brian](#); [Young, Mitzi](#); [Kanas, Catherine](#)  
**Cc:** [Oesterle, Eric](#); [Markley, Michael](#)  
**Subject:** FW: Did PG&E and the NRC work together to spin news on Diablo Canyon quake safety? attorney client  
**Date:** Friday, September 19, 2014 6:36:20 AM

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FYI – thought you ought to know about the recommendation to forward information to the IG office.

Joe

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**From:** Markley, Michael  
**Sent:** Thursday, September 18, 2014 2:02 PM  
**To:** Wertz, Trent  
**Cc:** Lund, Louise; Wilson, George; Sebrosky, Joseph; Oesterle, Eric  
**Subject:** FW: Did PG&E and the NRC work together to spin news on Diablo Canyon quake safety?

Please share with Michele, Jennifer, and Dan.

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**From:** Willis, Dori  
**Sent:** Thursday, September 18, 2014 1:28 PM  
**To:** Sebrosky, Joseph; Markley, Michael  
**Cc:** Kanas, Catherine; Roth(OGC), David; Oesterle, Eric; Uselding, Lara; Lund, Louise; Walker, Wayne  
**Subject:** RE: Did PG&E and the NRC work together to spin news on Diablo Canyon quake safety?

Yes, I believe it should be sent to the IG as it is about NRC wrongdoing.

Thanks  
Dori

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**From:** Sebrosky, Joseph  
**Sent:** Thursday, September 18, 2014 12:22 PM  
**To:** Markley, Michael; Willis, Dori  
**Cc:** Kanas, Catherine; Roth(OGC), David; Oesterle, Eric; Uselding, Lara; Lund, Louise; Walker, Wayne  
**Subject:** RE: Did PG&E and the NRC work together to spin news on Diablo Canyon quake safety?

*Mike,*

*I believe it asserts collusion on part of the NRC, so should it be in IG space?*

*Joe*

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**From:** Markley, Michael  
**Sent:** Thursday, September 18, 2014 12:09 PM  
**To:** Willis, Dori  
**Cc:** Kanas, Catherine; Roth(OGC), David; Oesterle, Eric; Sebrosky, Joseph; Uselding, Lara; Lund, Louise  
**Subject:** FW: Did PG&E and the NRC work together to spin news on Diablo Canyon quake safety?

Dori,

Aside from the obvious handling of the FOIA, whenever it is received, this reads like an allegation? What is the OAC view on this?

Mike Markley, Acting Deputy Director  
DORL/NRR  
301-415-5723

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**From:** Uselding, Lara  
**Sent:** Thursday, September 18, 2014 10:28 AM  
**To:** Walker, Wayne; Hipschman, Thomas; Reynoso, John; Buchanan, Theresa; Sebrosky, Joseph; Sebrosky, Joseph; Markley, Michael  
**Subject:** FW: Did PG&E and the NRC work together to spin news on Diablo Canyon quake safety?

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**From:** Dricks, Victor  
**Sent:** Thursday, September 18, 2014 9:16 AM  
**To:** Dapas, Marc; Kennedy, Kriss; Pruett, Troy; Uselding, Lara; Brenner, Eliot  
**Subject:** FW: Did PG&E and the NRC work together to spin news on Diablo Canyon quake safety?

FYI

Victor Dricks  
Senior Public Affairs Officer  
U.S. Nuclear Regulatory Commission / Region IV  
1600 E. Lamar Blvd.  
Arlington, Texas 76011  
(817) 200-1128 (Office)  
(b)(6) (Cell)

**From:** Bill Walker [<mailto:bw.deadline@gmail.com>]  
**Sent:** Thursday, September 18, 2014 9:13 AM  
**To:** Dricks, Victor  
**Subject:** Did PG&E and the NRC work together to spin news on Diablo Canyon quake safety?

For Immediate Release: September 18, 2014

**Expert Contacts:**

Ben Schreiber, (202) 352-4223, [bschreiber@foe.org](mailto:bschreiber@foe.org)  
Dave Freeman, (310) 902-2147, [greencowboysdf@gmail.com](mailto:greencowboysdf@gmail.com)

**Communications Contacts:**

EA Dyson, (202) 222-0730, [edyson@foe.org](mailto:edyson@foe.org) (East Coast)  
Bill Walker, (510) 759-9911, [bw.deadline@gmail.com](mailto:bw.deadline@gmail.com) (West Coast)

## Did PG&E and the NRC work together to spin news on Diablo Canyon quake safety?

*Friends of the Earth files Freedom of Information Act request*

WASHINGTON, D.C. – Last week the Nuclear Regulatory Commission denied a dissent by the

former chief inspector at the Diablo Canyon nuclear plant, who said new seismic data show the plant may be vulnerable to earthquakes of greater magnitude than allowed by its license. On the same day, Pacific Gas & Electric Co. released a long-awaited seismic study that, like the NRC's ruling, also claimed that Diablo Canyon is safe.

Was the timing a coincidence? Friends of the Earth doubts it.

Today, Friends of the Earth, joined by Public Employees for Environmental Responsibility, Mothers for Peace and the Santa Lucia Chapter of the Sierra Club filed a Freedom of Information Act request to determine whether the NRC and PG&E improperly worked together on a public relations strategy to counteract widespread news coverage of the inspector's dissent. According to the FOIA request, filed with the NRC in Washington:

The PG&E seismic report, released on the same day [as the decision on the inspector's dissent] indicates a possible relationship between the regulator and its licensee that has brought up widespread public concern regarding the independence of the regulator. There have been numerous concerns as to how the two documents could have been released simultaneously, given that [the handling of the inspector's dissent] has been kept secret.

The FOIA filing comes three days after three PG&E executives and a top staff member of the California Public Utilities Commission were removed for improperly working together to appoint the company's preferred judge to a case stemming from a September 2010 gas line explosion that killed eight people in San Bruno, California.

"You don't have to look any further than today's headlines to see that PG&E is capable of trying to improperly influence a government regulator when its profits are on the line," said Damon Moglen, Senior strategic advisor for Friends of the Earth. "Unfortunately, the NRC's track record on this issue shows an unfortunate tendency to put PG&E's interests before those of public safety. We want to find out to what extent PG&E and the NRC worked together to spin the story that Diablo Canyon is safe, despite the mounting evidence that it is vulnerable to quakes more powerful than it was built to withstand."

San Luis Obispo County supervisor Bruce Gibson, a seismologist and member of the Independent Peer Review Panel for Diablo Canyon appointed by the CPUC, also questioned the timing of the release of PG&E's report.

"PG&E chose to finalize its entire report and release it to the public before it sought any comment from—or even contacted—the peer review panel," Gibson wrote in the San Luis Obispo Tribune. "It appears to me that PG&E's public relations staff advised them to get their story to the public before any detailed questions might be asked."

Dr. Michael Peck, the former chief inspector at Diablo Canyon, in June 2013 filed a dissent known as a Differing Professional Opinion, or DPO, raising concerns that the plant might not withstand an earthquake on one of several fault lines that were not known when it was designed

and built more than 40 years ago. Peck called for the shutdown of the plant until and unless PG&E could prove it is safe.

For more than a year, the NRC kept Peck's DPO secret and took no action on it. On August 25, 2014, the Associated Press revealed the existence of Peck's document, prompting Sen. Barbara Boxer of California to call a hearing to examine NRC's handling of the dissent. On September 10, the NRC announced it had ruled against Peck. Within hours, PG&E released a seismic safety study the NRC had ordered in the wake of the Fukushima nuclear disaster in March 2011.

"PG&E's seismic safety study is one more example of its half-century history of trying to rationalize away the extreme earthquake hazards to the Diablo Canyon reactors," said Jane Swanson, San Luis Obispo Mothers for Peace. "Despite three earthquake faults identified near Diablo, the NRC has continued to allow this devil of a plant to continue to operate."

Under federal law, the NRC has 20 days to respond to the Freedom of Information Act request.

###

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**Bill Walker**  
**dba Deadline Now**  
**Berkeley, CA**  
**(510) 759-9911**

**Twitter: @deadlinenow**  
**Facebook: DeadlineNow**  
**Skype: deadlinenow**  
**<http://www.deadlinenow.com>**

**From:** [Sebrosky, Joseph](#)  
**To:** [Dudek, Michael](#)  
**Cc:** [Bowers, Anthony](#); [Markley, Michael](#); [Oesterle, Eric](#)  
**Subject:** RE: Proposed Questions to PG&E  
**Date:** Friday, September 19, 2014 6:35:22 AM  
**Attachments:** [FW Did PG&E and the NRC work together to spin news on Diablo Canyon quake safety.msg](#)

Note: The attached email is publicly available as part of documents D/25 and D/26 in interim response #2 in FOIA-2014-0488 (ML14322A779).

Thanks - (b)(6) I will work with Tony to discuss the issue below, and to ensure the EDO staff is aware that in the attached email NRR DORL management has recommended to NRR senior management IG be informed of the assertion in the attached email that PG&E and NRC worked together to release the DPO the same day as the State of California report.

Joe

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**From:** Dudek, Michael  
**Sent:** Friday, September 19, 2014 6:18 AM  
**To:** Sebrosky, Joseph; Bowers, Anthony  
**Subject:** Re: Proposed Questions to PG&E

Morning Joe! (b)(6) so I will not be in the office. Tony Bowers will carry the ball for this. He'll be able to break down any barriers that you need.

Sent from an NRC Blackberry  
Michael I. Dudek

(b)(6)

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**From:** Sebrosky, Joseph  
**Sent:** Thursday, September 18, 2014 05:20 PM Eastern Standard Time  
**To:** Dudek, Michael  
**Cc:** Walker, Wayne; OKeefe, Neil; Oesterle, Eric; Markley, Michael; Karas, Rebecca; Lupold, Timothy  
**Subject:** FW: Proposed Questions to PG&E

Mike,

I am going to give you a call on this. We need to confirm with the EDO's office that the position taken in the DPO appeal is that the operability determination for Diablo should have also included a comparison to the DDE. The issue is important because we have a new operability determination for Diablo based on the new seismic information in the State of California report that we are reviewing.

I have been asked by my management to check with the EDO's office on this.

I will try to call you later tonight or early tomorrow to discuss.

Thanks,

Joe

**From:** Sebrosky, Joseph  
**Sent:** Thursday, September 18, 2014 9:34 AM  
**To:** Hiland, Patrick  
**Cc:** Ake, Jon; Li, Yong; Markley, Michael; Lupold, Timothy; Karas, Rebecca; Ross-Lee, MaryJane; Oesterle, Eric; Wilson, George; Walker, Wayne; OKeefe, Neil; Hipschman, Thomas; Munson, Clifford; Manoly, Kamal; Hill, Brittain  
**Subject:** RE: Proposed Questions to PG&E

Pat,

The purpose of this email is to provide you with the reference documents that I discussed with you this morning that serves as the basis for why I believe it is important to understand PG&E's position on whether or not in-structure motions (different damping values and comparisons) have been done. Specifically I referenced information that is in the DPO. The DPO case file can be found at: [ML14252A743](#)

The case file is 164 pages long. The most important portion of the case file to me is the last 5 pages (i.e., 159 – 164) that documents the EDO's appeal decision. The 5 page document provides a concise history of the issue and also includes the following discussion on page 4:

*Nevertheless, your questioning attitude and perseverance were key to ensuring that the licensee and staff fully evaluated the! implications of the Shoreline fault zone. You correctly noted that the seismic hazard should be evaluated for not only comparison of the ground motion response spectra, but also the plant's design and construction to ensure continued safe operation.*

I understand that the in-structure motions calculations were not part of the basis for the operability determination that was made in the October 2012 time frame. Nevertheless it would appear to me that the EDO agrees that they should have been done. Based on the need to support the new operability determination I would like to understand PG&E's position on the matter before we proceed. **No position will be provided to PG&E during the phone call - we are in listening mode.** I believe further robust internal discussion needs to take place and management may need to provide direction before a determination is made on what we need to do to support the review of PG&E's operability determination.

Please let me know if you have any questions, or if you think I am missing something.

Thanks,

Joe

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**From:** Sebrosky, Joseph  
**Sent:** Thursday, September 18, 2014 5:38 AM  
**To:** Hill, Brittain; Manoly, Kamal; Munson, Clifford  
**Cc:** Ake, Jon; Li, Yong; Markley, Michael; Lupold, Timothy; Karas, Rebecca; Ross-Lee, MaryJane; Hiland, Patrick; Oesterle, Eric; Wilson, George; Walker, Wayne; OKeefe, Neil; Hipschman, Thomas  
**Subject:** RE: Proposed Questions to PG&E

To all,

The purpose of this email is to clearly state the purpose of two meetings today regarding Diablo given the concerns raised by DE and NRO in the email chain below. The first meeting follows the agenda below and there is a followon meeting right after the PG&E discussion that is for the staff only. The purpose of agenda item III in the first meeting is to get PG&E's perspective on the issue. No decisions are being made. From DORL's perspective I believe we need to understand PG&E's position (i.e., whether or not they performed the calculations and if not the basis they believe the calculations are not necessary to demonstrate operability) to inform the internal discussion after the meeting.

If there is a problem with the sequence of the calls please let me know now. The bottom line is I believe PG&E's perspective is important to understand in supporting headquarters input to the assessment of operability. If you want to have a meeting before the PG&E call (given that we are having a meeting right after the call) please let me know so that I can schedule it.

Thanks,

Joe

- I. PG&E provide a hi-level discussion of changes between the 2011 shoreline fault report and the information in the 2014 State of California report
  - a. During the discussion the staff would like PG&E to address the following
    - i. Basis for selection of the magnitude scaling relationship used in the State of California report
    - ii. The basis for the changes in the geometry of the faults
    - iii. The impact of using NGA-West2 based ground motion prediction equation (GMPEs) in the State of California report versus NGA-West GMPEs used in the PG&E 2011 Shoreline fault report
      1. The report states the sensitivity analysis (Chapter 13) compares results from the CA 1632 bill (new CCSIP report the NRC is reviewing) and the new GMPEs from PEER NGA West2 project. Later it states the 4 NGAs are equally weighted (pgs 9, 18) by 25%, but other places it references 5 NGA West2 models (pages 10 & 19). Please explain the apparent discrepancy
- II. PG&E provide a discussion of the site-response approach used in the State of California report
  - a. Staff believes this is embedded in a 2014 Technical Evaluation Report entitled "Site Conditions Evaluation," which is reference in Chapter 13 as: Technical Report GEO.DCPP.TR.14.06, June 2014
- III. PG&E provide a discussion on whether or not in-structure motions (different damping values and comparisons) have been done
- IV. Next steps
- V. Wrapup

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**From:** Hill, Brittain

**Sent:** Wednesday, September 17, 2014 5:32 PM

**To:** Manoly, Kamal; Munson, Clifford

**Cc:** Ake, Jon; Li, Yong; Markley, Michael; Lupold, Timothy; Karas, Rebecca; Ross-Lee, MaryJane; Hiland, Patrick; Oesterle, Eric; Sebrosky, Joseph

**Subject:** Re: Proposed Questions to PG&E

Without the clarification on damping, we end up with the same confusing issues as 2 non concurrences, a DPO, the 2014 union Conc sci report, and recent petition by FOE. If damping clarified, stops all this confusion in its tracks and gives clear basis for decisions. This is not a pure engineering exercise, and what you are portraying as "noise" is an important consideration in clearly explaining why or why not we think DCPD is safe to operate. If there still are dissenting views, I suggest we discuss them at tomorrow's meeting before call.

Britt

Sent from Brittain Hill's PDA

(b)(6)

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**From:** Manoly, Kamal

**Sent:** Wednesday, September 17, 2014 04:58 PM Eastern Standard Time

**To:** Hill, Brittain; Munson, Clifford

**Cc:** Ake, Jon; Li, Yong; Markley, Michael; Lupold, Timothy; Karas, Rebecca; Ross-Lee, MaryJane; Hiland, Patrick; Oesterle, Eric; Sebrosky, Joseph

**Subject:** RE: Proposed Questions to PG&E

I mentioned RG 1.61 to illustrate a point. I know from my involvement with Diablo since the mid-eighties that the plant was licensed to damping values that are different from RG 1.61. I also knew that some components are governed by DDE and others by Hosgri. From doing actual design of components in nuclear plants, designers know that some components may be governed by OBE and others by SSE. Still, the argument about damping should not be relevant to altering the evaluation done by PG&E in 2011 except for the change of ground motion (old shoreline line vs. new shoreline hazard). That is the only variable of significance. The rest is in the noise level from an engineering standpoint.

## **Kamal Manoly**

**Senior Level Technical Advisor for Structural Mechanics**

**Division of Engineering**

**Office of Nuclear Reactor Regulation**

**301-415-2765**

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**From:** Hill, Brittain

**Sent:** Wednesday, September 17, 2014 4:17 PM

**To:** Manoly, Kamal; Munson, Clifford

**Cc:** Ake, Jon; Li, Yong; Markley, Michael; Lupold, Timothy; Karas, Rebecca; Ross-Lee, MaryJane; Hiland, Patrick; Oesterle, Eric; Sebrosky, Joseph

**Subject:** Re: Proposed Questions to PG&E

Please read ch 2,3, and 5 in DCPD SAR to see that Hosgri is not limiting demand - can be either HE or DDE. PGE also didnt use RG 1.61 damping for all Cat1 SSCs. Please look at SAR for their mix. Unless they identify appropriate damping etc, we simply cannot state that new info is bounded by existing lic basis. If new Shoreline exceeds DDE, and DDE is the SSE and limiting GM (NOT Hosgri!) for some SSCs, we certainly need PGE to state what damping is appropriate for new info: DDE, HE, RG1.61, or

something else.

Britt

Sent from Brittain Hill's PDA

(b)(6)

**From:** Manoly, Kamal

**Sent:** Wednesday, September 17, 2014 04:06 PM Eastern Standard Time

**To:** Munson, Clifford

**Cc:** Ake, Jon; Hill, Brittain; Li, Yong; Markley, Michael; Lupold, Timothy; Karas, Rebecca; Ross-Lee, MaryJane; Hiland, Patrick; Oesterle, Eric; Sebrosky, Joseph

**Subject:** Proposed Questions to PG&E

Cliff,

I see no relevance or value from asking PG&E question #5 about "In-structure motions (different damping values & appropriate comparisons)". The sole focus should be on confirming that PG&E new shoreline fault ground motion estimate is reasonable and acceptable to the staff. With such confirmation, then, the hazard from the shoreline fault would be bounded by the "Old" Hosgri. That should be the end point of our assessment of the CA report.

Introducing a question as to whether the damping values to be used for the 2014 hazard estimate of the shoreline fault may be different from that used in the 2011 evaluation would be pointless and shifting the focus to a totally unrelated issue. You will never find any documented reference that correlates slight change in hazard vs damping values for structural materials. Remember, in RG 1.61 we prescribe (for a specific structural material) a single damping value to be used by ALL plants in the US for OBEs and another for ALL SSEs regardless of the location. The reason is based on acceptable understanding that viscous structural damping would generally be lower at lower deformation level. We know that ground motion estimates for OBEs and SSEs vary greatly from low seismic regions such as the Gulf States vs. high seismic regions such as CA. For this reasoning, asking the question about the effect of different damping values on in-structural response due to slight change in hazard would be worthless and totally distracting from the central issue in the CA report.

**Kamal Manoly**

**Senior Level Technical Advisor for Structural Mechanics**

**Division of Engineering**

**Office of Nuclear Reactor Regulation**

**301-415-2765**

**From:** [Oesterle, Eric](#)  
**To:** [Whited, Jeffrey](#)  
**Cc:** [Markley, Michael](#); [Lund, Louise](#); [Wilson, George](#)  
**Subject:** Additional Q&As for Diablo Canyon  
**Date:** Tuesday, November 25, 2014 12:37:05 PM  
**Attachments:** [ANTICIPATED QUESTIONS AND ANSWERS DCPD.docx](#)  
[image001.png](#)

Note: The 3-page attachment is withheld in its entirety under FOIA exemption 5.

Jeff,

I've incorporated Mike Markley's comments on the subject Q&As for EPW Hearing support and have provided the updated responses.

*Eric R. Oesterle*

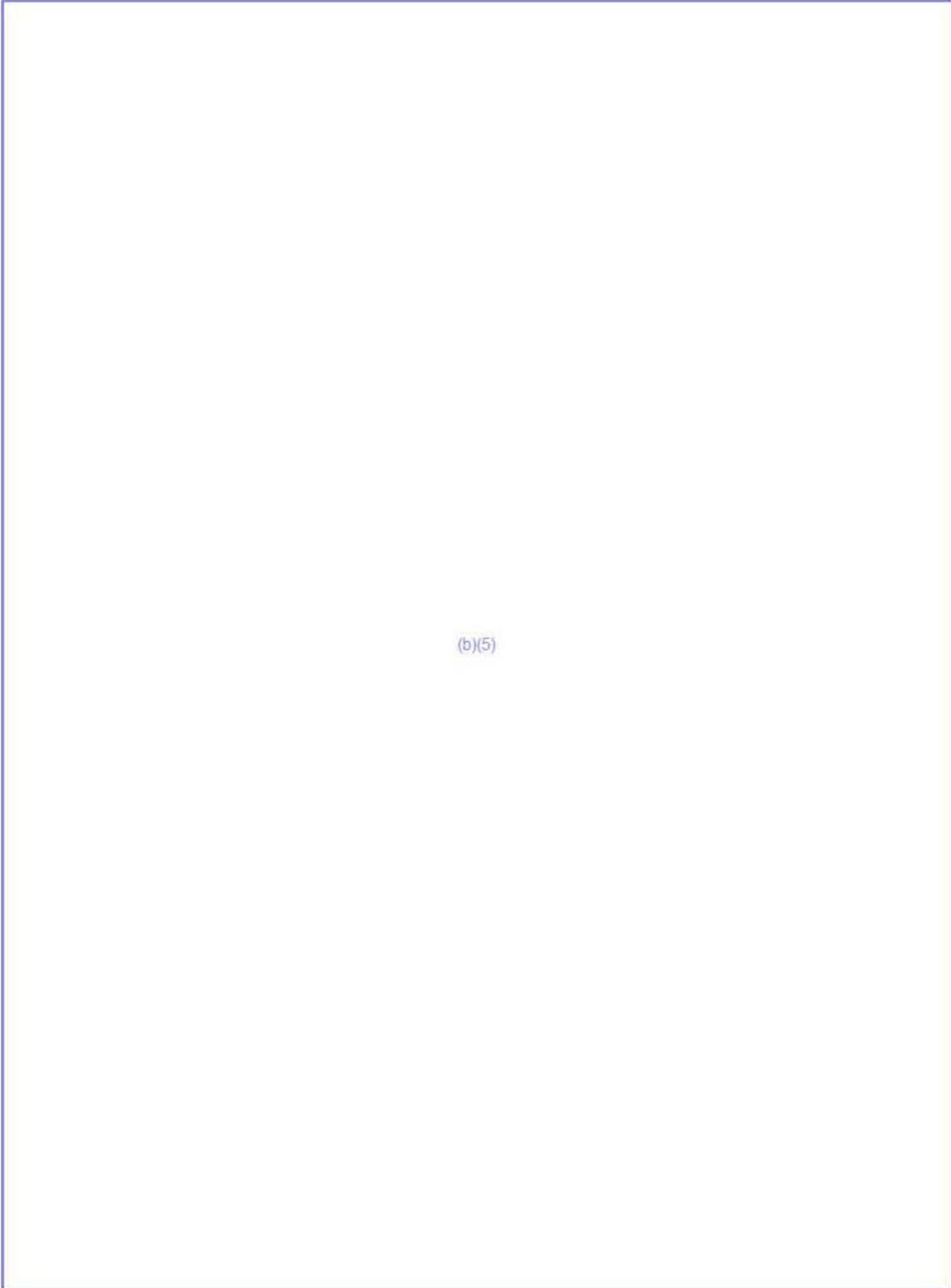
NRC Project Manager  
Diablo Canyon Power Plant  
Cooper Nuclear Station  
NRR/DORL/LPL4-1  
301-415-1014



**ANTICIPATED QUESTIONS AND ANSWERS**

**DIABLO CANYON**

1.



(b)(5)

2.

3.

4.

(b)(5)

5.

(b)(5)

**From:** Pedersen, Renee  
**To:** Burnell, Scott; Markley, Michael; Scott, Michael; Oesterle, Eric; Screnci, Diane; Sheehan, Neil  
**Cc:** Solorio, Dave; Sewell, Margaret; Sosa, Belkys; Holahan, Patricia  
**Subject:** RE: Re: Diablo Canyon Ask Management  
**Date:** Wednesday, November 12, 2014 10:56:42 AM

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Thanks for sharing this with OE. We support the brief response from Scott, including that it is consistent with our agency guidance.

"Consistent with NRC guidance, the EDO's response to the DPO appeal is the final resolution to this matter."

We would appreciate it if OE could be copied on any responses related to the DPO. ([DPOPM.Resource@nrc.gov](mailto:DPOPM.Resource@nrc.gov))

Renée Pedersen  
Sr. Differing Views Program Manager  
Office of Enforcement  
(301) 415-2742

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**From:** Burnell, Scott  
**Sent:** Wednesday, November 12, 2014 8:22 AM  
**To:** Markley, Michael; Scott, Michael; Oesterle, Eric; Screnci, Diane; Sheehan, Neil  
**Cc:** Pedersen, Renee  
**Subject:** RE: Re: Diablo Canyon Ask Management

This should particularly go through the RI OPA folks, and I'd offer the answer is "The EDO's response to the DPO is the final resolution to this matter."

---

**From:** Markley, Michael  
**Sent:** Wednesday, November 12, 2014 8:03 AM  
**To:** Scott, Michael; Oesterle, Eric  
**Cc:** Burnell, Scott; Pedersen, Renee  
**Subject:** RE: Re: Diablo Canyon Ask Management

Mike

Again, I think you need to go through OE and OPA. My preference is not to respond.

Mike

---

**From:** Scott, Michael  
**Sent:** Monday, November 10, 2014 6:14 PM  
**To:** Markley, Michael; Oesterle, Eric  
**Subject:** Re: Diablo Canyon Ask Management

Mike and Eric:

Thanks for the input you provided me. Hopefully the below would seem reasonable. If you have any concerns please let me know. If agreed by senior management here, this would be e-mail blasted to the Region 1 staff.

Q: On September 19, The Santa Barbara Independent ran an article, which was also put

The rest of this email string may be found as document B/36 in FOIA/PA-2015-0071 (ML15181A428).
-------------------------------------------------------------------------------------------------

**From:** [Oesterle, Eric](#)  
**To:** [Scott, Michael](#); [Markley, Michael](#)  
**Subject:** RE: Re: Diablo Canyon Ask Management  
**Date:** Wednesday, November 12, 2014 9:29:58 AM

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Understood. Your revised para seems reasonable.  
Eric

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**From:** Scott, Michael  
**Sent:** Wednesday, November 12, 2014 9:02 AM  
**To:** Oesterle, Eric; Markley, Michael  
**Subject:** RE: Re: Diablo Canyon Ask Management

Problem is that was a direct quote. Hearing Mike's concern and yours, but being mindful of the need to be responsive to staff, I may go with:

On September 9, 2014, the EDO issued a decision on the appeal of DPO 2013-002, concerning seismic issues at the Diablo Canyon Nuclear Power Plant (DCNPP). The decision is summarized in the Commission Weekly Information Report dated September 19, 2014. We are not aware of any additional actions planned in response to the press article referenced in the question.

I will run this by OPA here as a matter of course.

Thanks again for your help.

Mike

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**From:** Oesterle, Eric  
**Sent:** Wednesday, November 12, 2014 6:24 AM  
**To:** Scott, Michael; Markley, Michael  
**Subject:** RE: Re: Diablo Canyon Ask Management

Mike,

It generally looks fine to me although I would scratch the text in red only because we've recently had some apparent issues with 50.59's performed for the DCP steam generator and reactor vessel head replacement projects that involve questions about seismic and LOCA load combinations so until that gets ironed out I would just focus on the tech spec and safety aspects.

Eric

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**From:** Scott, Michael  
**Sent:** Monday, November 10, 2014 6:14 PM  
**To:** Markley, Michael; Oesterle, Eric  
**Subject:** Re: Diablo Canyon Ask Management

Mike and Eric:

Thanks for the input you provided me. Hopefully the below would seem reasonable. If you have any concerns please let me know. If agreed by senior management here, this would be e-mail blasted to the Region 1 staff.

The rest of this email string may be found as document B/36 in FOIA/PA-2015-0071 (ML16181A428).
-------------------------------------------------------------------------------------------------

**From:** [Burnell, Scott](#)  
**To:** [Markley, Michael](#); [Scott, Michael](#); [Oesterle, Eric](#); [Screnci, Diane](#); [Sheehan, Neil](#)  
**Cc:** [Pedersen, Renee](#)  
**Subject:** RE: Re: Diablo Canyon Ask Management  
**Date:** Wednesday, November 12, 2014 8:22:08 AM

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This should particularly go through the RI OPA folks, and I'd offer the answer is "The EDO's response to the DPO is the final resolution to this matter."

---

**From:** Markley, Michael  
**Sent:** Wednesday, November 12, 2014 8:03 AM  
**To:** Scott, Michael; Oesterle, Eric  
**Cc:** Burnell, Scott; Pedersen, Renee  
**Subject:** RE: Re: Diablo Canyon Ask Management

Mike

Again, I think you need to go through OE and OPA. My preference is not to respond.

Mike

---

**From:** Scott, Michael  
**Sent:** Monday, November 10, 2014 6:14 PM  
**To:** Markley, Michael; Oesterle, Eric  
**Subject:** Re: Diablo Canyon Ask Management

Mike and Eric:

Thanks for the input you provided me. Hopefully the below would seem reasonable. If you have any concerns please let me know. If agreed by senior management here, this would be e-mail blasted to the Region 1 staff.

Q: On September 19, The Santa Barbara Independent ran an article, which was also put on the R1 website, about the former Diablo Canyon SRI who had a concern about how Diablo Canyon's new seismic information was handled and did not feel that is DPO about this concern was adequately addressed. Does the NRC plan to do any thing additional to address his concern in light of the recent article? If so, please inform us of the resolution to this when it is concluded.

Proposed Response:

The following is quoted from the Commission Weekly Information Report dated September 19, 2014: "On September 9, 2014, the EDO issued a decision on the appeal of DPO 2013-002, concerning seismic issues at the Diablo Canyon Nuclear Power Plant (DCNPP). The EDO's decision on the appeal supported both the DPO panel's independent technical conclusions and subsequent Office of Nuclear Reactor Regulation Director's decision that there was not a significant or immediate concern with seismic safety at DCP, and that the licensee and staff had followed appropriate processes for technical specification operability of plant equipment and Title 10 Code of Federal Regulations 50.59 evaluations with a reasonable technical and safety rationale. The EDO noted that the DPO raised awareness of the complexity of the DCNPP seismic licensing basis, but also illustrated the need for the agency to ensure there are clear guidelines for staff and licensees regarding how changes in natural hazards should be evaluated for all licensees. The public records for

this DPO are available in the DPO case file package in the Agencywide Document Access and Management System, Accession No. ML14252A743.”

According to the cognizant NRR licensing staff, no specific additional actions are planned in response to the referenced article. There has been substantial press coverage of the DPO, and numerous correspondence from stakeholders, including members of Congress and the public. The staff is handling inquiries in accordance with established processes.

**From:** [Sebrosky, Joseph](#)  
**To:** [Klett, Audrey](#)  
**Cc:** [Markley, Michael](#); [Oesterle, Eric](#); [Wilson, George](#)  
**Subject:** thanks for developing TER shell for Diablo Canyon  
**Date:** Thursday, October 23, 2014 7:42:12 AM  
**Attachments:** [Diablo Canyon operability evaluation 2014 seismic information technical evaluation.docx](#)  
[Path forward for Diablo operability assessment.msg](#)

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Audrey,

The purpose of this email is to thank you for developing the outline for the Diablo Canyon seismic TER. I used it to develop the attached TER which was used as a strawman for management discussions yesterday. Attached is a summary of the outcome of the meeting. Although it looks like the attached TER is going to be heavily revised it did serve a purpose as the basis for a starting point to get the ball rolling on the evaluation. It also appears to me that the general outline for the TER (which you developed) is going to be used.

I just thought you should know that I very much appreciated not having to start from scratch on developing the TER and how I used what you developed.

Thanks again for the help.

Joe

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**From:** Sebrosky, Joseph  
**Sent:** Tuesday, October 21, 2014 8:10 AM  
**To:** Wilson, George; Oesterle, Eric; Markley, Michael  
**Subject:** info: latest version of Diablo Canyon TER

To all,

Attached is the latest version of the Diablo Canyon TER. It incorporates comments from Eric and has other minor editorial changes from previous versions. Per direction from George I have stopped work on the effort pending the outcome of the meeting later today.

Thanks,

Joe Sebrosky  
Senior Project Manager  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation  
[joseph.sebrosky@nrc.gov](mailto:joseph.sebrosky@nrc.gov)  
301-415-1132

TECHNICAL EVALUATION REPORT BY THE OFFICES OF NEW REACTORS,  
RESEARCH, AND NUCLEAR REACTOR REGULATION  
CENTRAL COASTAL CALIFORNIA SEISMIC IMAGING PROJECT  
PACIFIC GAS AND ELECTRIC COMPANY  
DIABLO CANYON POWER PLANT, UNITS 1 AND 2  
October 21, 2014, 8:00 am version

1.0 INTRODUCTION

1.1 Purpose

This evaluation provides the results of the U.S. Nuclear Regulatory Commission (NRC) staff's assessment of the new seismic hazards information developed by Pacific Gas and Electric Company (PG&E, the licensee) for the Diablo Canyon Power Plant, Units 1 and 2 (DCPP) and provided to the NRC in PG&E letter dated September 10, 2014, "Central Coastal California Seismic Imaging Project, Shoreline Fault Commitment"(Reference 1). The staffs from the NRC's Office of New Reactors (NRO), Office of Research (RES), Region IV, and Office of Nuclear Reactor Regulation (NRR) evaluated the information provided in the licensee's September 10, 2014, letter. In addition, this evaluation provides the results of the NRC's review of PG&E's operability determination found in PG&E Notification 50652361, "Preliminary new seismic information," completed on August 21, 2014, (Reference 2) against NRC guidance found in NRC Inspection Manual Chapter (IMC) 0326, "Operability Determination and Functionality Assessments for Conditions Adverse to Quality or Safety," dated January 31, 2014 (Reference 3) to determine what affect, if any, the new seismic information has on the capability of seismically qualified systems, structures, and components (SSCs) to perform their specified safety functions.

1.2 Background

Pursuant to Title 10 of the *Code of Federal Regulations*, Part 50 (10 CFR), Section 50.54(f), and by letter dated March 12, 2012, (Reference 4) the NRC requested information concerning, in part, the seismic and flooding hazards at operating reactor sites to enable the NRC staff to determine whether operating licenses should be modified, suspended, or revoked. The "Required Response" section of Enclosure 1 to the letter indicated that licensees should provide a Seismic Hazard Evaluation and Screening report within 3 years for western United States (WUS) plants. The process outlined in the March 12, 2012, request for information related to seismic hazards was also discussed in NRC letters dated October 12, 2012, (Reference 5) and February 20, 2014 (Reference 6). The October 12, 2012, letter, specifically discusses NRC's review of the Shoreline fault near DCPP, and places the NRC's review of the Shoreline fault into context with the process for developing and assessing seismic information found in the March 12, 2012, request for information. The October 12, 2012, letter states in part:

The NRC staff understands that the seismic evaluations described in the March 12, 2012, request for information are currently in progress at DCPP, and PG&E plans to acquire new offshore and onshore two-and three-dimensional seismic reflection data to identify and characterize faults in the vicinity of DCPP. If during the collection of the data, new faults are discovered or information is uncovered that would suggest the Shoreline fault is more capable than currently believed, the staff expects that the licensee will provide the NRC with an interim evaluation that describes actions taken or planned to address the higher seismic

hazard relative to the design basis, as appropriate, prior to completion of the evaluations requested in the NRC staff's March 12, 2012, request for information.

California Assembly Bill (CAB) 1632 (Blakeslee, Chapter 722, Statutes of 2006) (Reference 7) directed the California Energy Commission to assess the potential vulnerability of California's largest base-load power plants, including Diablo Canyon Power Plant, to a major disruption caused by a seismic event or plant aging; to assess the impacts of such a disruption on system reliability, public, safety, and the economy; to assess the costs and impacts from nuclear waste accumulating at these plants; and to evaluate other major issues related to the future role of these plants in the state's energy portfolio.

Based on the California Assembly Bill, the California Energy Commission compiled a report in 2008 (Reference 8) that included the recommendation that PG&E perform additional seismic studies to supplement the original and ongoing seismic studies performed as part of the licensee's Long Term Seismic Program (LTSP), and that those studies be conducted using advanced technologies such as three-dimensional (3D) seismic-reflection mapping. During 2011 through 2014, the licensee conducted the recommended studies and further data analysis, and compiled the report entitled, "Central Coastal California Seismic Imaging Project" (CCCSIP) and provided this report to the NRC via letter dated September 10, 2014. Following internal completion of the CCCSIP Report, the licensee performed an operability determination documented in Notification 50652361 completed on August 21, 2014 (Reference 2) based on the report and its data.

PG&E's September 10, 2014, letter transmitting the report provides an interim evaluation consistent with the guidance found in the NRC's October 12, 2012, letter. PG&E's letter states in part:

The additional offshore seismic studies revealed that the Shoreline fault is longer by extending farther south than in the Shoreline fault report, and therefore, more capable as described in the enclosure. PG&E concluded that the ground motions from updated shoreline fault and other regional faults remain less than the 1977 Hosgri design ground motions, for which the plant was evaluated and demonstrated to have reasonable assurance of safety. This interim evaluation is consistent with the conclusions of the Research Information Letter 12-01, "Confirmatory Analysis of Seismic Hazard at the Diablo Canyon Power Plant from the Shoreline Fault Zone," dated September 2012 [Reference 9].

PG&E's September 10, 2014, states that the CCCSIP will support the NRC-mandated seismic hazard risk assessment for the DCPD that is being performed in accordance with the March 12, 2012, request for information (Reference 4). PG&E will use the Senior Seismic Hazard Analysis Committee (SSHAC) process to incorporate and evaluate existing and new seismic information to update the seismic hazard for DCPD. The DCPD seismic hazard based on the SSHAC process is due to the NRC in March 2015.

The staff's previous assessment of the Shoreline Fault found in RIL 12-01 was based on a deterministic approach. As described in RIL 12-01 the conservative deterministic (scenario-based) viewpoint was intended to allow the NRC staff to determine if a safety concern exists as a result of the identification of the Shoreline fault. By their nature, deterministic approaches do not explicitly account for the likelihood of a particular earthquake scenario occurring, or the rate at which earthquakes can occur on known seismic sources. Therefore, deterministic results

cannot be used for a quantitative assessment of the overall risk to the plant from the Shoreline fault. Instead, deterministic approaches focus only on the safety margin that exists for a specific earthquake scenario, in this case for the Shoreline fault.

The response to the March 12, 2012, request for information is based on a probabilistic seismic hazard assessment (PSHA) approach. As described above PG&E is scheduled to provide a detailed PSHA by March 2015. The results of the PSHA will strengthen the understanding of the relative importance of the Shoreline fault and other faults evaluated in the CCCSIP to the seismic hazard at this site.

## 2.0 REGULATORY ANALYSIS

Because the detailed PSHA is due shortly to the NRC (i.e., March 2015), the NRC staff's evaluation is limited to reviewing PG&E's deterministic evaluation that is provided in the CCCSIP. The NRC staff's evaluation takes advantage of insights gained from the development of RIL 12-01, but does not update the RIL. Instead, the staff's evaluation relies on the new information found in PG&E's September 10, 2014, submittal and PG&E's operability determination regarding the following fault scenarios:

- Hosgri and San Simeon faults (the step-over between the Hosgri and San Simeon is small enough that the two faults are assumed to rupture together with an assumed magnitude of 7.3)
- Los Osos fault (assumed magnitude of 6.7)
- San Luis Bay fault (assumed magnitude 6.4)
- Shoreline fault (assumed magnitude of 6.7)
- Hosgri, San Simeon and Shoreline linked fault sensitivity study (assumed magnitude 7.3)

The purpose of the NRC staff's evaluation is to determine if a safety concern or operability concern exists as a result of the new information provided in PG&E's September 10, 2014 CCCSIP report. A more thorough review of the seismic faults around DCPD will be completed by the staff in the future based on PG&E's PSHA to be provided by March of 2015.

In performing its evaluation the NRC staff also reviewed how a recent Differing Professional Opinion (DPO) was resolved. The resolution of the DPO-2013-002, "Diablo Canyon Seismic Issues" is documented in a case file (Reference 10) that includes the following information:

- DPO Submittal
- Memo from NRR Office Director Establishing the DPO panel
- DPO Panel Report
- DPO Decision
- DPO Appeal Submittal
- NRR Office Director's Statement of Views
- DPO Submitter's Appeal Presentation to OEDO
- DPO Appeal Decision

### 3.0 EVALUATION

#### 3.1 Method of Review

The NRC staff's review is broken into three parts:

- The NRC's deterministic evaluation of the faults described in the 2014 CCCSIP report
- An update to the DPO assessment based on the information in the 2014 CCCSIP
- An assessment of the results of the NRC staff's deterministic evaluation regarding safety and operability of DCPD SSCs based on ergodic treatment of uncertainties.

#### 3.2 NRC Staff's Deterministic Evaluation of the Faults Described in the 2014 CCCSIP Report

##### Summary of PG&E Information

Chapter 13 of the CCCSIP, "Hazard Sensitivity and Impact Evaluation," provides a discussion of the differences between the deterministic evaluation provided in PG&E's 2011 Shoreline Fault Zone Report (Reference 11) and the 2014 CCCSIP studies. RIL 12-01 is based in large part on PG&E's 2011 Shoreline Fault Zone Report. CCCSIP Chapter 13 Table 1-1, which compares the source characterization for the deterministic ground motion evaluation, is reproduced below.

Fault	2011 Shoreline Report			Updated Parameters		
	Maximum Length (km)	Minimum Dip (degrees)	Mag. (90th fractile)	Maximum Length (km)	Minimum Dip (degrees)	Mag.*
Shoreline	23	90	6.5	45	90	6.7
Hosgri	110	80	7.1	171	75	7.3
Los Osos	36	45	6.8	36	55	6.7
San Luis Bay	16	50	6.3	16	50	6.4

PG&E describes in CCCSIP Chapter 13 that the Shoreline fault was found to extend an additional 22 km to the south thereby increasing the fault length from 23 km used in the 2011 Shoreline Fault Zone Report to 45 km. With this increased length the magnitude of the Shoreline fault increased from 6.5 to 6.7.

For the Hosgri fault, PG&E describes in the CCCSIP Chapter 13 that the length of the combined Hosgri and San Simeon faults, 171 km, was defined using the Hosgri fault length from the U.S. Geological Survey (Petersen et al., 2008, Table I-3) which treated the San Simeon and Hosgri faults as a single fault called the Hosgri fault. This increased length leads to a magnitude of 7.3.

PG&E describes in CCCSIP Chapter 13 that studies for the Los Osos fault found that the minimum dip consistent with the newly collected data is 55 degrees, as compared to

a minimum dip of 45 degrees used in the 2011 Shoreline Fault Zone Report. The steeper dip leads to a smaller fault area, and the magnitude is reduced from 6.8 to 6.7.

The CCCSIP studies did not provide new information for the San Luis Bay fault length or dip. Using the length and dip from the 2011 Shoreline Fault Zone Report leads to a magnitude of 6.4. The increase from the 2011 magnitude of 6.3 results from using the bounding length and dip rather than the full logic tree to define the rupture area.

PG&E also describes in CCCSIP Chapter 13 that for the Shoreline fault rupture developed in the 2011 Shoreline Fault Zone Report the Shoreline fault was assumed to intersect with the Hosgri fault, but a linked rupture involving the full Shoreline fault and the full Hosgri fault was not included because the geometry of the two faults was unfavorable to allow such a rupture. PG&E states that the new information collected on the geometry of the Shoreline and Hosgri faults shows that within a resolution of a few hundred meters, the two faults intersect. This new information indicates that the fault may rupture together, but it does not change the unfavorable geometries for a linked rupture. Nevertheless, PG&E performed a sensitivity analysis assuming that the full Shoreline fault rupture is linked to a rupture of the Hosgri fault, extending north to the end of the San Simeon fault.

PG&E's CCCSIP Chapter 13 assesses the new information described above using a new ground-motion prediction equation (GMPE) as part of the Pacific Earthquake Engineering Research (PEER) Center's Next Generation Attenuation (NGA) West2 project. These GMPEs are different than the NGA West GMPEs used in the 2011 Shoreline Fault Zone Report (Note: need something from NRC regarding assessment of new GMPEs)

Figure 1 of this evaluation provides a plot of the deterministic response spectrum using the source characteristics of various faults and the NGA West2 GMPEs for the power block (Note: need to confirm if these NRC generated plots are for the power block or the turbine foundations)

PG&E concludes in the CCCSIP report and reiterates in the September 10, 2014, cover letter transmitting the report that the ground motions from the updated shoreline fault and other regional faults remain less than the 1977 Hosgri Design ground motions for which the plant was evaluated and demonstrated to have reasonable assurance of safety.

### NRC Evaluation

#### Diablo Canyon Licensing Basis

In 1968, when the DCP Unit 1 Construction Permit was issued to Pacific Gas and Electric (PG&E), the seismic evaluation had been completed under the Atomic Energy Commission's requirements. Based on the information available at the time, the design earthquake (DE) was defined as having a peak ground acceleration of 0.2 g, and the double design earthquake (DDE) was a doubling of the DE earthquake to ensure safety-related structures, systems, and components would function as expected after the earthquake, 0.4 g. In 1973, PG&E became aware of the Hosgri fault. PG&E evaluated the Hosgri fault using Regulatory Guide 1.61, "Damping Values for Seismic Design of Nuclear Power Plants," October 1973 (Reference 12). Though not included in the construction application, NRC reviewed PG&E's evaluation of the Hosgri fault and required PG&E to make plant modifications to be able to withstand the 0.75 g

peak ground acceleration associated with the Hosgri fault. The operating license for Unit 1, issued in 1984, was based on review of the Final Safety Analysis Report Update which included two different seismic methodologies, the DDE and the Hosgri evaluation, as documented in NUREG-0675, "Evaluation Report Related to the Operation of Diablo Canyon Power Plant, Units 1 and 2, " Supplement No. 7, dated May 1978 (Reference 13).

#### Deterministic Response Spectrum and Use of Single Station Sigma Correction

In the 2011 Shoreline Fault Report PG&E addressed uncertainty in the GMPE using an ergodic approach (an approach that accounts for both epistemic (model uncertainty) and the aleatory (natural) variability). The 2011 Shoreline Fault Report documented an effort to separate the uncertainty into its component parts, including the uncertainty that comes from the seismic source, the path through which the waves travel in the crust, and the site response. If high-quality data from a modern seismographic network are available, some of the uncertainty for a specific location can be reduced. The single-station-sigma adjustment has the potential to remove uncertainty in the application of the GMPEs by determining a station term from a set of earthquakes recorded at the site.

The NRC staff noted in RIL 12-01 Section 5.9 that:

The single-station-sigma adjustment represents advancement in the field of engineering seismology and could be a useful approach in the assessment of seismic hazard at NPPs that install a modern seismographic system, such as that at DCCP. The single-station-sigma correction applied by PG&E was developed based on data from two earthquakes. Generally a larger number of earthquakes would be needed to develop confidence in the correction factor.

This correction was applied by PG&E but was not required for the confirmatory analysis that the NRC conducted as documented in RIL 12-01. The curves found in CCCSIP Chapter 13 found in Figure 1 of this evaluation are based on a single station correction and do not reflect ergodic uncertainty. As a result of questions raised during the inspection of PG&E's operability determination PG&E provided the following information relative to its use of the single-station-sigma correction on September 25, 2014:

- Processed Earthquake Recordings for Onsite Monitor ESTA 27 – 2003 Deer Canyon Earthquake
- Processed Earthquake Recordings for Onsite Monitor ESTA 27 – 2003 San Simeon Earthquake
- Processed Earthquake Recordings for Onsite Monitor ESTA 27 – 2004 Parkfield Earthquake
- Processed Earthquake Recordings for Onsite Monitor ESTA 28 – 2004 Parkfield Earthquake
- Shear Wave (VS30) Profiles for Power Block – Onsite Monitor ESTA 27
- Shear Wave (VS30) Profiles for Turbine Building – Onsite Monitor ESTA 27

- Shear Wave (VS30) Profiles for Power Block – Onsite Monitor ESTA 28
- Shear Wave (VS30) Profiles for Turbine Building – Onsite Monitor ESTA 28

Using the information provided by PG&E, the NRC staff developed the ergodic curves found in Figure 2 of this document.

The NRC staff concludes that PG&E's characteristics of the faults based on the new information revealed from the 2D and 3D analysis performed in accordance with CAB 1632 is reasonable. The NRC staff also concludes that the use of the NGA West2 GMPE is appropriate for the evaluations performed by PG&E. (Note need more of a basis for this being OK). Therefore, the NRC staff concludes that the DCPD ground motions from the faults evaluated in the CCCSIP 2014 report (i.e., Hosgri-San Simeon, Shoreline, Los Osos, San Luis Bay, and Hosgri-Shoreline linked) using the single-station-sigma treatment of uncertainty are at or below those for the 1977 Hosgri earthquake (HE) ground motion and the long-term seismic program (LTSP) ground motion. The 1977 HE ground motion and the LTSP ground motion are those for which the plant was evaluated previously and demonstrated to have reasonable assurance of safety.

However, the NRC staff notes that based on the NRC staff developed ergodic curves found in Figure 2, below that there are exceedance in the 10 Hz to 100 Hz range for the ground motions from the earthquakes evaluated in the CCCSIP 2014 report. The evaluation of the exceedances in this range can be found in Section 3.4 of this document.

### 3.3 Update of Differing Profession Opinion Assessment Based on the Information in the 2014 CCCSIP Report

#### Summary of PG&E Information

As a result of questions asked during the inspection of PG&E's operability determination, PG&E provided the following calculation:

- Long Term Seismic Program Update Shoreline Fault Zone Studies: Hypothetical Comparison of Damped In-Structure Response Spectra at the Top Surface of the Containment Basemat for the Design Basis Double Design and Hosgri Earthquakes with Postulated Earthquakes on the Shoreline, San Luis Bay, Los Osos, and Linked Hosgri-San Simeon Faults" [PROPRIETARY], Revision 1, dated 09/25/2014 (Reference 14)

#### NRC Staff Evaluation

As stated in the Diablo Canyon NPP Updated Final Safety Analysis Report Revision 21, Section 2.5.3.9 (Design and Licensing Basis Earthquakes), the Design Earthquake (DE), Double Design Earthquake (DDE), and the Hosgri Evaluation (HE) are design bases earthquakes and the Long-Term Seismic Program is a licensing bases earthquake. Consequently, any new information that is being compared to the Diablo Canyon NPP design basis (e.g., Allen, 2012 (Reference 15)) should make appropriate comparisons to both the DDE and HE. Both the DDE and HE should be considered because each of these design-basis earthquakes use different methods and assumptions in the design and qualification of seismic Category 1 structures, systems and components (SSCs). The most significant differences are in the amount of damping assumed for the engineering analyses (Table 1). As a result of these different assumptions, the DDE creates maximum loads on some Category 1 SSCs, whereas the HE

creates maximum loads on other Category 1 SSCs (e.g., FSARU Section 5.2.1.15 (Reference 16)). Neither ground motion creates the bounding demand for all Category 1 SSCs.

The new ground motions in the 2014 California Coastal Commission report are shown for free-field responses with 5% damping. However, as shown in Table 1, a range of different damping values were used in the design basis calculations for Diablo Canyon NPP. In addition, PG&E did not specify what amount of damping would need to be used in comparing the 2014 ground motions with the design-basis ground motions.

Type of SSC	Percentage Damping		
	DDE	HE	2014
Containment structures	5	7	7
Welded structural steel assemblies	1	4	4
Bolted or riveted steel assemblies	2	7	7
Mechanical components	2	4	4
Vital piping systems (except RCL) >12"	0.5	3	3
Vital piping systems (except RCL) <12"	0.5	2	2
Reactor Coolant Loop	1	4	4
Steam Generators	4	4	4
Integrated Head Assembly	6.85	6.85	6.85
Control Rod Drive Mechanisms	5	5	5

In September 2014, NRC staff discussed this issue of ground-motion comparability with PG&E staff, and outlined the need to compare the new ground motions with the seismic design bases for Diablo Canyon NPP. PG&E agreed to perform additional calculations for the 2014 ground motions, so that the results of these analyses would be directly comparable to the inputs used in the Diablo Canyon NPP design bases rather than an alternative metric such as the LTSP.

NRC staff reviewed the additional calculations that were developed by PG&E to allow for direct comparison of potential ground-motions in the 2014 report to the Diablo Canyon NPP seismic design bases. PG&E calculated in-structure acceleration response spectra as the basis for comparison, as these spectra already were available for the DDE and HE from FSARU section 3.7 analyses (Reference 14).

To convert the 2014 ground-motion spectra to in-structure acceleration response spectra, PG&E developed a scaling relationship from the LTSP analyses that compares the calculated free-surface ground motion to an in-structure response spectrum. This scaling relationship accounts for the effects of processes such as soil-structure interaction and the presence of building foundations. PG&E applied this scaling factor to the 2014 ground-motion spectra to calculate in-structure response spectra for 5% damping. To account for the different damping values used to analyze the seismic performance of different SSCs, PG&E used analytical methods in Rezaeian et al. (2012) (Reference 17) to develop scaling factors. PG&E applied these scaling factors to the 5% damped in-structure response spectra for the 2014 ground motions, to develop response spectra for the different damping values shown in Table 1.

Based on these calculations, the NRC staff verified that the in-structure response spectra for the reanalyzed 2014 ground motions (single station) were all lower than the DDE and HE response spectra. As a result, the NRC staff concludes that ground motions from the 2014 report have been compared reasonably with the Diablo Canyon NPP design basis, and that these re-

analyzed ground motions do not exceed the demands already considered in the design and qualification of seismic Category 1 SSCs.

### 3.4 An Assessment of the Results of the NRC Staff's Deterministic Evaluation Regarding Safety and Operability of DCPD SSCs Based on Ergodic Treatment of Uncertainties

#### NRC Staff Evaluation

As stated above, PG&E's 2014 CCCSIP report included an evaluation of the ground motion response spectrum compared to the 1977 HE ground motion based on the single-station-sigma approach. While the staff concludes that the single-station-sigma approach has its benefits, the staff nevertheless also developed on its own the ground motion response spectrums for the faults that were analyzed in the 2014 CCCSIP report using the more traditional treatment of uncertainties (i.e., the ergodic approach). The ground motion response curves for the various fault scenarios based on the ergodic approach can be found in Figure 2 of this document.

#### Ground Motion Response Spectra Below 10 Hz

The staff notes that the ergodic curves for the faults analyzed in the 2014 CCCSIP are below those for the 1977 HE ground motion and the long-term seismic program (LTSP) ground motion. The 1977 HE ground motion and the LTSP ground motion are those for which the plant was evaluated previously and demonstrated to have reasonable assurance of safety. Therefore, the staff concludes that there is not a safety or operability issue for ground motions below 10 Hz.

#### Ground Motion Response Spectra Greater than 10 Hz

PG&E's letter dated October 11, 2011, "Evaluation Process for New Seismic Information and Clarifying the Diablo Canyon Power Plant Safe Shutdown Earthquake," (Reference 18) includes as part of the application Chapter 6 of the 1988 Long Term Seismic Program Final Report. Although the October 11, 2011, license amendment application was withdrawn the NRC staff finds the information that is duplicated from Chapter 6 of the 1988 Long Term Seismic Program instructive because it contains a probabilistic risk assessment to determine the adequacy of seismic margins. The NRC staff assessment of the LTSP including the seismic margins can be found in NUREG-0675 Supp 34, "Safety Evaluation Report Related to Operation of Diablo Canyon, Units 1 & 2," (Reference 19).

The 1988 LTSP Chapter 6 Table 6-24 included high confidence of low probability of failure (HCLPF) data for various SSCs. The HCLPF capacity is defined as a 95 percent confidence of less than 5 percent probability of failure. The 1988 LTSP Chapter 6 Tables 6-23 and 6-24 included HCLPF values for structures and systems and component. Tables 6-23 for structures and Table 6-24 for systems and components are repeated at the end of this evaluation for ease of reference.

PG&E October 11, 2011, submittal provides a discussion of the changes to the seismic margins since the 1988 LTSP report. This included an evaluation of the seismic margins associated with the integrated head assembly (IHA). The IHAs were installed in Units 1 and 2 during refueling outage nos. 2R15 and 1R16, respectively. The IHAs are classified as new components which could impact the seismic margins of existing safety-related structures, since they are attached to the reactor vessel closure heads and provide support to the control rod drive mechanisms (CRDMs), small bore piping, instrumentation, and cables. PG&E calculated the HCLPF

capacity associated with the limiting element of the CRDMS lateral support function of the IHAs, developed based on the deterministic failure margins method is 2.40 g.

The staff notes that the HCLPF values for SSCs are above the ground motion response spectrum the NRC staff calculated using the ergodic treatment of uncertainties. (Need to assess the 230 kV switchyard). In general the staff also notes that components that are susceptible to failure at higher frequencies (i.e., greater than 20 Hz) have been the subject of recent testing. The preliminary test results indicate that these components are more robust than originally thought. The testing is documented in a report dated September 15, 2014, by the Electric Power Research Institute, titled, "High Frequency Program: High Frequency Testing Summary," (Reference 20).

Based on the HCLPF values for DCPD SSCs and the preliminary results of the EPRI testing, the staff concludes that the exceedances of the ground motion response spectras for the faults analyzed in the 2014 CCCSIP using the ergodic treatment of uncertainties does not cause the staff to believe that there is a safety concern that would require PG&E to deviate from its current course of action to evaluate the faults using the PSHA method described in the March 12, 2012, request for information. In addition, the staff concludes that based on the HCLPF values for DCPD SSCs and the preliminary results of the EPRI testing, the staff does not have a basis to conclude that any SSCs at DCPD are inoperable.

Note: does the high frequency ergodic exceedances need to be addressed in DPO section

#### 4.0 CONCLUSION

The NRC staff reviewed the new seismic information found in PG&E's 2014 CCCSIP report and PG&E's operability determination and concludes that there is not a safety concern that would require PG&E to deviate from its current course of action to evaluate the faults around DCPD using the PSHA method described in the NRC staff's March 12, 2012, request for information. In addition, the staff reviewed PG&E's operability determination and the NRC staff concludes that there is not a basis for declaring any DCPD SSC inoperable based on the information found in the 2014 CCCSIP report. The staff also evaluated the information in the 2014 CCCSIP report to determine if a change to the recommendations associated with DPO 2013-002, "Diablo Seismic Issues," should be revisited and has determined that a change to recommendation associated with this DPO are not necessary.

#### 5.0 REFERENCES

1. Halpin, Edward D., Pacific Gas and Electric Co., letter to U.S. Nuclear Regulatory Commission, "Central Coastal California Seismic Imaging Project, Shoreline Fault Commitment," dated September 10, 2014, (ADAMS Package Accession No. ML14260A106)
2. Pacific Gas and Electric, Notification 50652361, "Preliminary new seismic information," completed on August 21, 2014,
3. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter, "Operability Determination and Functionality Assessments for Conditions Adverse to Quality or Safety," dated January 31, 2014, (ADAMS Accession No. ML13274A578)

4. U.S. Nuclear Regulatory Commission, "Request for Information Pursuant To Title 10 of *The Code Of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated March 12, 2012 (ADAMS Accession No. ML12053A340)
5. Sebrosky, Joseph M., U.S. Nuclear Regulatory Commission, letter to E. Halpin, Pacific Gas and Electric, "Diablo Canyon Power Plant, Unit Nos. 1 And 2 - NRC Review of Shoreline Fault (TAC NOS. ME5306 AND ME5307)," dated October 12, 2012 (ADAMS Accession No. ML120730106)
6. Leeds, Eric J., U.S. Nuclear Regulatory Commission, letter to All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status, "Supplemental Information Related to Request for Information Pursuant to Title 10 of *The Code Of Federal Regulations* 50.54(f) Regarding Seismic Hazard Reevaluations For Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated February 20, 2014 (ADAMS Accession No. ML14030A046)
7. California Assembly Bill No. 1632, Chapter 722 (AB 1632, Blakeslee, Energy: planning and forecasting) approved by the Governor September 29, 2006
8. California Energy Commission (CEC), 2008. "An Assessment of California's Nuclear Power Plants: AB 1632 Commission Report," CEC-100-2008-009-CMF, adopted November 20, 2008
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13. U.S. Nuclear Regulatory Commission, NUREG-0675, "Evaluation Report Related to the Operation of Diablo Canyon Power Plant, Units 1 and 2, " Supplement No. 7, dated May 1978 (ADAMS Accession No. ML14279A129)
14. Pacific Gas and Electric, "Long Term Seismic Program Update Shoreline Fault Zone Studies: Hypothetical Comparison of Damped In-Structure Response Spectra at the Top Surface of the Containment Basemat for the Design Basis Double Design and Hosgri Earthquakes with Postulated Earthquakes on the Shoreline, San Luis Bay, Los Osos, and Linked Hosgri-San Simeon Faults" [PROPRIETARY], Revision 1, dated 09/25/2014

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16. Diablo Canyon Power Plant Units 1 & 2 FSAR Update, Revision 21, September 2013 (ADAMS Accession No. ML13280A390)
17. Rezaeian, S., and others, "Spectral Damping Scaling Factors for Shallow Crustal Earthquakes in Active Tectonic Regions," Pacific Earthquake Engineering Research Center Report 2012/01, July 2012.
18. Becker, James R., Pacific Gas and Electric, letter to U.S. Nuclear Regulatory Commission, "License Amendment Request 11-05, "Evaluation Process for New Seismic Information and Clarifying the Diablo Canyon Power Plant Safe Shutdown Earthquake," October 11, 2014 (ADAMS Accession No. ML11298A247)
19. U.S. Nuclear Regulatory Commission, NUREG-0675 Supp 34, "Safety Evaluation Report Related to Operation of Diablo Canyon, Units 1 & 2," dated June 1991 (ADAMS Package Accession No. ML14279A124)
20. Electric Power Research Institute, "High Frequency Program: High Frequency Testing Summary," September 15, 2014.

Table 6-23

## DIABLO CANYON STRUCTURE FRAGILITIES

(Based on hazard defined over 3 to 8.5 hertz range.)

Structure	Fundamental Frequency Hertz	Failure Mode	Spectral Acceleration Capacity			
			$\frac{v}{S_a}$ (g)	$\beta_R$	$\beta_U$	HCLPF (g)
Containment Building	4.1	Exterior Shell Shear	8.42	0.26	0.30	3.34
Concrete Internal Structure	8.9	Internal Structure Shear	6.91	0.20	0.31	2.98
Intake Structure	23.3	North Wall Shear	8.55	0.28	0.31	3.23
Auxiliary Building	8.2	North/South Shearwalls	5.79	0.21	0.26	2.66
Turbine Building	8.6	Shear Wall, Column 31	4.87	0.26	0.33	1.84
	9.0	Block Wall	>10.0	—	—	—
Refueling Water Storage Tank	7.6	Concrete/Bedrock Flexure	9.92	0.29	0.36	3.40
Condensate Storage Tank	—	Comparison to RWST	>10.0	—	—	—
DG Fuel-Oil Storage Tank	Buried	Rupture	>10.0	—	—	—
Auxiliary Saltwater Piping	Buried	Rupture	9.23	0.18	0.21	4.85

**Table 6-24**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\frac{V}{S_a}(g)$	$\beta_R$	$\beta_U$	HCLPF (g)
<b>NUCLEAR STEAM SUPPLY</b>									
Reactor Pressure Vessel	Containment - (107')	12-14 Hz (H)	Dynamic Analysis	Support Pin Shear	W Summary Data	8.71	0.25	0.33	3.34
Reactor Internals	Containment - (107')	16-20 Hz (V)	Dynamic Analysis	Lower Core Plate	W Summary Data	10.34	0.40	0.26	3.55
Steam Generators	Containment - (140')	9 Hz (H)	Dynamic Analysis	Upper Lateral Support	W Summary Data	6.96	0.31	0.29	2.55
Pressurizer	Containment - (140')	17 Hz (H)	Dynamic Analysis	Seismic Support Lag	W Summary Data	11.48	0.31	0.44	3.35
Pressurizer Safety Valves	Containment - (169')	Flexible Piping	Static Analysis/Test	Generic Function	M397, M401	>10.0	-	-	-
Power Operated Relief Valves	Containment - (169')	Flexible Piping	Static Analysis/Test	Generic Function	M397, M401	7.62	0.30	0.42	2.32
Reactor Coolant Pumps	Containment - (114')	7 Hz (H)	Dynamic Analysis	Lower Motor Stand	M355, M428, M429	8.83	0.37	0.32	2.83
Control Rod Drives	Containment - (140')	7-10 Hz (H)	Dynamic Analysis	Head Adapter Yield	W Summary Data	11.71	0.41	0.34	3.40
NSSS Piping	Containment - (140')	7-9 Hz (H&V)	Dynamic Analysis	Rupture	W Summary Data	>10.0	-	-	-
<b>RESIDUAL HEAT REMOVAL</b>									
RHR Pumps	Auxiliary (58')	Flexible Piping	Dynamic Analysis	Pump Hold Down Bolts	W Summary Data	8.31	0.33	0.22	3.35
RHR Heat Exchangers	Auxiliary (100')	12 Hz (H)	Static Analysis	Anchor Bolts & Upper Lateral Support	W Summary Data, M462, M474	8.09	0.24	0.27	3.48
<b>SAFETY INJECTION</b>									
SI Accumulators	Containment (91')	23-34 Hz (H)	Static Analysis	Anchor Studs	W Summary Data, M316	10.01	0.29	0.19	4.53
SI Pumps	Auxiliary (85')	>33 Hz (H)	Static Analysis	Pump Hold Down Bolts	W Summary Data	10.94	0.34	0.18	4.64
Boron Injection Tank	Auxiliary (73')	15-17 Hz (H)	Static Analysis	Anchor Bolts	W Summary Data	8.46	0.27	0.19	3.96
<b>COMPONENT COOLING WATER</b>									
CCW Pumps	Auxiliary (73')	Flexible Piping	Static Analysis	Pump Hold Down Bolts	M006, M007, M318	8.53	0.29	0.21	3.74
CCW Heat Exchangers	Turbine (85')	13 Hz (H)	Dynamic Analysis	Longitudinal Strut Bolts	M008, M336, M475	6.31	0.27	0.28	2.55
CCW Surge Tank	Auxiliary (163')	33 Hz (H)	Static Analysis	Seismic Lateral Brace	M319	7.22	0.33	0.23	2.91
<b>CHEMICAL AND VOLUME CONTROL</b>									
Charging Pumps (centrifugal)	Auxiliary (73')	>33 Hz (H)	Static Analysis	Motor Hold Down Bolts	W Summary Data	10.16	0.31	0.19	4.45
Charging Pumps (reciprocals)	Auxiliary (73')	>33 Hz (H)	Static Analysis	Pump Hold Down Bolts	W Summary Data	>10.0	-	-	-
<b>AUXILIARY SALTWATER</b>									
Auxiliary Saltwater Pumps	Intake (2'-2")	43 Hz (H)	Static Analysis	Pump Mounting Bolts	M009	>10.0	-	-	-
<b>CONTAINMENT SPRAY</b>									
CS Pumps	Auxiliary (73')	>33 Hz (H)	Static Analysis	Foundation Bolts	W Summary Data	8.65	0.29	0.20	3.85
Spray Additive Tank	Auxiliary (73')	24 Hz (H)	Static Analysis	Support Pad/Shell	W Summary Data	6.78	0.30	0.18	3.07

**Table 6-24 (Continued)**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			HCLFP (g)
						$\frac{Y}{S_a}(g)$	$\beta_R$	$\beta_U$	
<b>MAIN STEAM</b>									
MS Isolation Valves	Outside Containment (127')	Flexible Piping	Dynamic Analysis/Test	Actuator Support	M067, M463, M469	>10.0	-	-	-
MS Safety Valves	Auxiliary (140')	Flexible Piping	Dynamic Analysis/Test	Generic Puncture	M397	>10.0	-	-	-
MS PORV'S	Auxiliary (140')	Flexible Piping	Dynamic Analysis/Test	Generic Puncture	M397	11.51	0.34	0.38	3.51
<b>AUXILIARY FEEDWATER</b>									
AFW Pumps (Motor Driven)	Auxiliary (100')	43 Hz (H)	Static Analysis	Pump Held Down Bolts	M320A	>10.0	-	-	-
AFW Pumps (Turbine Driven)	Auxiliary (100')	43 Hz (H)	Static Analysis	Pump Held Down Bolts	M320, M321	7.71	0.29	0.21	3.38
<b>DIESEL GENERATOR</b>									
D. G. Fuel Oil Day Tank	Turbine (85')	10 Hz (V)	Static Analysis	Bottom Plate Rupture	M323	>10.0	-	-	-
D. G. Fuel Oil Pumps/Filters	Underground Vault (77')	Flexible Piping	Static Analysis	Filter Anchor Bolts	M324, M326	8.33	0.27	0.13	3.65
D. G. Fuel Oil Shutoff Valve	Underground Vault (77')	Flexible Piping	None	Pushin Link	Data Base	>10.0	-	-	-
D. G. Air Start Compressor	Turbine (85')	>33 Hz (H)	Generic Anchorage Analysis	Held Down Bolts	M323	>10.0	-	-	-
D. G. Air Start Receiver	Turbine (85')	26 Hz (H)	Dynamic Analysis	Held Down Bolts	M329	>10.0	-	-	-
Diesel Generators	Turbine (85')	17 Hz (H)	Dynamic Analysis	Skid Anchor Bolts	M423-M426	7.79	0.26	0.20	3.64
D. G. Radiator/Water Pump	Turbine (85')	17 Hz (H)	Dynamic Analysis	Anchor Bolting	M323	8.78	0.29	0.24	3.66
D. G. Inlet Silencer/Air Filter	Turbine (104')	Flexible Piping	Dynamic Analysis	Filter Support Rod Weld	M271, M449	>10.0	-	-	-
D. G. Excitation Cubical	Turbine (85')	13 Hz (H)	Test	Structural	M346, M364	7.40	0.19	0.35	2.57
D. G. Control Panel	Turbine (85')	8 Hz (H)	Test	Chatter	M347, M364, M464, M482	7.77	0.25	0.14	4.08
D. G. Main Lead Terminal/Box	Turbine (85')	10 Hz (H)	Test Static Analysis	Structural Attachment-Fillet Weld	M348	4.55 >10.0	0.30	0.13	1.24
<b>CONTAINMENT BUILDING VENTILATION</b>									
Containment Fan Cooler	Containment (140')	23 Hz (H)	Dynamic Analysis	Foot Plate/Embed. Weld	M399, M499, M420, M421, M448	8.10	0.31	0.33	2.82
<b>CONTROL ROOM VENTILATION</b>									
Supply Fans	Auxiliary (154'-6")	>33 Hz (H)	Static Analysis	Support Bolting	M056	9.79	0.33	0.24	3.82
AC Units/Compressors	Auxiliary (154'-6")	>33 Hz (H)	Static Analysis	Anchor Bolt	M288, M312	>10.0	-	-	-
Control Cabinets	Auxiliary (157')	21 Hz (H)	Test	Structural	M455	>10.0	-	-	-
<b>480V SWITCHGEAR/INVERTER/DC SWITCHGEAR/SPREADING ROOM VENTILATION</b>									
Supply/Return Fans	Auxiliary (163')	>33 Hz (H)	Static Analysis	Expansion Anchor	M310	11.16	0.33	0.30	3.95
Backdraft and Shut-Off Dampers	Auxiliary (163')	>33 Hz (H)	Static Analysis	Structural	M388	>10.0	-	-	-

**Table 6-24 (Continued)**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\frac{X}{S_a}(g)$	$\beta_R$	$\beta_U$	HCLPF (g)
<b>4160V (VITAL) ELECTRIC POWER</b>									
Switchgear	Turbine (119')	7 Hz (H)	Test Static Analysis	Crack Guide Rod Bending	M049, M315, M356, M373, M377-380, M482	3.53 7.44	0.35 0.31	0.25 0.23	1.31 2.93
Potential Transformer (Bus F)	Turbine (119')	21 Hz (H)	Static Analysis	Support Leg/Embed. Weld	M049, M375, M416, M450	10.83	0.31	0.28	3.47
(Bus G & H)	Turbine (119')	35 Hz (H)	Static Analysis	Support Leg/Embed. Weld	M049, M375, M416, M450	>10.0	-	-	-
Safeguard Relay Panel	Turbine (119')	11 Hz (H)	Static Analysis	Anchor Welds	M012, M373, M414, M430	10.76	0.34	0.36	3.39
<b>125V DC ELECTRIC POWER</b>									
Batteries	Auxiliary (115')	>33 Hz (H)	Test	Structural	M050, M054, M364	6.04	0.30	0.18	2.74
Battery Racks	Auxiliary (115')	>33 Hz (H)	Static Analysis	Longitudinal End Restraint	M013, M032, M050, M207	11.91	0.26	0.22	5.40
Battery Chargers	Auxiliary (115')	12 Hz (H)	Test	Structural	M054, M364, M453, M462	9.93	0.34	0.40	2.93
Switchgear/Breaker Panels	Auxiliary (115')	7 Hz (H)	Test	Structural	M014, M051, M364	6.67	0.33	0.28	2.36
<b>120V AC ELECTRIC POWER</b>									
Instrument Breaker Panels	Auxiliary (115')	>20 Hz (H)	Static Analysis	Slip-Nut Failure	M051A	>10.0	-	-	-
Inverters	Auxiliary (115')	5 Hz (H)	Test	Structural	M013, M016, M355, M425, M436, M451, M467	6.82	0.31	0.24	2.73
<b>480V (VITAL) ELECTRIC POWER</b>									
4160V/480V Transformers	Auxiliary (100')	3 Hz (H)	Static Analysis	Structural	M052, Walkdowns	5.34	0.28	0.20	2.42
Breaker Cabinets (Load Centers)	Auxiliary (100')	13 Hz (H)	Static Analysis	Anchor Sitch Weld	M017, M364	>10.0	-	-	-
Auxiliary Relay Panel	Auxiliary (100')	29 Hz (H)	Test	Structural	M315, M364	7.23	0.28	0.15	3.57
<b>CONTROL ROOM</b>									
Main Control Boards	Auxiliary (140')	>33 Hz (H)	Test Dynamic Analysis	Switch Function Structural	W Summary Data, M456, M482	>10.0 7.77	- 0.31	- 0.27	- 2.98
Hot Shutdown Panel	Auxiliary (100')	>33 Hz (H)	Test	Switch Function	M317, M383, M342,	7.60	0.37	0.25	3.22
Auxiliary Safeguards Cabinet	Auxiliary (128')	9-13 Hz (H)	Static Analysis	Structural	M479, M482	7.27	0.30	0.14	3.52
			Test	Structural	M317, M354, M359	>10.0	-	-	-

**Table 6-24 (Continued)**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\frac{V}{S_a}$ (g)	$\beta_R$	$\beta_U$	HCLPF (g)
<b><u>NSSS CONTROL</u></b>									
Process Control and Protection System	Auxiliary (128')	8-10 Hz (H)	Test	Structural	M317, M355	10.78	0.39	0.28	3.57
Solid State Protection System	Auxiliary (140')	8-11 Hz (H)	Test	Structural	M317, M355	12.63	0.37	0.28	4.32
Reactor Trip Switchgear	Auxiliary (115')	8 Hz (H)	Test	Structural	M317, M354	7.90	0.30	0.26	3.14
Resistance & Temperature Detectors	Auxiliary (140')	Not Given	Test	Structural	M345	>10.0	-	-	-
Pressure & $\Delta P$ Transmitters	Containment (117')	>33 Hz (H)	Test	Structural	M341	8.93	0.27	0.20	4.11
<b><u>MISCELLANEOUS COMPONENTS</u></b>									
Auxiliary Relay Rack	Auxiliary (128')	12-28 Hz (H)	Static Analysis	Anchor Bolts	M317, M358, M359	>10.0	-	-	-
Local Starter Boards	Various	18 Hz (H)	Test	Structural	M454	>10.0	-	-	-
Molded Case Circuit Breakers	Auxiliary (115')	>33 Hz (H)	Test	Structural	M476	>10.0	-	-	-
Valve Limit Switches	Auxiliary (Various)	>33 Hz (H&V)	Test	Generic Function	M344	>10.0	-	-	-
Impulse Lines	Containment (Various)	5-20 Hz (H&V)	None	Rupture From Impact	Data Base	7.09	0.28	0.32	2.63
Containment Purge Valves	Containment (132')	>33 Hz (H&V)	Static Analysis	Actuator Attach. Bolts	M432	>10.0	-	-	-
<b><u>GENERIC COMPONENTS</u></b>									
Off-Site Power 230KV 500KV	Yard	Flexible	None	Generic Failure	Data Base	1.69	0.24	0.20	0.82
Penetrations/Penetration Boxes	Containment (135')	24 Hz (H)	Test	Generic Structural	M854	8.81	0.24	0.20	8.39
BOF Piping and Supports	Various	Flexible Piping	Dynamic Analysis	Generic Support	M020, M381	7.38	0.31	0.27	2.83
Head, Relief, Solenoid, & Check Valves	Various	Flexible Piping	Dynamic Analysis	Generic Function	Data Base	11.03	0.40	0.39	3.00
Air and Motor Operated Valves	Various	Flexible Piping	Dynamic Analysis	Generic Function	M067, M401	17.10	0.35	0.60	3.57
Cable Trays and Supports	Various	Flexible Trays	Static Analysis	Generic Support	M309-M213	>10.0	-	-	-
HVAC Ducting and Supports	Various	Flexible Ducting	Static Analysis	Generic Support	M214-M218	9.78	0.35	0.48	2.49

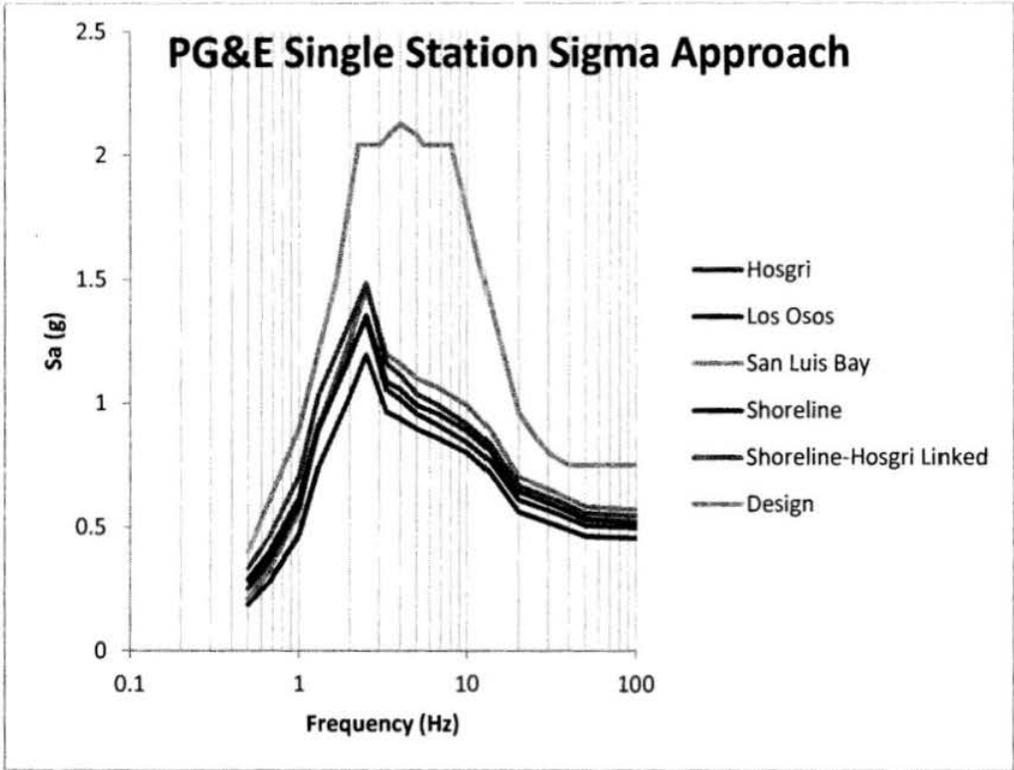


Figure 1 - Deterministic Response Spectrum Single Station Approach

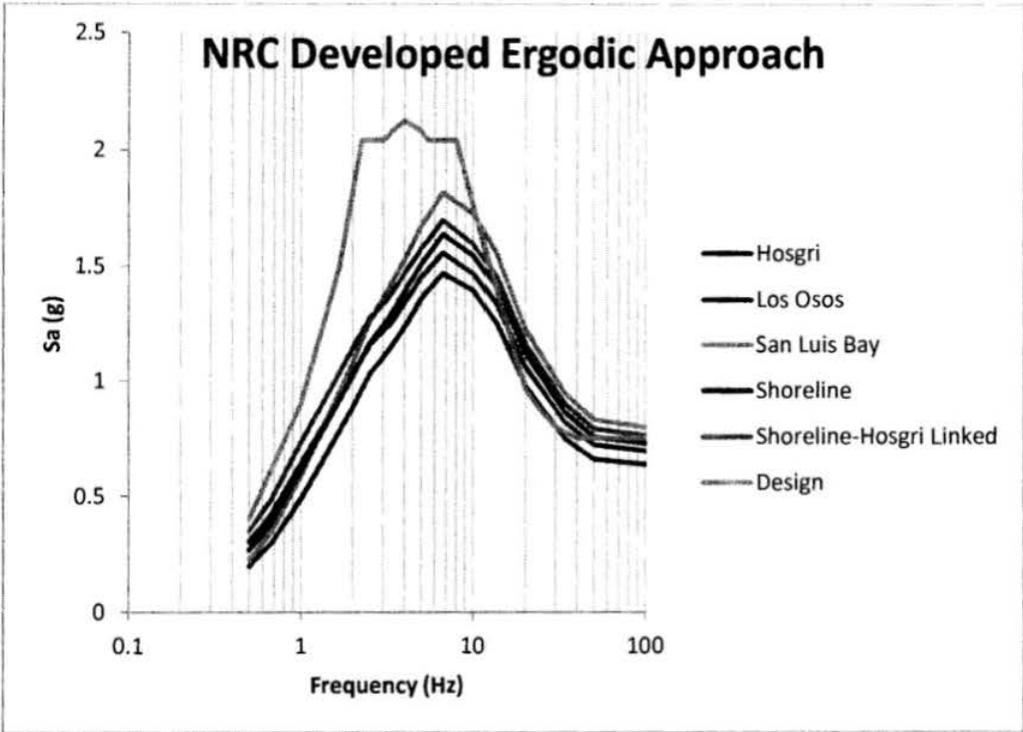


Figure 2 - Deterministic Response Spectrum NRC Developed Ergodic Approach

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**From:** Oesterle, Eric  
**Sent:** Wednesday, October 22, 2014 3:55 PM  
**To:** Wilson, George  
**Cc:** Alexander, Ryan; Walker, Wayne; Sebrosky, Joseph; Markley, Michael  
**Subject:** Path forward for Diablo operability assessment

George,

As you know, members of NRO/DSEA and NRR/DE met this afternoon to discuss a proposed path forward. Everyone agreed that there is no immediate safety concern and that whatever approach we take only needs to be able to provide reasonable assurance until the NRC completes its review of the 50.54(f) response following the March 2015 submittal. The 50.54(f) response will still be the information that NRC ultimately hangs its hat on with respect to additional actions, if necessary, because it is expected to provide more accurate information.

The proposal from Nilesh Chokshi was to allow staff to consider all available and recognized methodologies for assessing response and not be limited to either single station correction (SSC) or Ergodic. This would also allow the staff to take into account knowledge gained from assessments of CEUS plants and develop a sort of averaged approach between SSC and Ergodic. The seismologists are on board with this approach and in fact had even considered at one point previously. This approach would result in curves that would tend to fall more to the right of the PG&E developed SSC curves and more to the left of the NRC back-calculated Ergodic curves. The resultant curves would be compared against Hosgri and also LTSP, if needed, and would factor in some qualitative discussions about fragility and capacity that were included in SSER 34. Everyone was in agreement with Nilesh's approach. Kamal was OK with it if the results still showed that the new curves were at or below Hosgri.

It was agreed that we need to get Region IV on board with this approach before we brief it to Jennifer. I am providing this email to Ryan Alexander and Wayne Walker as well.

*Eric R. Oesterle*  
NRC Project Manager  
Diablo Canyon Power Plant  
Cooper Nuclear Station  
NRR/DORL/LPL4-1  
301-415-1014



**From:** [Oesterle, Eric](#)  
**To:** [Scott, Michael](#)  
**Cc:** [Pedersen, Renee](#); [Wilson, George](#); [Markley, Michael](#); [Broaddus, Doug](#)  
**Subject:** RE: New AskManagement Submission  
**Date:** Monday, November 10, 2014 8:20:05 AM  
**Attachments:** [Mini-Comm Plan on DCPD DPO final.docx](#)

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Mike,

We prepared a mini Comm-plan associated with the EDO Decision on the Appeal of the DPO (see attached) and the release of the DPO Case file for public availability. Perhaps the attached will address the question. Like Mike Markley indicated, there is no indication that we will be responding directly to the 9/19 article.

Eric R. Oesterle  
NRC Project Manager  
Diablo Canyon Power Plant  
Cooper Nuclear Station  
NRR/DORL/LPL4-1  
301-415-1014

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

From: Markley, Michael  
Sent: Monday, November 10, 2014 8:10 AM  
To: Scott, Michael; Broaddus, Doug  
Cc: Oesterle, Eric; Pedersen, Renee; Wilson, George  
Subject: RE: New AskManagement Submission

Mike,

We had all kinds of stuff going at the time of the DPO Director's Decision and EDO Appeal. The DCPD PM, Eric Oesterle can provide you with the information subject to our communications plan, but OE owns the DPO process. Rene Pedersen would be the right person to discuss the DPO. I do not believe there is a Sharepoint link.

There were a lot of articles. Some making assertions about how the DPO was handled and timing. We have referred some to the OIG. In DCPD space, September 19 is a long time ago. We are responding to about 10 DCPD Congressional/concerned citizen items right now. I will have the PM, Eric Oesterle take a look, but my guess is we are not responding explicitly to the September 19 article.

Mike

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

From: Scott, Michael  
Sent: Friday, November 07, 2014 5:42 PM  
To: Markley, Michael; Broaddus, Doug  
Subject: FW: New AskManagement Submission

Gentlemen:

Can whichever of you has cognizance of Diablo Canyon please help me out? Can you please ask the PM to send me a link to a Sharepoint site or wherever else that we have compiled information on the Diablo Canyon seismic DPO and the Agency's review and response to it? The below question was submitted

anonymously by someone on the Region I staff. I would like to answer it with a simple link to wherever the info can be found, if such a link exists.

Thanks in advance for your help.

Michael (Mike) Scott  
Deputy Director  
Division of Reactor Projects  
Region I  
(610) 337-5126

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

From: r1askmanagement@nrc.gov [mailto:[r1askmanagement@nrc.gov](mailto:r1askmanagement@nrc.gov)]

Sent: Friday, October 31, 2014 7:29 AM

To: R1ASKMANAGEMENT RESOURCE

Subject: New AskManagement Submission

On September 19, The Santa Barbara Independent ran an article, which was also put on the R1 website, about the former Diablo Canyon SRI who had a concern about how Diablo Canyon's new seismic information was handled and did not feel that is DPO about this concern was adequately addressed. Does the NRC plan to do anything additional to address his concern in light of the recent article? If so, please inform us of the resolution to this when it is concluded.

**Communications Plan –**  
**Diablo Canyon Power Plant Topics of Interest**  
**Differing Professional Opinion and Appeal**

**Background**

The former SRI at the Diablo Canyon Power Plant (DCPP) submitted non-concurrence papers (NCPs) in January 2011 and January 2012, followed by a Differing Professional Opinion (DPO) in July 2013 detailing a disagreement with the NRC about how new seismic information should be compared to the plant's current seismic license requirements. DPO 2013-02 restated the issues presented in NCP 2012-01 and added a concern that a license amendment was needed incorporate the Shoreline fault into Diablo Canyon's FSAR as described in the RIL 12-01 cover letter. The added concern was that the NRC did not review or take action on the Los Osos and San Luis Bay faults. In accordance with Management Directive 10.159, a DPO Ad Hoc Review Panel was established to review the DPO submittal, meet with DPO submitter, and issues a DPO report including conclusions and recommendations regarding disposition of the issues presented in the DPO. The panel completed its report in May 2014 and a decision on the DPO was rendered in letter dated May 29, 2014, to the DPO submitter. The DPO submitter appealed the decision to the EDO in accordance with the NRC's DPO process. The EDO completed his consideration of the DPO appeal on September 9, 2014, concluding that he was in agreement with the original decision.

The purpose of this communication plan is to provide key messages associated with the EDO's decision on the DPO appeal and public release of the DPO Case File.

**Key Messages:**

1. NRC strives to establish and maintain an environment that encourages all NRC employees and contractors to raise concerns and differing views promptly without fear of reprisal through various mechanisms. The free and open exchange of views or ideas conducted in a non-threatening environment provides the ideal forum where concerns and alternative views can be considered and addressed in an efficient and timely manner that improves decision making and supports the agency's safety and security mission.
2. The NRC appreciates members of the staff bring issues like this to its attention
3. The NRC encourages the use of non-concurrences and the Differing Professional Opinion (DPO) process
4. The NRC reviews all non-concurrences and DPOs thoroughly and in accordance with agency guidance (MD 10.158, MD 10.159) and believes that this is a healthy and necessary part the regulatory process
5. The NRC believes that, in the end, all of our regulatory decisions are better because of this process

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6. The NRC does not tolerate retaliation against employees who engage in our processes for raising differing views (i.e., Open Door Policy, NCP, and DPO Program).
7. Persons serving on the DPO Panels are independent of the issues raised in the DPO
8. Upon disposition of the DPO via a Director's decision, the DPO submitter has appeal rights to the EDO
9. While the DPO is under review or appeal, NRC is prohibited from engaging in discussions with external stakeholders regarding the specifics of the of the DPO submittal
10. After the EDO's decision on the appeal, the DPO submitter can request that the DPO Case File be made public. Management performs a review consistent with agency policies to support discretionary release. Regarding the DPO for Diablo Canyon, the NRC has been and will continue to be as open and scrutable as possible while protecting the privacy rights of the individual
11. The NRC does not know the source of the public release of the Diablo Canyon DPO submittal prior to the EDO rendering a decision on the appeal
12. The NRC can, however, comment on a few aspects of the DPO appeal review
  - o A Director's Decision has been made and the DPO appeal to the EDO has been finalized
  - o The EDO and the DPO submitter have both agreed that the issues raised in the DPO do not present an immediate safety concern for Diablo Canyon
  - o The NRC has sought permission from the DPO submitter to allow the DPO case file to be made publicly available and the DPO submitter has agreed
  - o We would expect the public release of the DPO case file to be within a few days of the EDO's appeal decision
13. Regarding the operational status of Diablo Canyon Power Plant, Units 1 and 2
  - o The plant remains within its approved design and licensing basis
  - o There are no current operability concerns resulting from the DPO
  - o The recent earthquake in the Napa Valley did not reach Diablo Canyon – it was neither felt nor detected

### Communication Team

The primary responsibility of the communication team is to ensure that it conveys a consistent, accurate, and timely message to all stakeholders. The team consists of the project management, technical, and communication staff named below.

<b>Team Member</b>	<b>Position</b>	<b>Organization</b>	<b>Telephone</b>
Troy Pruett	Division Director (Acting)	RIV/DRP	817-200-1291
Wayne Walker	Branch Chief	R-IV/DRP/RPB-A	817-200-1148
Ryan Alexander	Sr. Project Engineer	R-IV/DRP/RPB-A	817-200-1195

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Thomas Hipschman	Sr. Resident Inspector - DCP	R-IV/DRP/RPB-A	805-595-2354
John Reynoso	Resident Inspector - DCP	R-IV/DRP/RPB-A	805-595-2354
Thomas Farnholtz	Branch Chief	RIV/DRS/EB1	817-200-1243
Jon Ake	Senior Seismologist	RES/DE/SGSEB	301-251-7695
Eric Oesterle	Acting Branch Chief	NRR/DORL/LPLIV	301-415-1014
Balwant Singal	DCPP Project Manager	NRR/DORL/LPLIV	301-415-3016
Renee Pedersen	DPO PM	OE/CRB	301-415-2742
Scott Burnell	Public Affairs Officer	OPA	301-415-8204
Angel Moreno	Congressional Affairs	OCA	301-415-1691
Amy Powell	Associate Director	OCA	301-415-1673
Victor Dricks	Public Affairs Officer	RIV	817-200-1128
Lara Uselding	Public Affairs Officer	RIV	817-200-1519
Bill Maier	State Liaison Officer	RIV	817-200-1267

**Non-concurrence and DPO Questions**

**[NOTE – this information is generally NON-PUBLIC, but is provided as background only]**

NOTE: General FAQs on the DPO Program are included on the DPO Web site (look under Employee Resources—Employee Concerns).

**1. Was the former DCP SRI reassigned because he filed two non-concurrences?**

No. Michael Peck was not reassigned. He applied for an instructor position in his area of expertise at the NRC's technical training center in Chattanooga, TN, at about the time he submitted his non-concurrence in accordance with the Non-Concurrence Process described in MD 10.158. He was competitively selected for this sought-after position, and reported to his new assignment in September 2012. Resident inspector assignments are limited to 7 years to ensure objectivity. It is common for resident inspectors to apply for their next job when a desirable position comes open.

**2. When were the non-concurrences filed?**

Two non-concurrences were filed by the DCP SRI.

11/7/11. The DCP SRI submitted NCP 2011-103, on inspection report 05000275; 323/201104.

1/26/12. The DCPD SRI submitted NCP 2012-01, on inspection report 05000275; 323/201105.

### **3. What were the non-concurrences?**

Both non-concurrences involve the same subject; regulatory actions in response to the discovery of the Shoreline Fault.

NCP 2011-103 was filed by the DCPD SRI on the basis that no violation was issued (as he had submitted in the draft report) related to operability evaluation of the Shoreline fault in Report 2011-04. NCP 2011-103 was dispositioned finalizing the violation in IR 2011-05 issued on 2/14/12. (The employee requested that the NCP be non-public.)

NCP 2012-01 was filed by the DCPD SRI because the SRI believed the violation in NRC IR 2011-05 should be for an inadequate operability evaluation of the Shoreline Fault rather than not doing an operability evaluation until June 2012. The SRI believed the facility should be shutdown or the license amended to reflect the Shoreline fault. NCP 2012-01 was discussed with NRC stakeholders representing NRR/DE, NRR/DORL, RIV, and RES. NCP 2012-01 was dispositioned as a multi-office staff position which concluded that a violation for having no operability evaluation from January 2011 to June 2011 existed because the licensee completed the RIS 2005-020 immediate (interim) operability evaluation in June 2011. Additionally, the offices involved in NCP 2012-01 acknowledged that a final operability evaluation could not be completed by the licensee until the NRC decided what requirements and methods should be applied to new seismic information. At the time of Inspection Report 2011-05 issuance it was expected that the requirements and methods would be addressed in a License Amendment Request that was under consideration. However, by 3Q/2012, enough progress had been made on RIL 2012-01 for NRR and RES to conclude that the LTSP method of analysis used in the immediate operability assessment was sufficient to evaluate the Shoreline fault and that the Shoreline Fault should be considered a lesser included case of the Hosgri event. (The employee supported public release of the NCP ADAMS ML121A173.)

### **4. When was the DPO filed?**

July 18, 2013. The former DCPD SRI filed Differing Professional Opinion (DPO) 2013-02 associated with the regulatory response following the discovery of the Shoreline Fault.

NRC employees are encouraged to file a DPO if they believe an agency decision is in error. The DPO process is in keeping with the agency's open and collaborative working environment.

### **5. What is the DPO?**

DPO 2013-02 restated the issues presented in NCP 2012-01 and added a concern that a license amendment was needed incorporate the shoreline fault into Diablo Canyon's FSAR as

described in the RIL 12-01 cover letter. The added concern was that the NRC did not review or take action on the Los Osos and San Luis Bay faults.

**6. What is the status of the DPO?**

A decision on the DPO was issued by the Office Director for NRR on May 29, 2014 consistent with the NRC's process included in MD 10.159. The DPO submitter appealed this decision to the EDO on June 23, 2014, and the appeal was thoroughly evaluated by the EDO and decision on the appeal was rendered on September 9, 2014.

As part of the agency's open and collaborative work environment, the NRC has established the DPO program as a means for employees to have their concerns reviewed by high level managers. The DPO Program is a formal process that allows all employees and contractors to have their differing views on established, mission-related issues considered by the highest level managers in their organizations, i.e., Office Directors and Regional Administrators. The process also provides managers with an independent, three-person review of the issue (one person chosen by the employee). After a decision is issued to an employee, he or she may appeal the decision to the Executive Director for Operations (or the Chairman for those offices reporting to the Commission).

**7. Will the decision regarding the DPO be made public?**

The NRC supports openness and will include a summary of the disposition of the DPO in the Commission's Weekly Information Report included on the NRC Web site (see Commission Documents under the Document Collections in the NRC Library). The DPO submitter has been contacted regarding the EDO's decision on the DPO appeal and has communicated support for the public release of the DPO Case File (with appropriate redactions). The DPO Case File should be publicly available within a few days of the EDO's DPO appeal decision.

**8. Was the SRI wrongfully reassigned after filing two non-concurrences and a DPO?**

No. As noted in Q&A #1 above, the SRI applied for and was selected to a highly sought instructor position at the NRC's Technical Training Center. The NRC does not tolerate retaliation for engaging in the NCP or the DPO Program and both MDs reiterate this policy and direct employees to resources in the event they believe that they have been retaliated against.

**9. Would the DPO panel's conclusions or the DPO appeal decision change based on the new seismic information found in the State of California report?**

PG&E, the licensee for Diablo Canyon, is providing a report to the State of California that includes the results of its most recent evaluation of the seismic hazards for the Diablo Canyon facility. The NRC understands that the report will be provided to the State of California on September 10, 2014, and that a copy will be provided to the NRC as well. Prior to performing a detailed review of this report, the NRC is not able to ascertain whether the new seismic

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information contained in the report would change the DPO panel's conclusions or the DPO appeal decision. The NRC understands that PG&E plans to incorporate the findings from this report into their ongoing probabilistic seismic hazards analysis required by the NRC Post-Fukushima task force recommendations that are due in March 2015. The NRC believes this more rigorous analysis will provide the most accurate assessment of faults affecting the DCP. In addition, the NRC staff's review of the new seismic information in the report notes that PG&E's evaluation concludes that the ground motions resulting from the faults discussed in the report (i.e., Shoreline, Hosgri, San Simeon, Los Osos, and San Luis Bay) continue to be bounded by the Hosgri analysis that was used during licensing of the plant.

NRC Resident Inspectors and Region IV staff looked at the licensee's corrective action process assessment of new preliminary information concerning DCP seismic and licensing bases. The licensee's information indicates reasonable assurance of public health and safety after a seismic event.

The NRC staff will review the new information provided in the report in accordance with the NRC's inspection process. The NRC will take additional regulatory action as appropriate if the new information associated with the Faults around DCP cause NRC to question PG&E's conclusions.

**From:** [Oesterle, Eric](#)  
**To:** [Lupold, Timothy](#); [Ross-Lee, MaryJane](#); [Manoly, Kamal](#); [Li, Yong](#); [Karas, Rebecca](#); [Kock, Andrea](#)  
**Cc:** [Sebrosky, Joseph](#); [Alexander, Ryan](#); [Walker, Wayne](#); [Markley, Michael](#); [Wilson, George](#)  
**Subject:** FW: info: latest version of Diablo Canyon TER  
**Date:** Tuesday, October 21, 2014 12:16:40 PM  
**Attachments:** [Diablo Canyon operability evaluation 2014 seismic information technical evaluation.docx](#)  
[image001.png](#)  
**Importance:** High

Note: This is the same attachment that is attached to document C/26 in FOIA/PA-2015-0071 (ML15181A428).

To all,

Attached is the draft report which was discussed in the 11AM briefing today. It provides a proposed path forward for addressing the various issues associated with the DCCP operability evaluation. It is a rough draft but it should help with the actions identified in the briefing.

*Eric R. Oesterle*

NRC Project Manager  
Diablo Canyon Power Plant  
Cooper Nuclear Station  
NRR/DORL/LPL4-1  
301-415-1014



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**From:** Sebrosky, Joseph  
**Sent:** Tuesday, October 21, 2014 8:10 AM  
**To:** Wilson, George; Oesterle, Eric; Markley, Michael  
**Subject:** info: latest version of Diablo Canyon TER

To all,

Attached is the latest version of the Diablo Canyon TER. It incorporates comments from Eric and has other minor editorial changes from previous versions. Per direction from George I have stopped work on the effort pending the outcome of the meeting later today.

Thanks,

Joe Sebrosky  
Senior Project Manager  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation  
[joseph.sebrosky@nrc.gov](mailto:joseph.sebrosky@nrc.gov)

301-415-1132

**From:** [Sebrosky, Joseph](#)  
**To:** [Wilson, George](#); [Oesterle, Eric](#); [Markley, Michael](#)  
**Subject:** info: latest version of Diablo Canyon TER  
**Date:** Tuesday, October 21, 2014 8:10:23 AM  
**Attachments:** [Diablo Canyon operability evaluation 2014 seismic information technical evaluation.docx](#)

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To all,

Attached is the latest version of the Diablo Canyon TER. It incorporates comments from Eric and has other minor editorial changes from previous versions. Per direction from George I have stopped work on the effort pending the outcome of the meeting later today.

Thanks,

Joe Sebrosky  
Senior Project Manager  
Japan Lessons-Learned Division  
Office of Nuclear Reactor Regulation  
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TECHNICAL EVALUATION REPORT BY THE OFFICES OF NEW REACTORS,  
RESEARCH, AND NUCLEAR REACTOR REGULATION  
CENTRAL COASTAL CALIFORNIA SEISMIC IMAGING PROJECT  
PACIFIC GAS AND ELECTRIC COMPANY  
DIABLO CANYON POWER PLANT, UNITS 1 AND 2  
October 21, 2014, 8:00 am version

1.0 INTRODUCTION

1.1 Purpose

This evaluation provides the results of the U.S. Nuclear Regulatory Commission (NRC) staff's assessment of the new seismic hazards information developed by Pacific Gas and Electric Company (PG&E, the licensee) for the Diablo Canyon Power Plant, Units 1 and 2 (DCPP) and provided to the NRC in PG&E letter dated September 10, 2014, "Central Coastal California Seismic Imaging Project, Shoreline Fault Commitment"(Reference 1). The staffs from the NRC's Office of New Reactors (NRO), Office of Research (RES), Region IV, and Office of Nuclear Reactor Regulation (NRR) evaluated the information provided in the licensee's September 10, 2014, letter. In addition, this evaluation provides the results of the NRC's review of PG&E's operability determination found in PG&E Notification 50652361, "Preliminary new seismic information," completed on August 21, 2014, (Reference 2) against NRC guidance found in NRC Inspection Manual Chapter (IMC) 0326, "Operability Determination and Functionality Assessments for Conditions Adverse to Quality or Safety," dated January 31, 2014 (Reference 3) to determine what affect, if any, the new seismic information has on the capability of seismically qualified systems, structures, and components (SSCs) to perform their specified safety functions.

1.2 Background

Pursuant to Title 10 of the *Code of Federal Regulations*, Part 50 (10 CFR), Section 50.54(f), and by letter dated March 12, 2012, (Reference 4) the NRC requested information concerning, in part, the seismic and flooding hazards at operating reactor sites to enable the NRC staff to determine whether operating licenses should be modified, suspended, or revoked. The "Required Response" section of Enclosure 1 to the letter indicated that licensees should provide a Seismic Hazard Evaluation and Screening report within 3 years for western United States (WUS) plants. The process outlined in the March 12, 2012, request for information related to seismic hazards was also discussed in NRC letters dated October 12, 2012, (Reference 5) and February 20, 2014 (Reference 6). The October 12, 2012, letter, specifically discusses NRC's review of the Shoreline fault near DCPP, and places the NRC's review of the Shoreline fault into context with the process for developing and assessing seismic information found in the March 12, 2012, request for information. The October 12, 2012, letter states in part:

The NRC staff understands that the seismic evaluations described in the March 12, 2012, request for information are currently in progress at DCPP, and PG&E plans to acquire new offshore and onshore two-and three-dimensional seismic reflection data to identify and characterize faults in the vicinity of DCPP. If during the collection of the data, new faults are discovered or information is uncovered that would suggest the Shoreline fault is more capable than currently believed, the staff expects that the licensee will provide the NRC with an interim evaluation that describes actions taken or planned to address the higher seismic

hazard relative to the design basis, as appropriate, prior to completion of the evaluations requested in the NRC staff's March 12, 2012, request for information.

California Assembly Bill (CAB) 1632 (Blakeslee, Chapter 722, Statutes of 2006) (Reference 7) directed the California Energy Commission to assess the potential vulnerability of California's largest base-load power plants, including Diablo Canyon Power Plant, to a major disruption caused by a seismic event or plant aging; to assess the impacts of such a disruption on system reliability, public, safety, and the economy; to assess the costs and impacts from nuclear waste accumulating at these plants; and to evaluate other major issues related to the future role of these plants in the state's energy portfolio.

Based on the California Assembly Bill, the California Energy Commission compiled a report in 2008 (Reference 8) that included the recommendation that PG&E perform additional seismic studies to supplement the original and ongoing seismic studies performed as part of the licensee's Long Term Seismic Program (LTSP), and that those studies be conducted using advanced technologies such as three-dimensional (3D) seismic-reflection mapping. During 2011 through 2014, the licensee conducted the recommended studies and further data analysis, and compiled the report entitled, "Central Coastal California Seismic Imaging Project" (CCCSIP) and provided this report to the NRC via letter dated September 10, 2014. Following internal completion of the CCCSIP Report, the licensee performed an operability determination documented in Notification 50652361 completed on August 21, 2014 (Reference 2) based on the report and its data.

PG&E's September 10, 2014, letter transmitting the report provides an interim evaluation consistent with the guidance found in the NRC's October 12, 2012, letter. PG&E's letter states in part:

The additional offshore seismic studies revealed that the Shoreline fault is longer by extending farther south than in the Shoreline fault report, and therefore, more capable as described in the enclosure. PG&E concluded that the ground motions from updated shoreline fault and other regional faults remain less than the 1977 Hosgri design ground motions, for which the plant was evaluated and demonstrated to have reasonable assurance of safety. This interim evaluation is consistent with the conclusions of the Research Information Letter 12-01, "Confirmatory Analysis of Seismic Hazard at the Diablo Canyon Power Plant from the Shoreline Fault Zone," dated September 2012 [Reference 9].

PG&E's September 10, 2014, states that the CCCSIP will support the NRC-mandated seismic hazard risk assessment for the DCPD that is being performed in accordance with the March 12, 2012, request for information (Reference 4). PG&E will use the Senior Seismic Hazard Analysis Committee (SSHAC) process to incorporate and evaluate existing and new seismic information to update the seismic hazard for DCPD. The DCPD seismic hazard based on the SSHAC process is due to the NRC in March 2015.

The staff's previous assessment of the Shoreline Fault found in RIL 12-01 was based on a deterministic approach. As described in RIL 12-01 the conservative deterministic (scenario-based) viewpoint was intended to allow the NRC staff to determine if a safety concern exists as a result of the identification of the Shoreline fault. By their nature, deterministic approaches do not explicitly account for the likelihood of a particular earthquake scenario occurring, or the rate at which earthquakes can occur on known seismic sources. Therefore, deterministic results

cannot be used for a quantitative assessment of the overall risk to the plant from the Shoreline fault. Instead, deterministic approaches focus only on the safety margin that exists for a specific earthquake scenario, in this case for the Shoreline fault.

The response to the March 12, 2012, request for information is based on a probabilistic seismic hazard assessment (PSHA) approach. As described above PG&E is scheduled to provide a detailed PSHA by March 2015. The results of the PSHA will strengthen the understanding of the relative importance of the Shoreline fault and other faults evaluated in the CCCSIP to the seismic hazard at this site.

## 2.0 REGULATORY ANALYSIS

Because the detailed PSHA is due shortly to the NRC (i.e., March 2015), the NRC staff's evaluation is limited to reviewing PG&E's deterministic evaluation that is provided in the CCCSIP. The NRC staff's evaluation takes advantage of insights gained from the development of RIL 12-01, but does not update the RIL. Instead, the staff's evaluation relies on the new information found in PG&E's September 10, 2014, submittal and PG&E's operability determination regarding the following fault scenarios:

- Hosgri and San Simeon faults (the step-over between the Hosgri and San Simeon is small enough that the two faults are assumed to rupture together with an assumed magnitude of 7.3)
- Los Osos fault (assumed magnitude of 6.7)
- San Luis Bay fault (assumed magnitude 6.4)
- Shoreline fault (assumed magnitude of 6.7)
- Hosgri, San Simeon and Shoreline linked fault sensitivity study (assumed magnitude 7.3)

The purpose of the NRC staff's evaluation is to determine if a safety concern or operability concern exists as a result of the new information provided in PG&E's September 10, 2014 CCCSIP report. A more thorough review of the seismic faults around DCPD will be completed by the staff in the future based on PG&E's PSHA to be provided by March of 2015.

In performing its evaluation the NRC staff also reviewed how a recent Differing Professional Opinion (DPO) was resolved. The resolution of the DPO-2013-002, "Diablo Canyon Seismic Issues" is documented in a case file (Reference 10) that includes the following information:

- DPO Submittal
- Memo from NRR Office Director Establishing the DPO panel
- DPO Panel Report
- DPO Decision
- DPO Appeal Submittal
- NRR Office Director's Statement of Views
- DPO Submitter's Appeal Presentation to OEDO
- DPO Appeal Decision

### 3.0 EVALUATION

#### 3.1 Method of Review

The NRC staff's review is broken into three parts:

- The NRC's deterministic evaluation of the faults described in the 2014 CCCSIP report
- An update to the DPO assessment based on the information in the 2014 CCCSIP
- An assessment of the results of the NRC staff's deterministic evaluation regarding safety and operability of DCPD SSCs based on ergodic treatment of uncertainties.

#### 3.2 NRC Staff's Deterministic Evaluation of the Faults Described in the 2014 CCCSIP Report

##### Summary of PG&E Information

Chapter 13 of the CCCSIP, "Hazard Sensitivity and Impact Evaluation," provides a discussion of the differences between the deterministic evaluation provided in PG&E's 2011 Shoreline Fault Zone Report (Reference 11) and the 2014 CCCSIP studies. RIL 12-01 is based in large part on PG&E's 2011 Shoreline Fault Zone Report. CCCSIP Chapter 13 Table 1-1, which compares the source characterization for the deterministic ground motion evaluation, is reproduced below.

Fault	2011 Shoreline Report			Updated Parameters		
	Maximum Length (km)	Minimum Dip (degrees)	Mag. (90th fractile)	Maximum Length (km)	Minimum Dip (degrees)	Mag.*
Shoreline	23	90	6.5	45	90	6.7
Hosgri	110	80	7.1	171	75	7.3
Los Osos	36	45	6.8	36	55	6.7
San Luis Bay	16	50	6.3	16	50	6.4

PG&E describes in CCCSIP Chapter 13 that the Shoreline fault was found to extend an additional 22 km to the south thereby increasing the fault length from 23 km used in the 2011 Shoreline Fault Zone Report to 45 km. With this increased length the magnitude of the Shoreline fault increased from 6.5 to 6.7.

For the Hosgri fault, PG&E describes in the CCCSIP Chapter 13 that the length of the combined Hosgri and San Simeon faults, 171 km, was defined using the Hosgri fault length from the U.S. Geological Survey (Petersen et al., 2008, Table I-3) which treated the San Simeon and Hosgri faults as a single fault called the Hosgri fault. This increased length leads to a magnitude of 7.3.

PG&E describes in CCCSIP Chapter 13 that studies for the Los Osos fault found that the minimum dip consistent with the newly collected data is 55 degrees, as compared to

a minimum dip of 45 degrees used in the 2011 Shoreline Fault Zone Report. The steeper dip leads to a smaller fault area, and the magnitude is reduced from 6.8 to 6.7.

The CCCSIP studies did not provide new information for the San Luis Bay fault length or dip. Using the length and dip from the 2011 Shoreline Fault Zone Report leads to a magnitude of 6.4. The increase from the 2011 magnitude of 6.3 results from using the bounding length and dip rather than the full logic tree to define the rupture area.

PG&E also describes in CCCSIP Chapter 13 that for the Shoreline fault rupture developed in the 2011 Shoreline Fault Zone Report the Shoreline fault was assumed to intersect with the Hosgri fault, but a linked rupture involving the full Shoreline fault and the full Hosgri fault was not included because the geometry of the two faults was unfavorable to allow such a rupture. PG&E states that the new information collected on the geometry of the Shoreline and Hosgri faults shows that within a resolution of a few hundred meters, the two faults intersect. This new information indicates that the fault may rupture together, but it does not change the unfavorable geometries for a linked rupture. Nevertheless, PG&E performed a sensitivity analysis assuming that the full Shoreline fault rupture is linked to a rupture of the Hosgri fault, extending north to the end of the San Simeon fault.

PG&E's CCCSIP Chapter 13 assesses the new information described above using a new ground-motion prediction equation (GMPE) as part of the Pacific Earthquake Engineering Research (PEER) Center's Next Generation Attenuation (NGA) West2 project. These GMPEs are different than the NGA West GMPEs used in the 2011 Shoreline Fault Zone Report (Note: need something from NRC regarding assessment of new GMPEs)

Figure 1 of this evaluation provides a plot of the deterministic response spectrum using the source characteristics of various faults and the NGA West2 GMPEs for the power block (Note: need to confirm if these NRC generated plots are for the power block or the turbine foundations)

PG&E concludes in the CCCSIP report and reiterates in the September 10, 2014, cover letter transmitting the report that the ground motions from the updated shoreline fault and other regional faults remain less than the 1977 Hosgri Design ground motions for which the plant was evaluated and demonstrated to have reasonable assurance of safety.

### NRC Evaluation

#### Diablo Canyon Licensing Basis

In 1968, when the DCCP Unit 1 Construction Permit was issued to Pacific Gas and Electric (PG&E), the seismic evaluation had been completed under the Atomic Energy Commission's requirements. Based on the information available at the time, the design earthquake (DE) was defined as having a peak ground acceleration of 0.2 g, and the double design earthquake (DDE) was a doubling of the DE earthquake to ensure safety-related structures, systems, and components would function as expected after the earthquake, 0.4 g. In 1973, PG&E became aware of the Hosgri fault. PG&E evaluated the Hosgri fault using Regulatory Guide 1.61, "Damping Values for Seismic Design of Nuclear Power Plants," October 1973 (Reference 12). Though not included in the construction application, NRC reviewed PG&E's evaluation of the Hosgri fault and required PG&E to make plant modifications to be able to withstand the 0.75 g

peak ground acceleration associated with the Hosgri fault. The operating license for Unit 1, issued in 1984, was based on review of the Final Safety Analysis Report Update which included two different seismic methodologies, the DDE and the Hosgri evaluation, as documented in NUREG-0675, "Evaluation Report Related to the Operation of Diablo Canyon Power Plant, Units 1 and 2," Supplement No. 7, dated May 1978 (Reference 13).

#### Deterministic Response Spectrum and Use of Single Station Sigma Correction

In the 2011 Shoreline Fault Report PG&E addressed uncertainty in the GMPE using an ergodic approach (an approach that accounts for both epistemic (model uncertainty) and the aleatory (natural) variability). The 2011 Shoreline Fault Report documented an effort to separate the uncertainty into its component parts, including the uncertainty that comes from the seismic source, the path through which the waves travel in the crust, and the site response. If high-quality data from a modern seismographic network are available, some of the uncertainty for a specific location can be reduced. The single-station-sigma adjustment has the potential to remove uncertainty in the application of the GMPEs by determining a station term from a set of earthquakes recorded at the site.

The NRC staff noted in RIL 12-01 Section 5.9 that:

The single-station-sigma adjustment represents advancement in the field of engineering seismology and could be a useful approach in the assessment of seismic hazard at NPPs that install a modern seismographic system, such as that at DCCP. The single-station-sigma correction applied by PG&E was developed based on data from two earthquakes. Generally a larger number of earthquakes would be needed to develop confidence in the correction factor.

This correction was applied by PG&E but was not required for the confirmatory analysis that the NRC conducted as documented in RIL 12-01. The curves found in CCCSIP Chapter 13 found in Figure 1 of this evaluation are based on a single station correction and do not reflect ergodic uncertainty. As a result of questions raised during the inspection of PG&E's operability determination PG&E provided the following information relative to its use of the single-station-sigma correction on September 25, 2014:

- Processed Earthquake Recordings for Onsite Monitor ESTA 27 – 2003 Deer Canyon Earthquake
- Processed Earthquake Recordings for Onsite Monitor ESTA 27 – 2003 San Simeon Earthquake
- Processed Earthquake Recordings for Onsite Monitor ESTA 27 – 2004 Parkfield Earthquake
- Processed Earthquake Recordings for Onsite Monitor ESTA 28 – 2004 Parkfield Earthquake
- Shear Wave (VS30) Profiles for Power Block – Onsite Monitor ESTA 27
- Shear Wave (VS30) Profiles for Turbine Building – Onsite Monitor ESTA 27

- Shear Wave (VS30) Profiles for Power Block – Onsite Monitor ESTA 28
- Shear Wave (VS30) Profiles for Turbine Building – Onsite Monitor ESTA 28

Using the information provided by PG&E, the NRC staff developed the ergodic curves found in Figure 2 of this document.

The NRC staff concludes that PG&E's characteristics of the faults based on the new information revealed from the 2D and 3D analysis performed in accordance with CAB 1632 is reasonable. The NRC staff also concludes that the use of the NGA West2 GMPE is appropriate for the evaluations performed by PG&E. (Note need more of a basis for this being OK). Therefore, the NRC staff concludes that the DCPG ground motions from the faults evaluated in the CCCSIP 2014 report (i.e., Hosgri-San Simeon, Shoreline, Los Osos, San Luis Bay, and Hosgri-Shoreline linked) using the single-station-sigma treatment of uncertainty are at or below those for the 1977 Hosgri earthquake (HE) ground motion and the long-term seismic program (LTSP) ground motion. The 1977 HE ground motion and the LTSP ground motion are those for which the plant was evaluated previously and demonstrated to have reasonable assurance of safety.

However, the NRC staff notes that based on the NRC staff developed ergodic curves found in Figure 2, below that there are exceedance in the 10 Hz to 100 Hz range for the ground motions from the earthquakes evaluated in the CCCSIP 2014 report. The evaluation of the exceedances in this range can be found in Section 3.4 of this document.

### 3.3 Update of Differing Profession Opinion Assessment Based on the Information in the 2014 CCCSIP Report

#### Summary of PG&E Information

As a result of questions asked during the inspection of PG&E's operability determination, PG&E provided the following calculation:

- Long Term Seismic Program Update Shoreline Fault Zone Studies: Hypothetical Comparison of Damped In-Structure Response Spectra at the Top Surface of the Containment Basemat for the Design Basis Double Design and Hosgri Earthquakes with Postulated Earthquakes on the Shoreline, San Luis Bay, Los Osos, and Linked Hosgri-San Simeon Faults" [PROPRIETARY], Revision 1, dated 09/25/2014 (Reference 14)

#### NRC Staff Evaluation

As stated in the Diablo Canyon NPP Updated Final Safety Analysis Report Revision 21, Section 2.5.3.9 (Design and Licensing Basis Earthquakes), the Design Earthquake (DE), Double Design Earthquake (DDE), and the Hosgri Evaluation (HE) are design bases earthquakes and the Long-Term Seismic Program is a licensing bases earthquake. Consequently, any new information that is being compared to the Diablo Canyon NPP design basis (e.g., Allen, 2012 (Reference 15)) should make appropriate comparisons to both the DDE and HE. Both the DDE and HE should be considered because each of these design-basis earthquakes use different methods and assumptions in the design and qualification of seismic Category 1 structures, systems and components (SSCs). The most significant differences are in the amount of damping assumed for the engineering analyses (Table 1). As a result of these different assumptions, the DDE creates maximum loads on some Category 1 SSCs, whereas the HE

creates maximum loads on other Category 1 SSCs (e.g., FSARU Section 5.2.1.15 (Reference 16)). Neither ground motion creates the bounding demand for all Category 1 SSCs.

The new ground motions in the 2014 California Coastal Commission report are shown for free-field responses with 5% damping. However, as shown in Table 1, a range of different damping values were used in the design basis calculations for Diablo Canyon NPP. In addition, PG&E did not specify what amount of damping would need to be used in comparing the 2014 ground motions with the design-basis ground motions.

Type of SSC	Percentage Damping		
	DDE	HE	2014
Containment structures	5	7	7
Welded structural steel assemblies	1	4	4
Bolted or riveted steel assemblies	2	7	7
Mechanical components	2	4	4
Vital piping systems (except RCL) >12"	0.5	3	3
Vital piping systems (except RCL) <12"	0.5	2	2
Reactor Coolant Loop	1	4	4
Steam Generators	4	4	4
Integrated Head Assembly	6.85	6.85	6.85
Control Rod Drive Mechanisms	5	5	5

In September 2014, NRC staff discussed this issue of ground-motion comparability with PG&E staff, and outlined the need to compare the new ground motions with the seismic design bases for Diablo Canyon NPP. PG&E agreed to perform additional calculations for the 2014 ground motions, so that the results of these analyses would be directly comparable to the inputs used in the Diablo Canyon NPP design bases rather than an alternative metric such as the LTSP.

NRC staff reviewed the additional calculations that were developed by PG&E to allow for direct comparison of potential ground-motions in the 2014 report to the Diablo Canyon NPP seismic design bases. PG&E calculated in-structure acceleration response spectra as the basis for comparison, as these spectra already were available for the DDE and HE from FSARU section 3.7 analyses (Reference 14).

To convert the 2014 ground-motion spectra to in-structure acceleration response spectra, PG&E developed a scaling relationship from the LTSP analyses that compares the calculated free-surface ground motion to an in-structure response spectrum. This scaling relationship accounts for the effects of processes such as soil-structure interaction and the presence of building foundations. PG&E applied this scaling factor to the 2014 ground-motion spectra to calculate in-structure response spectra for 5% damping. To account for the different damping values used to analyze the seismic performance of different SSCs, PG&E used analytical methods in Rezaeian et al. (2012) (Reference 17) to develop scaling factors. PG&E applied these scaling factors to the 5% damped in-structure response spectra for the 2014 ground motions, to develop response spectra for the different damping values shown in Table 1.

Based on these calculations, the NRC staff verified that the in-structure response spectra for the reanalyzed 2014 ground motions (single station) were all lower than the DDE and HE response spectras. As a result, the NRC staff concludes that ground motions from the 2014 report have been compared reasonably with the Diablo Canyon NPP design basis, and that these re-

analyzed ground motions do not exceed the demands already considered in the design and qualification of seismic Category 1 SSCs.

#### 3.4 An Assessment of the Results of the NRC Staff's Deterministic Evaluation Regarding Safety and Operability of DCPD SSCs Based on Ergodic Treatment of Uncertainties

##### NRC Staff Evaluation

As stated above, PG&E's 2014 CCCSIP report included an evaluation of the ground motion response spectrum compared to the 1977 HE ground motion based on the single-station-sigma approach. While the staff concludes that the single-station-sigma approach has its benefits, the staff nevertheless also developed on its own the ground motion response spectrums for the faults that were analyzed in the 2014 CCCSIP report using the more traditional treatment of uncertainties (i.e., the ergodic approach). The ground motion response curves for the various fault scenarios based on the ergodic approach can be found in Figure 2 of this document.

##### Ground Motion Response Spectra Below 10 Hz

The staff notes that the ergodic curves for the faults analyzed in the 2014 CCCSIP are below those for the 1977 HE ground motion and the long-term seismic program (LTSP) ground motion. The 1977 HE ground motion and the LTSP ground motion are those for which the plant was evaluated previously and demonstrated to have reasonable assurance of safety. Therefore, the staff concludes that there is not a safety or operability issue for ground motions below 10 Hz.

##### Ground Motion Response Spectra Greater than 10 Hz

PG&E's letter dated October 11, 2011, "Evaluation Process for New Seismic Information and Clarifying the Diablo Canyon Power Plant Safe Shutdown Earthquake," (Reference 18) includes as part of the application Chapter 6 of the 1988 Long Term Seismic Program Final Report. Although the October 11, 2011, license amendment application was withdrawn the NRC staff finds the information that is duplicated from Chapter 6 of the 1988 Long Term Seismic Program instructive because it contains a probabilistic risk assessment to determine the adequacy of seismic margins. The NRC staff assessment of the LTSP including the seismic margins can be found in NUREG-0675 Supp 34, "Safety Evaluation Report Related to Operation of Diablo Canyon, Units 1 & 2," (Reference 19).

The 1988 LSTP Chapter 6 Table 6-24 included high confidence of low probability of failure (HCLPF) data for various SSCs. The HCLPF capacity is defined as a 95 percent confidence of less than 5 percent probability of failure. The 1988 LTSP Chapter 6 Tables 6-23 and 6-24 included HCLPF values for structures and systems and component. Tables 6-23 for structures and Table 6-24 for systems and components are repeated at the end of this evaluation for ease of reference.

PG&E October 11, 2011, submittal provides a discussion of the changes to the seismic margins since the 1988 LTSP report. This included an evaluation of the seismic margins associated with the integrated head assembly (IHA). The IHAs were installed in Units 1 and 2 during refueling outage nos. 2R15 and 1R16, respectively. The IHAs are classified as new components which could impact the seismic margins of existing safety-related structures, since they are attached to the reactor vessel closure heads and provide support to the control rod drive mechanisms (CRDMs), small bore piping, instrumentation, and cables. PG&E calculated the HCLPF

capacity associated with the limiting element of the CRDMS lateral support function of the IHAs, developed based on the deterministic failure margins method is 2.40 g.

The staff notes that the HCLPF values for SSCs are above the ground motion response spectrum the NRC staff calculated using the ergodic treatment of uncertainties. (Need to assess the 230 kV switchyard). In general the staff also notes that components that are susceptible to failure at higher frequencies (i.e., greater than 20 Hz) have been the subject of recent testing. The preliminary test results indicate that these components are more robust than originally thought. The testing is documented in a report dated September 15, 2014, by the Electric Power Research Institute, titled, "High Frequency Program: High Frequency Testing Summary," (Reference 20).

Based on the HCLPF values for DCPD SSCs and the preliminary results of the EPRI testing, the staff concludes that the exceedances of the ground motion response spectras for the faults analyzed in the 2014 CCCSIP using the ergodic treatment of uncertainties does not cause the staff to believe that there is a safety concern that would require PG&E to deviate from its current course of action to evaluate the faults using the PSHA method described in the March 12, 2012, request for information. In addition, the staff concludes that based on the HCLPF values for DCPD SSCs and the preliminary results of the EPRI testing, the staff does not have a basis to conclude that any SSCs at DCPD are inoperable.

Note: does the high frequency ergodic exceedances need to be addressed in DPO section

#### 4.0 CONCLUSION

The NRC staff reviewed the new seismic information found in PG&E's 2014 CCCSIP report and PG&E's operability determination and concludes that there is not a safety concern that would require PG&E to deviate from its current course of action to evaluate the faults around DCPD using the PSHA method described in the NRC staff's March 12, 2012, request for information. In addition, the staff reviewed PG&E's operability determination and the NRC staff concludes that there is not a basis for declaring any DCPD SSC inoperable based on the information found in the 2014 CCCSIP report. The staff also evaluated the information in the 2014 CCCSIP report to determine if a change to the recommendations associated with DPO 2013-002, "Diablo Seismic Issues," should be revisited and has determined that a change to recommendation associated with this DPO are not necessary.

#### 5.0 REFERENCES

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2. Pacific Gas and Electric, Notification 50652361, "Preliminary new seismic information," completed on August 21, 2014,
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4. U.S. Nuclear Regulatory Commission, "Request for Information Pursuant To Title 10 of *The Code Of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident," dated March 12, 2012 (ADAMS Accession No. ML12053A340)
5. Sebrosky, Joseph M., U.S. Nuclear Regulatory Commission, letter to E. Halpin, Pacific Gas and Electric, "Diablo Canyon Power Plant, Unit Nos. 1 And 2 - NRC Review of Shoreline Fault (TAC NOS. ME5306 AND ME5307)," dated October 12, 2012 (ADAMS Accession No. ML120730106)
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12. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.61 , "Damping Values for Seismic Design of Nuclear Power Plants," October 1973
13. U.S. Nuclear Regulatory Commission, NUREG-0675, "Evaluation Report Related to the Operation of Diablo Canyon Power Plant, Units 1 and 2, " Supplement No. 7, dated May 1978 (ADAMS Accession No. ML14279A129)
14. Pacific Gas and Electric, "Long Term Seismic Program Update Shoreline Fault Zone Studies: Hypothetical Comparison of Damped In-Structure Response Spectra at the Top Surface of the Containment Basemat for the Design Basis Double Design and Hosgri Earthquakes with Postulated Earthquakes on the Shoreline, San Luis Bay, Los Osos, and Linked Hosgri-San Simeon Faults" [PROPRIETARY], Revision 1, dated 09/25/2014

15. Allen, B.S., Pacific Gas and Electric Co., letter to Nuclear Regulatory Commission, "Withdrawal of License Amendment Request 11-05," October 2012. (ADAMS Accession No. ML12300A105)
16. Diablo Canyon Power Plant Units 1 & 2 FSAR Update, Revision 21, September 2013 (ADAMS Accession No. ML13280A390)
17. Rezaeian, S., and others, "Spectral Damping Scaling Factors for Shallow Crustal Earthquakes in Active Tectonic Regions," Pacific Earthquake Engineering Research Center Report 2012/01, July 2012.
18. Becker, James R., Pacific Gas and Electric, letter to U.S. Nuclear Regulatory Commission, "License Amendment Request 11-05, "Evaluation Process for New Seismic Information and Clarifying the Diablo Canyon Power Plant Safe Shutdown Earthquake," October 11, 2014 (ADAMS Accession No. ML11298A247)
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20. Electric Power Research Institute, "High Frequency Program: High Frequency Testing Summary," September 15, 2014.

Table 6-23

## DIABLO CANYON STRUCTURE FRAGILITIES

(Based on hazard defined over 3 to 8.5 hertz range.)

Structure	Fundamental Frequency Hertz	Failure Mode	Spectral Acceleration Capacity			
			$\frac{V}{S_a}$ (g)	$\beta_R$	$\beta_U$	HCLPF (g)
Containment Building	4.1	Exterior Shell Shear	8.42	0.26	0.30	3.34
Concrete Internal Structure	8.9	Internal Structure Shear	6.91	0.20	0.31	2.98
Intake Structure	23.3	North Wall Shear	8.55	0.28	0.31	3.23
Auxiliary Building	8.2	North/South Shearwalls	5.79	0.21	0.26	2.66
Turbine Building	8.6	Shear Wall, Column 31	4.87	0.26	0.33	1.84
	9.0	Block Wall	>10.0	—	—	—
Refueling Water Storage Tank	7.6	Concrete/Bedrock Flexure	9.92	0.29	0.36	3.40
Condensate Storage Tank	—	Comparison to RWST	>10.0	—	—	—
DG Fuel-Oil Storage Tank	Buried	Rupture	>10.0	—	—	—
Auxiliary Saltwater Piping	Buried	Rupture	9.23	0.18	0.21	4.85

**Table 6-24**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\frac{V}{S_a}(g)$	$\beta_R$	$\beta_U$	HCLPF (g)
<b>NUCLEAR STEAM SUPPLY</b>									
Reactor Pressure Vessel	Containment - (187')	12-14 Hz (H)	Dynamic Analysis	Support Pin Shear	W Summary Data	8.71	0.25	0.33	3.34
Reactor Internals	Containment - (187')	16-20 Hz (V)	Dynamic Analysis	Lower Core Plate	W Summary Data	10.54	0.40	0.26	3.55
Steam Generators	Containment - (140')	9 Hz (H)	Dynamic Analysis	Upper Lateral Support	W Summary Data	6.96	0.31	0.29	2.55
Pressurizer	Containment - (140')	15 Hz (H)	Dynamic Analysis	Seismic Support Lug	W Summary Data	11.46	0.31	0.44	3.33
Pressurizer Safety Valves	Containment - (149')	Flexible Piping	Static Analysis/Test	Generic Function	M397, M401	>10.0	-	-	-
Power Operated Relief Valves	Containment - (149')	Flexible Piping	Static Analysis/Test	Generic Function	M397, M401	7.62	0.30	0.42	2.32
Reactor Coolant Pump	Containment - (114')	7 Hz (H)	Dynamic Analysis	Lower Motor Stand	M353, M428, M429	8.82	0.37	0.32	2.83
Control Rod Drives	Containment - (140')	7-16 Hz (H)	Dynamic Analysis	Head Adapter Yield	W Summary Data	11.71	0.41	0.34	3.40
NSSS Piping	Containment - (140')	7-9 Hz (R&V)	Dynamic Analysis	Rupture	W Summary Data	>10.0	-	-	-
<b>RESIDUAL HEAT REMOVAL</b>									
RHR Pumps	Auxiliary (58')	Flexible Piping	Dynamic Analysis	Pump Hold Down Bolts	W Summary Data	8.31	0.33	0.22	3.35
RHR Heat Exchangers	Auxiliary (180')	12 Hz (H)	Static Analysis	Anchor Bolts & Upper Lateral Support	W Summary Data, M462, M474	8.09	0.24	0.27	3.48
<b>SAFETY INJECTION</b>									
SI Accumulators	Containment (91')	23-34 Hz (H)	Static Analysis	Anchor Studs	W Summary Data, M316	10.01	0.29	0.19	4.53
SI Pumps	Auxiliary (85')	>33 Hz (H)	Static Analysis	Pump Hold Down Bolts	W Summary Data	10.94	0.34	0.18	4.64
Boron Injection Tank	Auxiliary (73')	15-17 Hz (H)	Static Analysis	Anchor Bolts	W Summary Data	8.46	0.27	0.19	3.96
<b>COMPONENT COOLING WATER</b>									
CCW Pumps	Auxiliary (73')	Flexible Piping	Static Analysis	Pump Hold Down Bolts	M006, M007, M318	8.53	0.29	0.21	3.74
CCW Heat Exchangers	Turbine (85')	13 Hz (H)	Dynamic Analysis	Longitudinal Strut Bolts	M008, M336, M475	6.31	0.27	0.28	2.55
CCW Surge Tank	Auxiliary (163')	32 Hz (H)	Static Analysis	Seismic Lateral Brace	M319	7.22	0.33	0.23	2.91
<b>CHEMICAL AND VOLUME CONTROL</b>									
Charging Pumps (centrifugal)	Auxiliary (73')	>33 Hz (H)	Static Analysis	Motor Hold Down Bolts	W Summary Data	10.16	0.31	0.19	4.45
Charging Pumps (reciprocating)	Auxiliary (73')	>33 Hz (H)	Static Analysis	Pump Hold Down Bolts	W Summary Data	>10.0	-	-	-
<b>AUXILIARY SALTWATER</b>									
Auxiliary Saltwater Pumps	Intake (2'-2")	43 Hz (H)	Static Analysis	Pump Mounting Bolts	M009	>10.0	-	-	-
<b>CONTAINMENT SPRAY</b>									
CS Pumps	Auxiliary (73')	>33 Hz (H)	Static Analysis	Foundation Bolts	W Summary Data	8.65	0.29	0.20	3.85
Spray Additive Tank	Auxiliary (73')	24 Hz (H)	Static Analysis	Support Pad/Shell	W Summary Data	6.78	0.30	0.18	3.07

**Table 6-24 (Continued)**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\frac{V}{S_0}(g)$	$\beta_R$	$\beta_U$	HCLPF (g)
<b>MAIN STEAM</b>									
MS Isolation Valves	Outside Containment (127')	Flexible Piping	Dynamic Analysis/Test	Actuator Support	M067, M463, M469	>10.0	-	-	-
MS Safety Valves	Auxiliary (140')	Flexible Piping	Dynamic Analysis/Test	Generic Function	M397	>10.0	-	-	-
MS PORV'S	Auxiliary (140')	Flexible Piping	Dynamic Analysis/Test	Generic Function	M397	11.51	0.34	0.38	3.51
<b>AUXILIARY FEEDWATER</b>									
AFW Pumps (Motor Driven)	Auxiliary (100')	42 Hz (H)	Static Analysis	Pump Hold Down Bolts	M320A	>10.0	-	-	-
AFW Pumps (Turbine Driven)	Auxiliary (100')	43 Hz (H)	Static Analysis	Pump Hold Down Bolts	M320, M321	7.71	0.29	0.21	3.38
<b>DIESEL GENERATOR</b>									
D.G. Fuel Oil Day Tank	Turbine (85')	10 Hz (V)	Static Analysis	Bottom Plate Rupture	M323	>10.0	-	-	-
D.G. Fuel Oil Pumps/Filters	Underground Vault (77')	Flexible Piping	Static Analysis	Pillar Anchor Bolts	M324, M326	8.33	0.27	0.23	3.65
D.G. Fuel Oil Shutoff Valve	Underground Vault (77')	Flexible Piping	None	Possible Link	Data Base	>10.0	-	-	-
D.G. Air Start Compressor	Turbine (85')	>33 Hz (H)	Generic Anchorage Analysis	Hold Down Bolts	M323	>10.0	-	-	-
D.G. Air Start Receiver	Turbine (85')	26 Hz (H)	Dynamic Analysis	Hold Down Bolts	M329	>10.0	-	-	-
Diesel Generators	Turbine (85')	17 Hz (H)	Dynamic Analysis	Skid Anchor Bolts	M423-M426	7.79	0.26	0.28	3.44
D.G. Radiator/Water Pump	Turbine (85')	17 Hz (H)	Dynamic Analysis	Anchor Bolting	M323	8.78	0.29	0.24	3.66
D.G. Inlet Silencer/Air Filter	Turbine (104')	Flexible Piping	Dynamic Analysis	Pillar Support Rod Weld	M271, M449	>10.0	-	-	-
D.G. Excitation Cubical	Turbine (85')	13 Hz (H)	Test	Structural	M346, M364	7.40	0.19	0.35	2.57
D.G. Control Panel	Turbine (85')	8 Hz (H)	Test	Chatter	M347, M364, M464, M482	7.77	0.25	0.14	4.08
D.G. Main Lead Terminal/Box	Turbine (85')	10 Hz (H)	Test Static Analysis	Structural Attachment-Pillar Weld	M348	4.35 >10.0	0.30	0.13	2.24
<b>CONTAINMENT BUILDING VENTILATION</b>									
Containment Fan Cooler	Containment (140')	33 Hz (H)	Dynamic Analysis	Foot Plate/Embed. Weld	M399, M499, M420, M421, M448	8.10	0.31	0.33	2.82
<b>CONTROL ROOM VENTILATION</b>									
Supply Fans	Auxiliary (154'-6")	>33 Hz (H)	Static Analysis	Support Bolting	M056	9.79	0.33	0.24	3.82
AC Units/Compressors	Auxiliary (154'-6")	>33 Hz (H)	Static Analysis	Anchor Bolt	M288, M312	>10.0	-	-	-
Control Cabinets	Auxiliary (157')	21 Hz (H)	Test	Structural	M453	>10.0	-	-	-
<b>480V SWITCHGEAR/INVERTER/DC SWITCHGEAR/SPREADING ROOM VENTILATION</b>									
Supply/Return Fans	Auxiliary (163')	>33 Hz (H)	Static Analysis	Expansion Anchor	M310	11.16	0.33	0.30	3.95
Backdraft and Shut-Off Dampers	Auxiliary (163')	>33 Hz (H)	Static Analysis	Structural	M388	>10.0	-	-	-

**Table 6-24 (Continued)**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\frac{Y}{S_a}$ (g)	$\beta_R$	$\beta_U$	HCLPF (g)
<b>4160V (VITAL) ELECTRIC POWER</b>									
Switchgear	Turbine (119')	7 Hz (H)	Test Static Analysis	Chatter Guide Rod Bending	M049, M315, M356, M373, M377-380, M482	3.53 7.44	0.35 0.31	0.25 0.23	1.31 2.93
Potential Transformer (Bus F)	Turbine (119')	21 Hz (H)	Static Analysis	Support Leg/Embed. Weld	M049, M375, M416, M450	10.83	0.31	0.38	3.47
(Bus G & H)	Turbine (119')	35 Hz (H)	Static Analysis	Support Leg/Embed. Weld	M049, M375, M416, M450	>10.0	-	-	-
Safeguard Relay Panel	Turbine (119')	11 Hz (H)	Static Analysis	Anchor Welds	M032, M373, M414, M430	10.76	0.34	0.36	3.39
<b>125V DC ELECTRIC POWER</b>									
Batteries	Auxiliary (115')	>33 Hz (H)	Test	Structural	M050, M054, M364	6.04	0.30	0.18	2.74
Battery Racks	Auxiliary (115')	>33 Hz (H)	Static Analysis	Longitudinal End Restraint	M013, M032, M050, M207	11.91	0.26	0.22	5.40
Battery Chargers	Auxiliary (115')	12 Hz (H)	Test	Structural	M054, M364, M453, M462	9.93	0.34	0.40	2.93
Switchgear/Breaker Panels	Auxiliary (115')	7 Hz (H)	Test	Structural	M014, M051, M364	6.67	0.35	0.28	2.36
<b>120V AC ELECTRIC POWER</b>									
Instrument Breaker Panels	Auxiliary (115')	>20 Hz (H)	Static Analysis	Slip-Nut Failure	M051A	>10.0	-	-	-
Inverters	Auxiliary (115')	5 Hz (H)	Test	Structural	M015, M016, M355, M415, M436, M451, M467	6.82	0.31	0.34	2.73
<b>480V (VITAL) ELECTRIC POWER</b>									
4160V/480V Transformers	Auxiliary (100')	3 Hz (H)	Static Analysis	Structural	M052, Walkdown	5.34	0.28	0.20	2.42
Breaker Cabinets (Load Centers)	Auxiliary (100')	13 Hz (H)	Static Analysis	Anchor Stitch Weld	M017, M364	>10.0	-	-	-
Auxiliary Relay Panel	Auxiliary (100')	29 Hz (H)	Test	Structural	M315, M364	7.25	0.28	0.15	3.57
<b>CONTROL ROOM</b>									
Main Control Boards	Auxiliary (140')	>33 Hz (H)	Test Dynamic Analysis	Switch Function Structural	W Summary Data, M456, M482	>10.0 7.77	- 0.31	- 0.27	- 2.98
Hot Shutdown Panel	Auxiliary (100')	>33 Hz (H)	Test	Switch Function	M317, M383, M342	7.60	0.27	0.25	3.22
Auxiliary Safeguards Cabinet	Auxiliary (128')	9-13 Hz (H)	Static Analysis Test	Structural Structural	M479, M482 M317, M354, M359	7.27 >10.0	0.30 -	0.14 -	3.52 -

**Table 6-24 (Continued)**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\frac{Y}{S_a}(g)$	$\beta_R$	$\beta_U$	HCLPF (g)
<b><u>NSSS CONTROL</u></b>									
Process Control and Protection System	Auxiliary (128')	8-10 Hz (H)	Test	Structural	M317, M355	10.78	0.39	0.28	3.57
Solid State Protection System	Auxiliary (140')	8-11 Hz (H)	Test	Structural	M317, M355	12.63	0.37	0.28	4.32
Reactor Trip Switchgear	Auxiliary (112')	8 Hz (H)	Test	Structural	M317, M354	7.90	0.30	0.26	3.14
Resistance & Temperature Detectors	Auxiliary (140')	Not Given	Test	Structural	M345	>10.0	-	-	-
Pressure & $\Delta P$ Transmitters	Containment (117')	>35 Hz (H)	Test	Structural	M341	8.93	0.27	0.20	4.11
<b><u>MISCELLANEOUS COMPONENTS</u></b>									
Auxiliary Relay Rack	Auxiliary (128')	12-20 Hz (H)	Static Analysis	Anchor Bolts	M317, M350, M359	>10.0	-	-	-
Local Starter Boards	Various	18 Hz (H)	Test	Structural	M454	>10.0	-	-	-
Molded Case Circuit Breakers	Auxiliary (115')	>35 Hz (H)	Test	Structural	M476	>10.0	-	-	-
Valve Limit Switches	Auxiliary (Various)	>35 Hz (H&V)	Test	Generic Function	M344	>10.0	-	-	-
Impulse Lines	Containment (Various)	5-20 Hz (H&V)	None	Rupture From Impact	Data Base	7.09	0.28	0.32	2.63
Containment Purge Valves	Containment (132')	>35 Hz (H&V)	Static Analysis	Actuator Attach. Bolts	M432	>10.0	-	-	-
<b><u>GENERIC COMPONENTS</u></b>									
Off-Site Power 230KV 500KV	Yard	Flexible	None	Generic Failure	Data Base	1.69	0.24	0.20	0.82
Penetrations/Penetration Boxes	Containment (135')	24 Hz (H)	Test	Generic Structural	M054	0.81	0.24	0.20	0.39
BOP Piping and Supports	Various	Flexible Piping	Dynamic Analysis	Generic Support	M020, M381	7.38	0.31	0.27	2.83
Head, Relief, Solenoid, & Check Valves	Various	Flexible Piping	Dynamic Analysis	Generic Function	Data Base	11.03	0.40	0.39	3.00
Air and Motor Operated Valves	Various	Flexible Piping	Dynamic Analysis	Generic Function	M067, M401	17.10	0.35	0.60	3.57
Cable Trays and Supports	Various	Flexible Trays	Static Analysis	Generic Support	M209-M213	>10.0	-	-	-
HVAC Ducting and Supports	Various	Flexible Ducting	Static Analysis	Generic Support	M214-M218	9.78	0.35	0.48	2.49

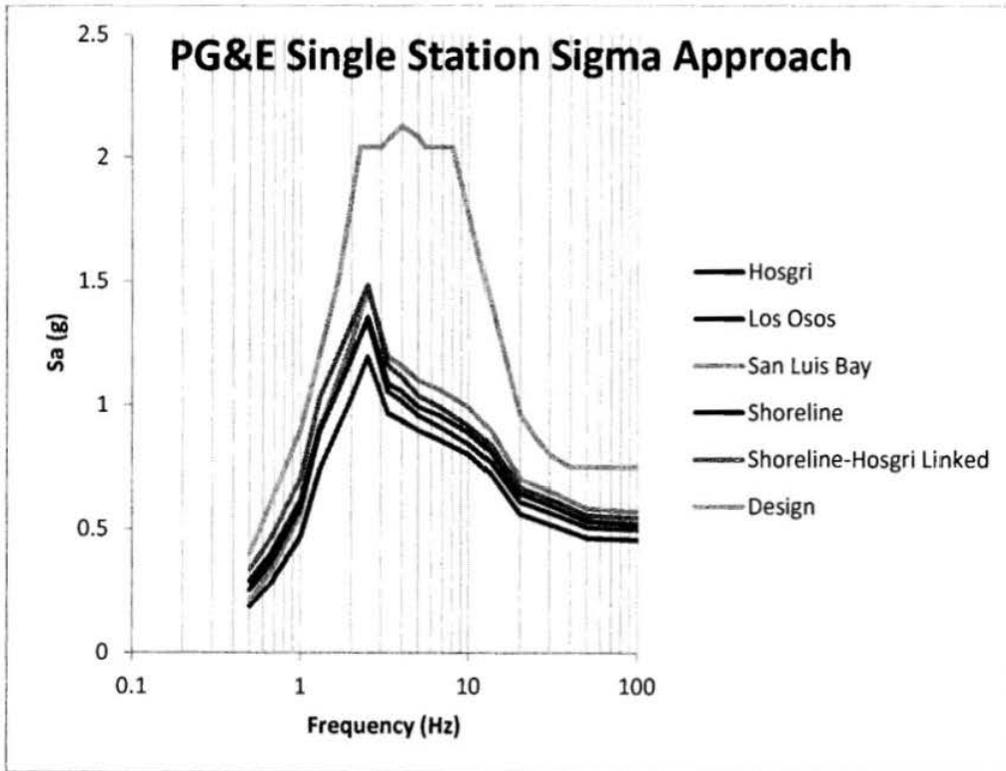


Figure 1 - Deterministic Response Spectrum Single Station Approach

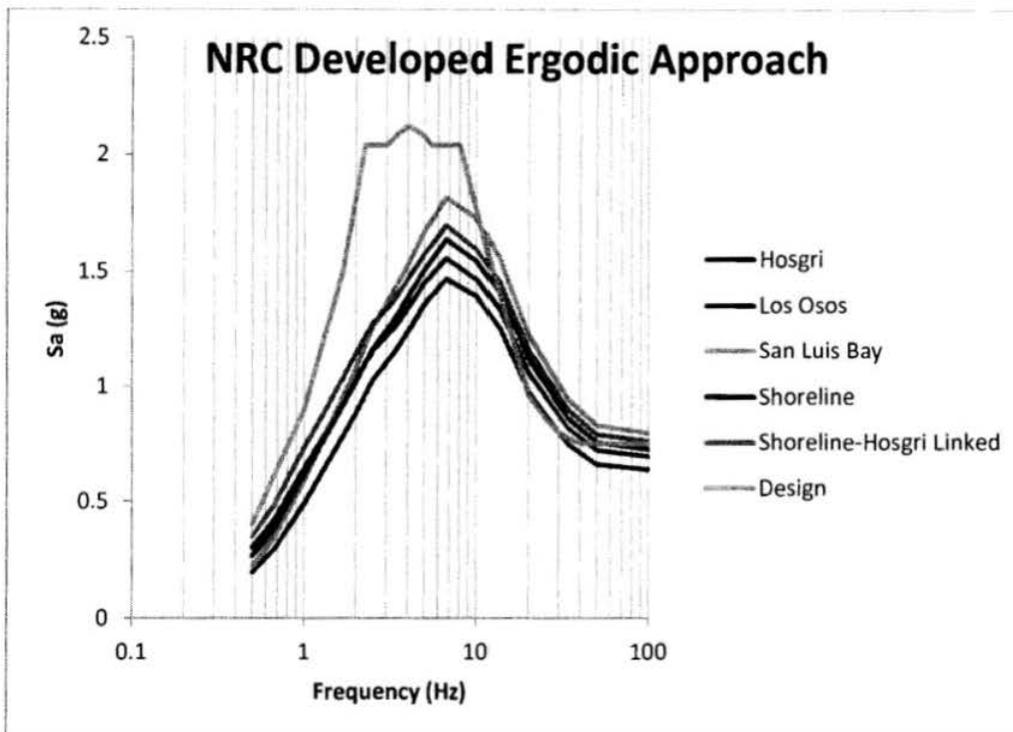


Figure 2 – Deterministic Response Spectrum NRC Developed Ergodic Approach

**From:** [Oesterle, Eric](#)  
**To:** [Sebrosky, Joseph](#); [Markley, Michael](#); [Lupold, Timothy](#); [Wilson, George](#)  
**Cc:** [Karas, Rebecca](#)  
**Subject:** Final Briefing Slides  
**Date:** Tuesday, October 21, 2014 10:04:17 AM  
**Attachments:** [Final Diablo Canyon Seismic Status Briefing\\_21Oct2014.pptx](#)  
[image001.png](#)

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Attached are the finalized briefing slides for the 11AM briefing. Thanks everyone for your inputs!

*Eric R. Oesterle*

NRC Project Manager  
Diablo Canyon Power Plant  
Cooper Nuclear Station  
NRR/DORL/LPL4-1  
301-415-1014





# **Assessment of PG&E Operability Determination for New Seismic Information**

**NRR, NRO and Region IV Status Briefing  
October 21, 2014**

Contacts: J. Sebrosky (NRR/JLD), T. Lupold (NRR/DE), R. Alexander (RIV), W. Walker (RIV),  
M. Markley (NRR/DORL), and E. Oesterle (NRR/DORL)



## **Briefing Agenda**

- Purpose
- Expected Outcomes
- Background
- PG&E Seismic Report
- NRC Responses/Actions
- Current Status
- Potential Outcomes
- Next Steps
- Decisional Environment

## **Purpose**

- Inform NRR, NRO, and Region IV management of status on NRC activities/actions that respond to new seismic information for Diablo Canyon that indicates the Shoreline Fault discovered in 2008 is more capable than previously evaluated by licensee and confirmed by NRC to be bounded by the Hosgri evaluation described in the licensing basis



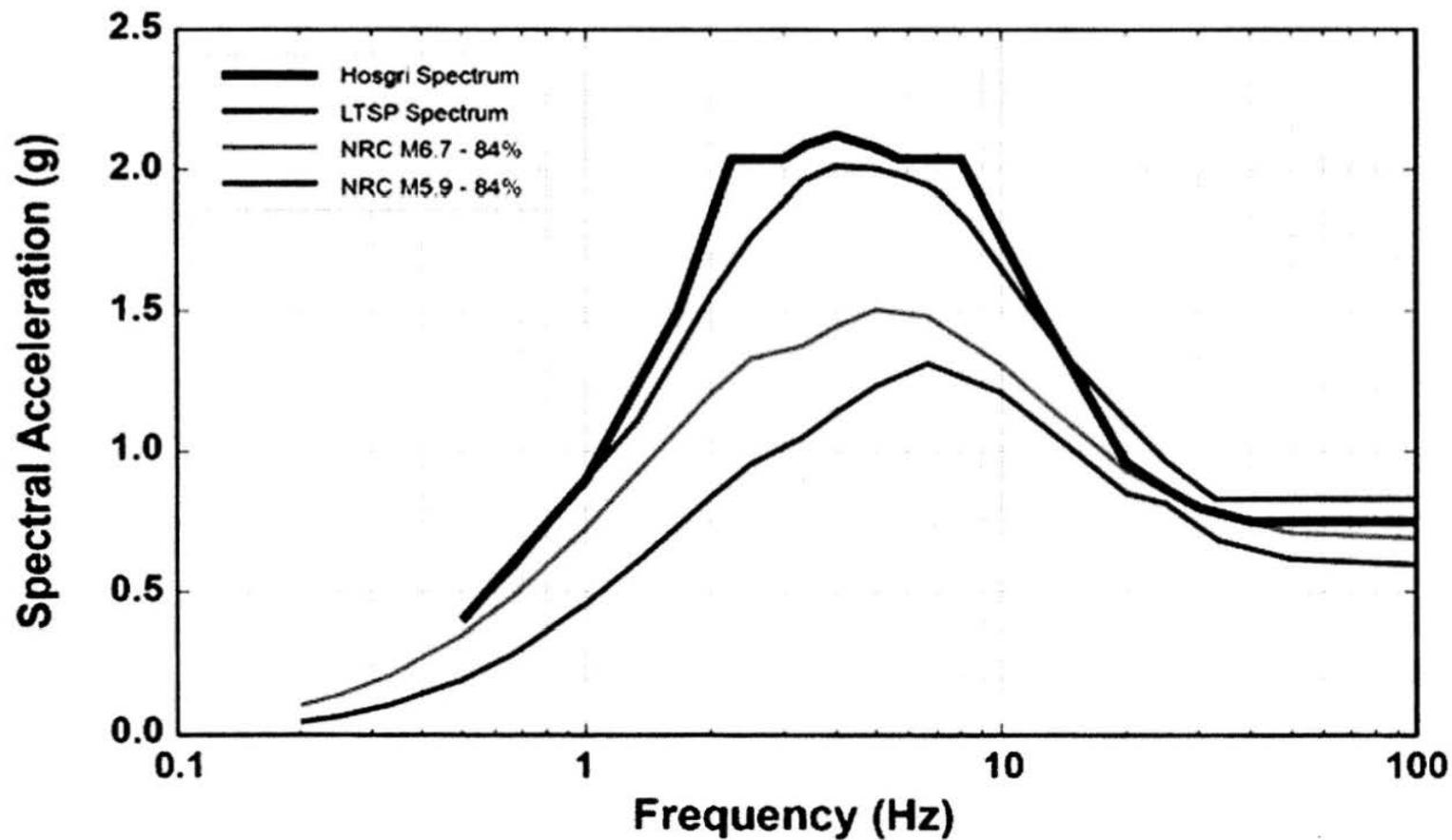
## **Expected Outcomes**

- Alignment of NRC HQ and Region IV activities, plan, and next steps
- Clear understanding of current status and potential implications of outcomes
- Enhanced perspectives on environmental context in which NRC actions/decisions will be made

## Background

- Current licensing basis for Diablo Canyon seismic hazard includes DE, DDE, Hosgri (HE), & Long Term Seismic Program (LTSP)
- DE = OBE (0.2g); DDE = SSE (0.4g); HE = additional case evaluated in 1977 during OL review (0.75g); LTSP was a License Condition completed and reviewed in SSER 34
- Shoreline fault discovered in 2008 and evaluated by PG&E to be bounded by HE – operability assessment performed by licensee (PG&E Shoreline Report dated January 2011)
- Independent confirmatory deterministic evaluation of the Shoreline fault performed by NRC concluded it was  $\leq$  HE (RIL 12-01 dated September 19, 2012)

## NRC Response Spectra from RIL 12-01



## **Background (continued)**

- NRC issues 50.54(f) letter on March 12, 2012, to all licensees requesting seismic and flooding hazards re-evaluation
- NRC issues letter to PG&E (Oct. 12, 2012) documenting review of PG&E Shoreline Fault Report and placing its assessment in the context of the 50.54(f) process
  - ...if new faults are discovered or information is uncovered that would suggest the Shoreline fault is more capable than currently believed, the staff expects that the licensee will provide the NRC with an interim evaluation that describes actions taken or planned to address the higher seismic hazard relative to the design basis, as appropriate, prior to completion of the evaluations requested in the NRC staff's March 12, 2012, request for information. The staff will use this information to independently assess whether the new fault or new information related to the Shoreline fault challenges or changes the staff's current position that the motions associated with the Shoreline fault are at or below those levels of the HE and LTSP ground motions.

## PG&E Seismic Report

- Geologic investigations underway to support requirement of AB1632 for report to CA when NRC issued Oct. 12, 2012, letter
- PG&E used new state of the art 2D and 3D onshore and offshore seismic reflection mapping
- PG&E informed NRC of preliminary results at drop-in meeting on August 22, 2014, and committed to provide report to NRC

Fault	2011 Shoreline Report			Updated Parameters		
	Maximum Length (km)	Minimum Dip (degrees)	Mag. (90th fractile)	Maximum Length (km)	Minimum Dip (degrees)	Mag.*
Shoreline	23	90	6.5	45	90	6.7
Hosgri	110	80	7.1	171	75	7.3
Los Osos	36	45	6.8	36	55	6.7
San Luis Bay	16	50	6.3	16	50	6.4

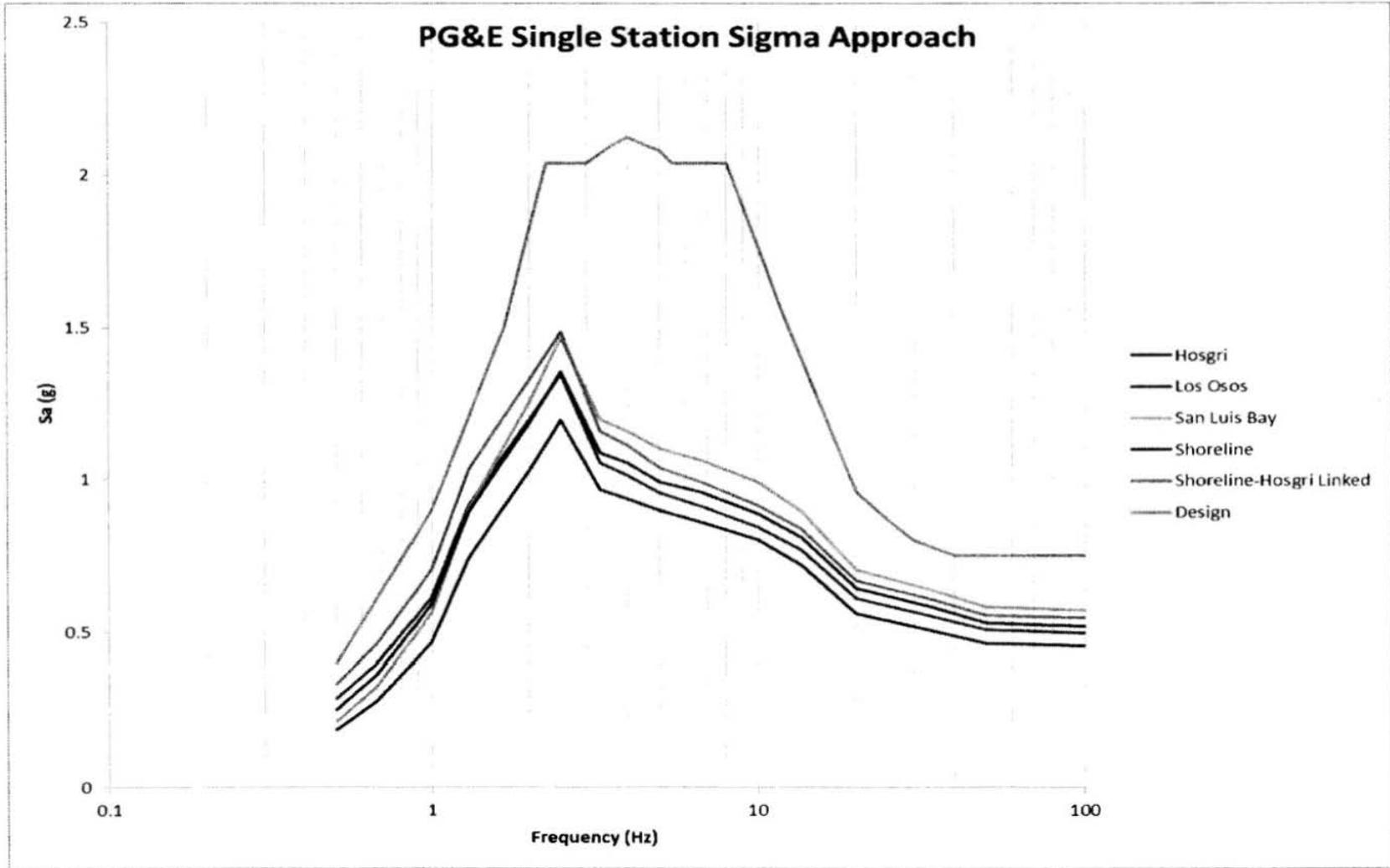
- Report provided to CA and NRC on September 10, 2014

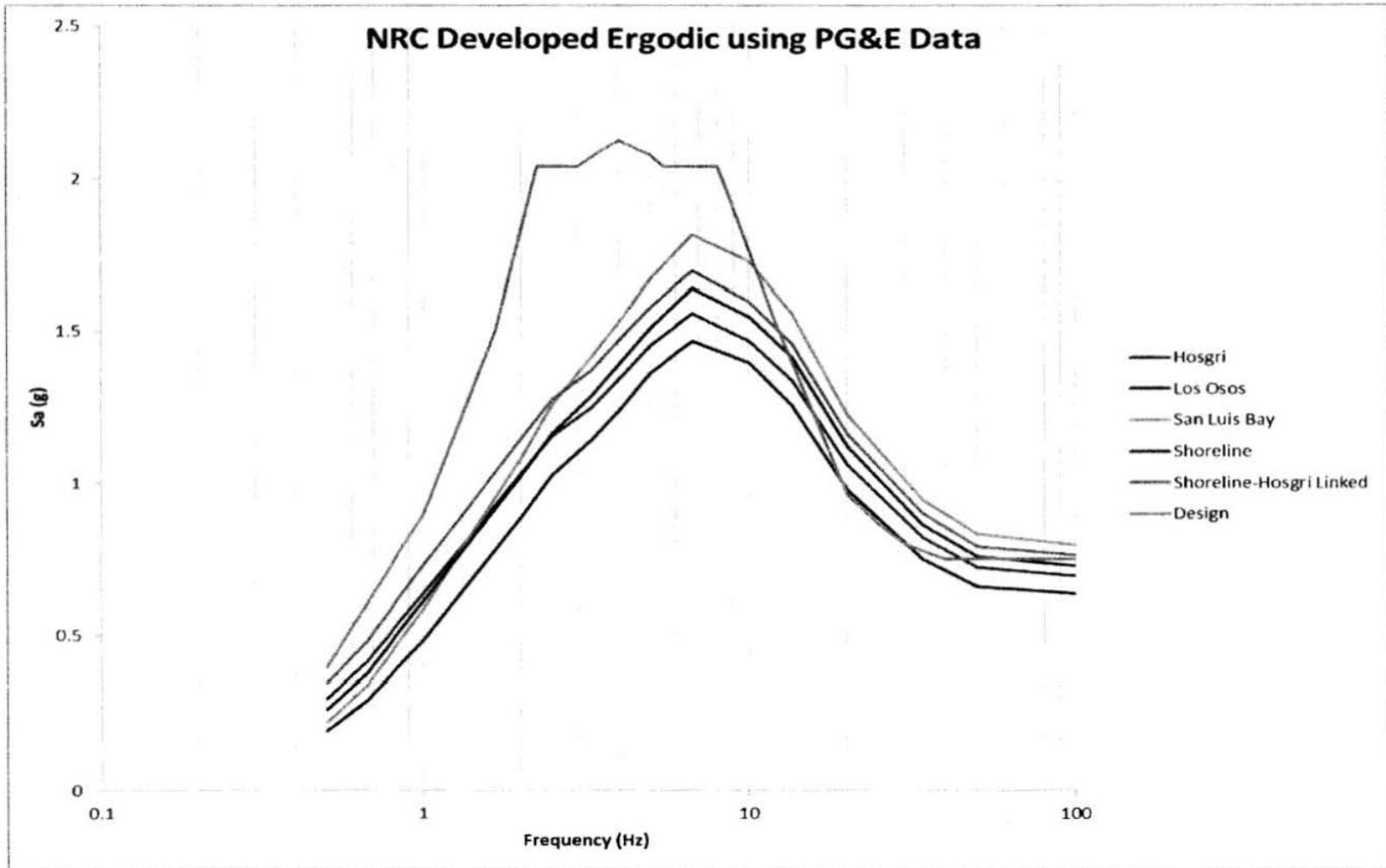
## **NRC Responses/Actions**

- Approach – determine if PG&E operability determination is reasonable and there is no reason to deviate from 50.54(f) process
- Develop project plan and communication plan
- Region IV - initiate inspection of licensee's operability assessment (IR-2014-008) – request technical assistance from HQ
- HQ - develop technically defensible position to support inspection
- HQ - draft letter to licensee documenting inspection outcome and outlining next steps
- NRC and State of CA access to seismic report provided by PG&E several days prior to official issuance of report
- NRC initiated review of preliminary PG&E seismic report and developed requests for additional information

## **NRC Responses/Actions (continued)**

- Region led telecons held with licensee to provide requests for additional information and for licensee to communicate requested information
- PG&E provided access to NRC via electronic reading room to review calculations, data, and graphs
- Based on review of the PG&E seismic report and additional information no one believes there is an immediate safety concern
- NRO assessment of PG&E seismic information (single station vs. Ergodic)
- NRO assessment of PG&E damping factors used for determining in-structure responses
- NRR assessment of licensee approach for use in operability determination





## **Current Status**

- PG&E expressed unwillingness to consider Ergodic approach and identify SSCs that may be impacted by HE exceedance
- Insufficient time and resources to investigate PG&E single station sigma approach to develop sufficient confidence level
- NRC expects to see the PG&E single station sigma approach combined with seismic risk information in 50.54(f) response in March 2015
- NRC approach to support operability inspection is to discuss the response spectra provided by the licensee, explain how uncertainty associated in these spectra is treated and conclude that the approach is acceptable for use in an operability determination
- The licensee's approach will be investigated further when it is submitted as part of the March 2015 response to 50.54(f) letter

## Potential Outcomes

1. NRC is able to conclude that licensee's single station sigma approach is acceptable for use in their operability determination
  - NRC letter to licensee documenting results of inspection and continued operability until NRC completes its review of 50.54(f) responses
  - NRC concludes that the results from the new seismic information is insufficient to require deviation from the 50.54(f) process
  
2. NRC is not able to conclude that licensee's single station sigma approach is acceptable for use in their operability determination
  - NRC letter to licensee documenting results of inspection that there is no reasonable assurance of operability
  - NRC concludes that DCPP units must either be shutdown or restricted from returning to operation following refueling outage until NRC approval following review of 50.54(f) responses due in March 2015 and completion of any required actions to ensure safety

## **Next Steps**

- NRR/DE complete review of licensee approach for use in operability determination and provide input/review of writeup to support inspection report
- NRO/DSEA & RES review of writeup
- NRR/DORL consolidate write-up to provide report to Region IV for use in completing IR-2014-008
- NRR provides concurrence on IR-2014-008
- NRC management briefing to gain alignment and concurrence on follow-up actions for licensee
- Region IV complete IR-2014-008 and schedule Exit with licensee
- NRC finalize letter to licensee providing assessment on operability and 50.54(f) process and issue to licensee

## **Decisional Environment**

- FOE Hearing Request – de facto license amendment
- FOIA – release of Sewell Report
- Sen. Markey Questions on 50.59s for SGR at Diablo
- FOE Hearing Request – license renewal LAR
- FOIA – timing of PG&E issuance of seismic report and NRC EDO decision on DPO appeal
- PDR request for release of DCPP FSARU Rev. 21
- Leak of DPO and publication in Press
- IG Report on SONGS 50.59s for SGR
- December 2014 Hearings – Senate & House

**From:** [Sebrosky, Joseph](#)  
**To:** [Wilson, George](#); [Markley, Michael](#); [Oesterle, Eric](#)  
**Subject:** FW: info: rough draft of DCPD seismic evaluation  
**Date:** Tuesday, October 21, 2014 5:50:12 AM  
**Attachments:** [Diablo Canyon operability evaluation 2014 seismic information technical evaluation.docx](#)  
[image001.png](#)

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George, Mike and Eric

The purpose of this email is to ask for help from people who understand seismic margins better than me on whether or not the attached technical evaluation should include references to how SSER 34 confirmatory items were resolved, and the HCLPF values found in PG&E's IPEEE submittal. The references are provided below. Any insights on whether or not this information should also be included would be appreciated – thanks joe

4/17/92 letter

[View ADAMS P8 Properties ML14279A132](#)

Note: ML14279A132 is publicly available in ADAMS.

[Open ADAMS P8 Document \(Forwards Safety Evaluation Closing Out Plant Long-Term Seismic Program. Staff Finds That Confirmatory Item From SSER 34 Has Been Satisfactorily Resolved.\)](#)

I am also not sure if the IPEEE HCLPF values should be included in the discussion. The IPEEE can be found at:

[View ADAMS P8 Properties ML073600371](#)

[Open ADAMS P8 Document \(Diablo Canyon Units 1 & 2, Response to Generic Letter 88-20, Supplement 4, "Individual Plant Examination of External Events for Severe Accident Vulnerabilities."\)](#)

The IPEEE contains HCLPF values for Component and Structures. Below is an example table from the IPEEE

Table 3-8. DCPD Component and Structure Fragility and HCLPF Values

RISKMAN ID	Description	Median Accl.(g)	HCLPF	Beta R	Beta U	Failure Mode and Source of Fragility Value
ZCBLDG	CONTAINMENT BUILDING	9.02	3.68	0.28	0.30	Concrete shell cracking, liner break.
ZBISTR	CONCRETE INTERNAL BIOSTRUCTURE	8.81	2.88	0.20	0.31	Shield wall shear cracks, attached components fail to function, reactor vessel failure and reactor trip failures.
ZINSTR	INTAKE STRUCTURE	8.56	3.23	0.28	0.31	Shear wall fails, intake pumps fail to function.
ZABLDG	AUXILIARY BUILDING	5.78	2.67	0.21	0.28	North-South shear wall fails, attached components fail to function.
ZTBSHR	TURBINE BUILDING SHEAR WALL	4.87	1.84	0.26	0.33	Shear wall at column 31 fails, 4kV switchgear fails to function, bracing strut fails, electrical panels fail to function.
ZRWSTK	REFUELING WATER STORAGE TANK	8.54	3.37	0.28	0.34	Failure of tank integrity, loss of contents.
ZASPP	AUXILIARY SALTWATER PIPING	9.23	4.54	0.22	0.21	Pipe rupture, loss of contents.
ZRXPRV	REACTOR PRESSURE VESSEL	8.71	3.36	0.25	0.33	Line break, loss of coolant, excessive LOCA.
ZRXINT	REACTOR INTERNALS	11.42	4.04	0.40	0.23	Failure of reactor trip and of core cooling geometry.
ZSTMGN	STEAM GENERATOR	7.20	2.83	0.31	0.30	Main steam and other line breaks, excessive LOCA.
ZPORVL	POWER OPERATED RELIEF VALVES	7.82	2.32	0.30	0.42	Fails as is, binding.
ZRCMP	REACTOR COOLANT PUMPS	8.82	2.83	0.37	0.32	Excessive seal leak, small LOCA.
ZRHPP	RHR PUMPS	8.31	3.36	0.33	0.22	Failure to function, line break.
ZRHRX	RHR HEAT EXCHANGERS	8.09	3.48	0.24	0.27	Intake and discharge line ruptures.
ZCCWPP	CCW PUMPS	8.53	3.74	0.28	0.21	Loss of pump function (not a line break).
ZCCWHX	CCW HEAT EXCHANGERS	6.31	2.56	0.27	0.28	Line break, loss of CCW and auxiliary saltwater.
ZCCWTK	CCW SURGE TANK	6.83	2.76	0.33	0.22	Loss of surge tank and possibly surge line low pressure leak.
ZCSPP	CONTAINMENT SPRAY PUMPS	6.00	2.46	0.28	0.26	Line break, loss of contents.
ZSPATK	SPRAY ADDITIVE TANK	6.78	3.07	0.30	0.18	Loss of contents and one pump.
ZSDPMP	APV PUMPS (STEAM DRIVEN)	7.31	3.38	0.28	0.21	Line break, loss of contents.
ZDGFPM	DG FUEL OIL PUMPS/FILTERS	8.33	3.66	0.27	0.23	Line break, loss of contents.
ZDSLGN	DIESEL GENERATORS	7.78	3.66	0.28	0.20	Failure to function.
ZDGRWP	DG RADIATOR/WATER PUMPS	8.78	3.68	0.28	0.24	Line break, loss of cooling, failing diesel.
ZDGEXC	DG EXCITATION CUBICAL	7.4	2.57	0.28	0.36	Failure to function.
ZDGCN	DG CONTROL PANEL	4.66	2.24	0.30	0.13	Failure to function.

**From:** Sebrosky, Joseph  
**Sent:** Monday, October 20, 2014 8:55 PM  
**To:** Oesterle, Eric; Wilson, George; Markley, Michael  
**Subject:** info: rough draft of DCPD seismic evaluation

George, Mike, and Eric,

Attached is a very rough draft of the Technical Evaluation of the 2014 California Coastal Commission Seismic Imaging Project for DCPD Units 1 and 2. It is a very rough draft which Eric and I intend to develop further in the morning. We hope to have a more refined product to you by 9:00 am.

Please let me know if you have any questions on the approach.

Thanks,

Joe

TECHNICAL EVALUATION REPORT BY THE OFFICES OF NEW REACTORS,  
RESEARCH, AND NUCLEAR REACTOR REGULATION  
CENTRAL COASTAL CALIFORNIA SEISMIC IMAGING PROJECT  
PACIFIC GAS AND ELECTRIC COMPANY  
DIABLO CANYON POWER PLANT, UNITS 1 AND 2  
October 20, 2014, 6:00 pm version

## 1.0 INTRODUCTION

### 1.1 Purpose

This evaluation provides the results of the U.S. Nuclear Regulatory Commission (NRC) staff's assessment of the new seismic hazards information developed by Pacific Gas and Electric Company (PG&E, the licensee) for the Diablo Canyon Power Plant, Units 1 and 2 (DCPP) and provided to the NRC in PG&E letter dated September 10, 2014, "Central Coastal California Seismic Imaging Project, Shoreline Fault Commitment"(Reference 1). The staffs from the NRC's Office of New Reactors (NRO), Office of Research (RES), Region IV, and Office of Nuclear Reactor Regulation (NRR) evaluated the information provided in the licensee's September 10, 2014, letter. In addition, this evaluation provides the results of the NRC's review of PG&E's operability determination found in PG&E Notification 50652361, "Preliminary new seismic information," completed on August 21, 2014, (Reference 2) against NRC guidance found in NRC Inspection Manual Chapter (IMC) 0326, "Operability Determination and Functionality Assessments for Conditions Adverse to Quality or Safety," dated January 31, 2014 (Reference 3) to determine what affect, if any, the new seismic information has on the capability of seismically qualified systems, structures, and components (SSCs) to perform their specified safety functions.

### 1.2 Background

Pursuant to Title 10 of the *Code of Federal Regulations*, Part 50 (10 CFR), Section 50.54(f), and by letter dated March 12, 2012, (Reference 4) the NRC requested information concerning, in part, the seismic and flooding hazards at operating reactor sites to enable the NRC staff to determine whether operating licenses should be modified, suspended, or revoked. The "Required Response" section of Enclosure 1 to the letter indicated that licensees should provide a Seismic Hazard Evaluation and Screening report within 3 years for western United States (WUS) plants. The process outlined in the March 12, 2012, request for information related to seismic hazards was also discussed in NRC letters dated October 12, 2012, (Reference 5) and February 20, 2014 (Reference 6). The October 12, 2012, letter, specifically discusses NRC's review of the Shoreline fault near DCPP, and places the NRC's review of the Shoreline fault into context with the process for developing and assessing seismic information found in the March 12, 2012, request for information. The October 12, 2012, letter states in part:

The NRC staff understands that the seismic evaluations described in the March 12, 2012, request for information are currently in progress at DCPP, and PG&E plans to acquire new offshore and onshore two-and three-dimensional seismic reflection data to identify and characterize faults in the vicinity of DCPP. If during the collection of the data, new faults are discovered or information is uncovered that would suggest the Shoreline fault is more capable than currently believed, the staff expects that the licensee will provide the NRC with an interim evaluation that describes actions taken or planned to address the higher seismic

hazard relative to the design basis, as appropriate, prior to completion of the evaluations requested in the NRC staff's March 12, 2012, request for information.

California Assembly Bill (CAB) 1632 (Blakeslee, Chapter 722, Statutes of 2006) (Reference 7) directed the California Energy Commission to assess the potential vulnerability of California's largest base-load power plants, including Diablo Canyon Power Plant, to a major disruption caused by a seismic event or plant aging; to assess the impacts of such a disruption on system reliability, public, safety, and the economy; to assess the costs and impacts from nuclear waste accumulating at these plants; and to evaluate other major issues related to the future role of these plants in the state's energy portfolio.

Based on the California Assembly Bill, the California Energy Commission compiled a report in 2008 (Reference 8) that included the recommendation that PG&E perform additional seismic studies to supplement the original and ongoing seismic studies performed as part of the licensee's Long Term Seismic Program (LTSP), and that those studies be conducted using advanced technologies such as three-dimensional (3D) seismic-reflection mapping. During 2011 through 2014, the licensee conducted the recommended studies and further data analysis, and compiled the report entitled, "Central Coastal California Seismic Imaging Project" (CCCSIP) and provided this report to the NRC via letter dated September 10, 2014. Following internal completion of the CCCSIP Report, the licensee performed an operability determination documented in Notification 50652361 completed on August 21, 2014 (Reference 2) based on the report and its data.

PG&E's September 10, 2014, letter transmitting the report provides an interim evaluation consistent with the guidance found in the NRC's October 12, 2012, letter. PG&E's letter states in part:

The additional offshore seismic studies revealed that the Shoreline fault is longer by extending farther south than in the Shoreline fault report, and therefore, more capable as described in the enclosure. PG&E concluded that the ground motions from updated shoreline fault and other regional faults remain less than the 1977 Hosgri design ground motions, for which the plant was evaluated and demonstrated to have reasonable assurance of safety. This interim evaluation is consistent with the conclusions of the Research Information Letter 12-01, "Confirmatory Analysis of Seismic Hazard at the Diablo Canyon Power Plant from the Shoreline Fault Zone," dated September 2012 [Reference 9].

PG&E's September 10, 2014, states that the CCCSIP will support the NRC-mandated seismic hazard risk assessment for the DCPD that is being performed in accordance with the March 12, 2012, request for information (Reference 4). PG&E will use the Senior Seismic Hazard Analysis Committee (SSHAC) process to incorporate and evaluate existing and new seismic information to update the seismic hazard for DCPD. The DCPD seismic hazard based on the SSHAC process is due to the NRC in March 2015.

The staff's previous assessment of the Shoreline Fault found in RIL 12-01 was based on a deterministic approach. As described in RIL 12-01 the conservative deterministic (scenario-based) viewpoint was intended to allow the NRC staff to determine if a safety concern exists as a result of the identification of the Shoreline fault. By their nature, deterministic approaches do not explicitly account for the likelihood of a particular earthquake scenario occurring, or the rate at which earthquakes can occur on known seismic sources. Therefore, deterministic results

cannot be used for a quantitative assessment of the overall risk to the plant from the Shoreline fault. Instead, deterministic approaches focus only on the safety margin that exists for a specific earthquake scenario, in this case for the Shoreline fault.

The response to the March 12, 2012, request for information is based on a probabilistic seismic hazard assessment (PSHA) approach. As described above PG&E is scheduled to provide a detailed PSHA by March 2015. The results of the PSHA which will strengthen the understanding of the relative importance of the Shoreline fault and other faults evaluated in the CCCSIP to the seismic hazard at this site.

## 2.0 REGULATORY ANALYSIS

Because the detailed PSHA is due shortly to the NRC (i.e., March 2015), the NRC staff's evaluation is limited to reviewing PG&E's deterministic evaluation that is provided in the CCCSIP. The NRC staff's evaluation takes advantage of insights gained from the development of RIL 12-01, but does not update the RIL. Instead, the staff's evaluation relies on the new information found in PG&E's September 10, 2014, submittal and PG&E's operability determination regarding the following fault scenarios:

- Hosgri and San Simeon faults (the step-over between the Hosgri and San Simeon is small enough that the two faults are assumed to rupture together with an assumed magnitude of 7.3)
- Los Osos fault (assumed magnitude of 6.7)
- San Luis Bay fault (assumed magnitude 6.4)
- Shoreline fault (assumed magnitude of 6.7)
- Hosgri, San Simeon and Shoreline linked fault sensitivity study (assumed magnitude 7.3)

The purpose of the NRC staff's evaluation is to determine if a safety concern or operability concern exists as a result of the new information provided in PG&E's September 10, 2014 CCCSIP report. A more thorough review of the seismic faults around DCPD will be completed by the staff in the future based on PG&E's PSHA to be provided by March of 2015.

In performing its evaluation the NRC staff also reviewed how a recent Differing Professional Opinion (DPO) was resolved. The resolution of the DPO-2013-002, "Diablo Canyon Seismic Issues" is documented in a case file (Reference 10) that includes the following information:

- DPO Submittal
- Memo from NRR Office Director Establishing the DPO panel
- DPO Panel Report
- DPO Decision
- DPO Appeal Submittal
- NRR Office Director's Statement of Views
- DPO Submitter's Appeal Presentation to OEDO
- DPO Appeal Decision

### 3.0 EVALUATION

#### 3.1 Method of Review

The NRC staff's review is broken into three parts:

- The NRC's deterministic evaluation of the faults described in the 2014 CCCSIP report
- An update to the DPO assessment based on the information in the 2014 CCCSIP
- An assessment of the results of the NRC staff's deterministic evaluation regarding safety and operability of DCPD SSCs based on ergodic treatment of uncertainties.

#### 3.2 NRC Staff's Deterministic Evaluation of the Faults Described in the 2014 CCCSIP Report

##### Summary of PG&E Information

Chapter 13 of the CCCSIP, "Hazard Sensitivity and Impact Evaluation," provides a discussion of the differences between the deterministic evaluation provided in PG&E's 2011 Shoreline Fault Zone Report (Reference 11) and the 2014 CCCSIP studies. RIL 12-01 is based in large part on PG&E's 2011 Shoreline Fault Zone Report. CCCSIP Chapter 13 Table 1-1 which compares the source characterization for the deterministic ground motion evaluation is reproduced below.

Fault	2011 Shoreline Report			Updated Parameters		
	Maximum Length (km)	Minimum Dip (degrees)	Mag. (90th fractile)	Maximum Length (km)	Minimum Dip (degrees)	Mag.*
Shoreline	23	90	6.5	45	90	6.7
Hosgri	110	80	7.1	171	75	7.3
Los Osos	36	45	6.8	36	55	6.7
San Luis Bay	16	50	6.3	16	50	6.4

PG&E describes in CCCSIP Chapter 13 that the Shoreline fault was found to extend an additional 22 km to the south thereby increasing the fault length from 23 km used in the 2011 Shoreline Fault Zone Report to 45 km. With this increased length the magnitude of the Shoreline fault increased from 6.5 to 6.7.

For the Hosgri fault, PG&E describes in the CCCSIP Chapter 13 that the length of the combined Hosgri and San Simeon faults, 171 km, was defined using the Hosgri fault length from the U.S. Geological Survey (Petersen et al., 2008, Table I-3) which treated the San Simeon and Hosgri faults as a single fault called the Hosgri fault. This increased length leads to a magnitude of 7.3.

PG&E describes in CCCSIP Chapter 13 that studies for the Los Osos fault found that the minimum dip consistent with the newly collected data is 55 degrees, as compared to

a minimum dip of 45 degrees used in the 2011 Shoreline Fault Zone Report. The steeper dip leads to a smaller fault area, and the magnitude is reduced from 6.8 to 6.7.

The CCCSIP studies did not provide new information for the San Luis Bay fault length or dip. Using the length and dip from the 2011 Shoreline Fault Zone Report leads to a magnitude of 6.4. The increase from the 2011 magnitude of 6.3 results from using the bounding length and dip rather than the full logic tree to define the rupture area.

PG&E also describes in CCCSIP Chapter 13 that for the Shoreline fault rupture developed in the 2011 Shoreline Fault Zone Report the Shoreline fault was assumed to intersect with the Hosgri fault, but a linked rupture involving the full Shoreline fault and the full Hosgri fault was not included because the geometry of the two faults was unfavorable to allow such a rupture. PG&E states that the new information collected on the geometry of the Shoreline and Hosgri faults shows that within a resolution of a few hundred meters, the two faults intersect. This new information indicates that the fault may rupture together, but it does not change the unfavorable geometries for a linked rupture. Nevertheless, PG&E performed a sensitivity analysis assuming that the full Shoreline fault rupture is linked to a rupture of the Hosgri fault, extending north to the end of the San Simeon fault.

PG&E's CCCSIP Chapter 13 assesses the new information described above using a new ground-motion prediction equation (GMPE) as part of the Pacific Earthquake Engineering Research (PEER) Center's Next Generation Attenuation (NGA) West2 project. These GMPEs are different than the NGA West GMPEs used in the 2011 Shoreline Fault Zone Report (Note: need something from NRO regarding assessment of new GMPEs)

Figure 1 of this evaluation provides a plot of the deterministic response spectrum using the source characteristics of various faults and the NGA West2 GMPEs for the power block (Note: need to confirm if these NRC generated plots are for the power block or the turbine foundations)

PG&E concludes in the CCCSIP report and reiterates in the September 10, 2014, cover letter transmitting the report that the ground motions from the updated shoreline fault and other regional faults remain less than the 1977 Hosgri Design ground motions for which the plant was evaluated and demonstrated to have reasonable assurance of safety.

### NRC Evaluation

#### Diablo Canyon Licensing Basis

In 1968, when the DCP Unit 1 Construction Permit was issued to Pacific Gas and Electric (PG&E), the seismic evaluation had been completed under the Atomic Energy Commission's requirements. Based on the information available at the time, the design earthquake (DE) was defined as having a peak ground acceleration of 0.2 g, and the double design earthquake (DDE) was a doubling of the DE earthquake to ensure safety-related structures, systems, and components would function as expected after the earthquake, 0.4 g. In 1973, PG&E became aware of the Hosgri fault. PG&E evaluated the Hosgri fault using Regulatory Guide 1.61, "Damping Values for Seismic Design of Nuclear Power Plants," October 1973 (Reference 12). Though not included in the construction application, NRC reviewed PG&E's evaluation of the Hosgri fault and required PG&E to make plant modifications to be able to withstand the 0.75 g

peak ground acceleration associated with the Hosgri fault. The operating license for Unit 1, issued in 1984, was based on review of the Final Safety Analysis Report Update which included two different seismic methodologies, the DDE and the Hosgri evaluation, as documented in NUREG-0675, "Evaluation Report Related to the Operation of Diablo Canyon Power Plant, Units 1 and 2," Supplement No. 7, dated May 1978 (Reference 13).

#### Deterministic Response Spectrum and Use of Single Station Sigma Correction

In the 2011 Shoreline Fault Report PG&E addressed uncertainty in the GMPE using an ergodic approach (an approach that accounts for both epistemic (model uncertainty) and the aleatory (natural) variability). The 2011 Shoreline Fault Report documented an effort to separate the uncertainty into its component parts, including the uncertainty that comes from the seismic source, the path through which the waves travel in the crust, and the site response. If high-quality data from a modern seismographic network are available, some of the uncertainty for a specific location can be reduced. The single-station-sigma, adjustment has the potential to remove uncertainty in the application of the GMPEs by determining a station term from a set of earthquakes recorded at the site.

The NRC staff noted in RIL 12-01 Section 5.9 that:

*The single-station-sigma adjustment represents advancement in the field of engineering seismology and could be a useful approach in the assessment of seismic hazard at NPPs that install a modern seismographic system, such as that at DCP. The single-station-sigma correction applied by PG&E was developed based on data from two earthquakes. Generally a larger number of earthquakes would be needed to develop confidence in the correction factor.*

This correction was applied by PG&E but was not required for the confirmatory analysis that the NRC conducted as documented in RIL 12-01. The curves found in CCCSIP Chapter 13 found in Figure 1 of this evaluation are based on a single station correction and do not reflect ergodic uncertainty. As a result of questions raised during the inspection of PG&E's operability determination PG&E provided the following information relative to its use of the single-station-sigma correction on September 25, 2014:

- Processed Earthquake Recordings for Onsite Monitor ESTA 27 – 2003 Deer Canyon Earthquake
- Processed Earthquake Recordings for Onsite Monitor ESTA 27 – 2003 San Simeon Earthquake
- Processed Earthquake Recordings for Onsite Monitor ESTA 27 – 2004 Parkfield Earthquake
- Processed Earthquake Recordings for Onsite Monitor ESTA 28 – 2004 Parkfield Earthquake, provided 9/25/2014
- Shear Wave (VS30) Profiles for Power Block – Onsite Monitor ESTA 27
- Shear Wave (VS30) Profiles for Turbine Building – Onsite Monitor ESTA 27

- Shear Wave (VS30) Profiles for Power Block – Onsite Monitor ESTA 28
- Shear Wave (VS30) Profiles for Turbine Building – Onsite Monitor ESTA 28

Using the information provided by PG&E, the NRC staff developed the ergodic curves found in Figure 2 of this document.

The NRC staff concludes that PG&E's characteristics of the faults based on the new information revealed from the 2D and 3D analysis performed in accordance with CAB 1632 is reasonable. The NRC staff also concludes that the use of the NGA West2 GMPE is appropriate for the evaluations performed by PG&E. (Note need more of a basis for this being OK). Therefore, the NRC staff concludes that the DCPD ground motions from the faults evaluated in the CCCSIP 2014 report (i.e., Hosgri-San Simeon, Shoreline, Los Osos, San Luis Bay, and Hosgri-Shoreline linked) using the single-station-sigma treatment of uncertainty are at or below those for the 1977 Hosgri earthquake (HE) ground motion and the long-term seismic program (LTSP) ground motion. The 1977 HE ground motion and the LTSP ground motion are those for which the plant was evaluated previously and demonstrated to have reasonable assurance of safety.

However, the NRC staff notes that based on the NRC staff developed ergodic curves found in Figure 2, below that there are exceedance in the 10 Hz to 100 Hz range for the ground motions from the earthquakes evaluated in the CCCSIP 2014 report. The evaluation of the exceedances in this range can be found in Section 3.4 of this document.

### 3.3 Update of Differing Profession Opinion Assessment Based on the Information in the 2014 CCCSIP Report

#### Summary of PG&E Information

As a result of questions asked during the inspection of PG&E's operability determination, PG&E provided the following calculation:

- Long Term Seismic Program Update Shoreline Fault Zone Studies: Hypothetical Comparison of Damped In-Structure Response Spectra at the Top Surface of the Containment Basemat for the Design Basis Double Design and Hosgri Earthquakes with Postulated Earthquakes on the Shoreline, San Luis Bay, Los Osos, and Linked Hosgri-San Simeon Faults" [PROPRIETARY], Revision 1, dated 09/25/2014 (Reference 14)

#### NRC Staff Evaluation

As stated in the Diablo Canyon NPP Safety Analysis Report Revision 21, Section 2.5.3.9 (Design and Licensing Basis Earthquakes), the Design Earthquake (DE), Double Design Earthquake (DDE), and the Hosgri Evaluation (HE) are design bases earthquakes and the Long-Term Seismic Program is a licensing bases earthquake. Consequently, any new information that is being compared to the Diablo Canyon NPP design basis (e.g., Allen, 2012) must make appropriate comparisons to both the DDE and HE. Both the DDE and HE must be considered because each of these design-basis earthquakes use different methods and assumptions in the design and qualification of seismic Category 1 structures, systems and components (SSCs). The most significant differences are in the amount of damping assumed for the engineering analyses (Table 1). As a result of these different assumptions, the DDE creates maximum loads on some Category 1 SSCs, whereas the HE creates maximum loads

on other Category 1 SSCs (e.g., FSARU Section 5.2.1.15). Neither ground motion creates the bounding demand for all Category 1 SSCs.

The new ground motions in the 2014 California Coastal Commission report are shown for free-field responses with 5% damping. However, as shown in Table 1, a range of different damping values were used in the design basis calculations for Diablo Canyon NPP. In addition, PG&E did not specify what amount of damping would need to be used in comparing the 2014 ground motions with the design-basis ground motions.

Type of SSC	Percentage Damping		
	DDE	HE	2014
Containment structures	5	7	7
Welded structural steel assemblies	1	4	4
Bolted or riveted steel assemblies	2	7	7
Mechanical components	2	4	4
Vital piping systems (except RCL) >12"	0.5	3	3
Vital piping systems (except RCL) <12"	0.5	2	2
Reactor Coolant Loop	1	4	4
Steam Generators	4	4	4
Integrated Head Assembly	6.85	6.85	6.85
Control Rod Drive Mechanisms	5	5	5

In September 2014, NRC staff discussed this issue of ground-motion comparability with PG&E staff, and outlined the need to compare the new ground motions with the seismic design bases for Diablo Canyon NPP. PG&E agreed to provide additional calculations for the 2014 ground motions, so that the results of these analyses would be directly comparable to the inputs used in the Diablo Canyon NPP design bases rather than an alternative metric such as the LTSP.

NRC staff reviewed the additional calculations that were developed by PG&E to allow for direct comparison of potential ground-motions in the 2014 report to the Diablo Canyon NPP seismic design bases. PG&E calculated in-structure acceleration response spectra as the basis for comparison, as these spectra already were available for the DDE and HE from FSARU section 3.7 analyses.

To convert the 2014 ground-motion spectra to in-structure acceleration response spectra, PG&E developed a scaling relationship from the LTSP analyses that compares the calculated free-surface ground motion to an in-structure response spectrum. This scaling relationship accounts for the effects of processes such as soil-structure interaction and the presence of building foundations. PG&E applied this scaling factor to the 2014 ground-motion spectra to calculate in-structure response spectra for 5% damping. To account for the different damping values used to analyze the seismic performance of different SSCs, PG&E used analytical methods in Rezaeian et al. (2012) to develop scaling factors. PG&E applied these scaling factors to the 5% damped in-structure response spectra for the 2014 ground motions, to develop response spectra for the different damping values shown in Table 1.

Based on these calculations, the NRC staff verified that the in-structure response spectra for the reanalyzed 2014 ground motions (single station) were all lower than the DDE+HE response spectrum. As a result, the NRC staff concludes that ground motions from the 2014 report have been compared reasonably with the Diablo Canyon NPP design basis, and that these re-

analyzed ground motions do not exceed the demands already considered in the design and qualification of seismic Category 1 SSCs.

### 3.4 An Assessment of the Results of the NRC Staff's Deterministic Evaluation Regarding Safety And Operability of DCPD SSCs Based on Ergodic Treatment of Uncertainties

#### NRC Staff Evaluation

As stated above PG&E's 2014 CCCSIP report included an evaluation of the ground motion response spectrum compared to the 1977 HE ground motion based on the single-station-sigma approach. While the staff concludes that the single-station-sigma approach has its benefits, the staff nevertheless also developed on its own the ground motion response spectrums for the faults that were analyzed in the 2014 CCCSIP report using the more traditional treatment of uncertainties using the ergodic approach. The ground motion response curves for the various fault scenarios based on the ergodic approach can be found in Figure 2 of this document.

#### Ground Motion Response Spectra Below 10 Hz

The staff notes that the ergodic curves for the faults analyzed in the 2014 CCCSIP are below those for the 1977 HE ground motion and the long-term seismic program (LTSP) ground motion. The 1977 HE ground motion and the LTSP ground motion are those for which the plant was evaluated previously and demonstrated to have reasonable assurance of safety.

#### Ground Motion Response Spectra Greater than 10 Hz

PG&E's letter dated October 11, 2011, "Evaluation Process for New Seismic Information and Clarifying the Diablo Canyon Power Plant Safe Shutdown Earthquake," (Reference 18) includes as part of the application Chapter 6 of the 1988 Long Term Seismic Program Final Report. Although the October 11, 2011, license amendment application was withdrawn the NRC staff finds the information that is duplicated from Chapter 6 of the 1988 Long Term Seismic Program instructive because it contains a probabilistic risk assessment to determine the adequacy of seismic margins. The NRC staff assessment of the LTSP including the seismic margins can be found in NUREG-0675 Supp 34, "Safety Evaluation Report Related to Operation of Diablo Canyon, Units 1 & 2," (Reference 19).

The 1988 LTSP Chapter 6 Table 6-24 included high confidence of low probability of failure (HCLPF) data for various SSCs. The HCLPF capacity is defined as a 95 percent confidence of less than 5 percent probability of failure. The 1988 LTSP Chapter 6 Tables 6-23 and 6-24 that included HCLPF values for structures and SSCs. Tables 6-23 and Table 6-24 are repeated at the end of this evaluation for ease of reference.

PG&E October 11, 2011, submittal provides a discussion of the changes to the seismic margins since the 1988 LTSP report. This included an evaluation of the seismic margins associated with the integrated head assembly (IHA). The IHAs were installed in Units 1 and 2 during refueling outage nos. 2R15 and 1R16, respectively. The IHAs are classified as new components which could impact the seismic margins of existing safety-related structures, since they are attached to the reactor vessel closure heads and provide support to the control rod drive mechanisms (CRDMs), small bore piping, instrumentation, and cables. PG&E calculated the HCLPF capacity associated with the limiting element of the CRDMs lateral support function of the IHAs, developed based on the deterministic failure margins method is 2.40 g

The staff notes that the HCLPF values for SSCs are above the ground motion response spectrum the NRC staff calculated using the ergodic treatment of uncertainties. (Need to assess the 230 kV switchyard). In general the staff also notes that components that are susceptible to failure at higher frequencies (i.e., greater than 20 Hz) have been the subject of recent testing. The preliminary test results indicate that these components are more robust than originally thought. The testing is documented in a report dated September 15, 2014, by the Electric Power Research Institute, titled, "High Frequency Program: High Frequency Testing Summary," (Reference 20).

Based on the HCLPF values for DCPD SSCs and the preliminary results of the EPRI testing, the staff concludes that the exceedances of the ground motion response spectras for the faults analyzed in the 2014 CCCSIP using the ergodic treatment of uncertainties does not cause the staff to believe that there is a safety concern that would require PG&E to deviate from its current course of action to evaluate the faults using the PSHA method described in the March 12, 2012, request for information. In addition, the staff concludes that based on the HCLPF values for DCPD SSCs and the preliminary results of the EPRI testing, the staff does not have a basis to conclude that any SSCs at DCPD are inoperable.

Note: does the high frequency ergodic exceedances need to be addressed in DPO section

#### 4.0 CONCLUSION

The NRC staff reviewed the new seismic information found in PG&E's 2014 CCCSIP report and PG&E's operability determination and concludes that there is not a safety concern that would require PG&E to deviate from its current course of action to evaluate the faults around DCPD using the PSHA method described in the NRC staff's March 12, 2012, request for information. In addition, the staff reviewed PG&E's operability determination and the NRC staff concludes that there is not a basis for declaring any DCPD SSC inoperable based on the information found in the 2014 CCCSIP report. The staff also evaluated the information in the 2014 CCCSIP report to determine if a change to the recommendations associated with DPO 2013-002, "Diablo Seismic Issues," should be revisited and has determined that a change to recommendation associated with this DPO are not necessary.

#### 5.0 REFERENCES

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2. Pacific Gas and Electric, Notification 50652361, "Preliminary new seismic information," completed on August 21, 2014,
3. U.S. Nuclear Regulatory Commission, Inspection Manual Chapter, "Operability Determination and Functionality Assessments for Conditions Adverse to Quality or Safety," dated January 31, 2014, (ADAMS Accession No. ML13274A578)
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  12. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.61, "Damping Values for Seismic Design of Nuclear Power Plants," October 1973
  13. U.S. Nuclear Regulatory Commission, NUREG-0675, "Evaluation Report Related to the Operation of Diablo Canyon Power Plant, Units 1 and 2," Supplement No. 7, dated May 1978 (ADAMS Accession No. ML14279A129)
  14. Pacific Gas and Electric, "Long Term Seismic Program Update Shoreline Fault Zone Studies: Hypothetical Comparison of Damped In-Structure Response Spectra at the Top Surface of the Containment Basemat for the Design Basis Double Design and Hosgri Earthquakes with Postulated Earthquakes on the Shoreline, San Luis Bay, Los Osos, and Linked Hosgri-San Simeon Faults" [PROPRIETARY], Revision 1, dated 09/25/2014
  15. Allen, B.S., Pacific Gas and Electric Co., letter to Nuclear Regulatory Commission, "Withdrawal of License Amendment Request 11-05," October 2012. (ADAMS Accession No. ML12300A105)

16. Diablo Canyon Power Plant Units 1 & 2 FSAR Update, Revision 21, September 2013 (ADAMS Accession No. ML13280A390)
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Table 6-23

## DIABLO CANYON STRUCTURE FRAGILITIES

(Based on hazard defined over 3 to 8.5 hertz range.)

Structure	Fundamental Frequency Hertz	Failure Mode	Spectral Acceleration Capacity			
			$\frac{v}{s_a}$ (g)	$\beta_R$	$\beta_U$	HCLPF (g)
Containment Building	4.1	Exterior Shell Shear	8.42	0.26	0.30	3.34
Concrete Internal Structure	8.9	Internal Structure Shear	6.91	0.20	0.31	2.98
Intake Structure	23.3	North Wall Shear	8.55	0.28	0.31	3.23
Auxiliary Building	8.2	North/South Shearwalls	5.79	0.21	0.26	2.66
Turbine Building	8.6	Shear Wall, Column 31	4.87	0.26	0.33	1.84
	9.0	Block Wall	>10.0	—	—	—
Refueling Water Storage Tank	7.6	Concrete/Bedrock Flexure	9.92	0.29	0.36	3.40
Condensate Storage Tank	—	Comparison to RWST	>10.0	—	—	—
DG Fuel-Oil Storage Tank	Buried	Rupture	>10.0	—	—	—
Auxiliary Saltwater Piping	Buried	Rupture	9.23	0.18	0.21	4.85

**Table 6-24**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\frac{V}{S_a}(g)$	$\beta_R$	$\beta_U$	HCLPF (g)
<b>NUCLEAR STEAM SUPPLY</b>									
Reactor Pressure Vessel	Containment - (107')	12-14 Hz (H)	Dynamic Analysis	Support Pin Shear	W Summary Data	8.71	0.25	0.33	3.34
Reactor Internals	Containment - (107')	16-20 Hz (V)	Dynamic Analysis	Lower Core Plate	W Summary Data	10.54	0.40	0.26	3.55
Steam Generators	Containment - (140')	9 Hz (H)	Dynamic Analysis	Upper Lateral Support	W Summary Data	6.96	0.31	0.29	2.55
Pressurizer	Containment - (140')	15 Hz (H)	Dynamic Analysis	Seismic Support Lug	W Summary Data	11.46	0.31	0.44	3.33
Pressurizer Safety Valves	Containment - (169')	Flexible Piping	Static Analysis/Test	Generic Function	M397, M401	>10.0	-	-	-
Power Operated Relief Valves	Containment - (169')	Flexible Piping	Static Analysis/Test	Generic Function	M397, M401	7.62	0.30	0.42	2.32
Reactor Coolant Pumps	Containment - (114')	7 Hz (H)	Dynamic Analysis	Lower Motor Stand	M355, M428, M429	8.83	0.37	0.32	2.83
Control Rod Drives	Containment - (140')	7-10 Hz (H)	Dynamic Analysis	Head Adapter Yield	W Summary Data	11.71	0.41	0.34	3.40
NSSS Piping	Containment - (140')	7-9 Hz (H&V)	Dynamic Analysis	Rupture	W Summary Data	>10.0	-	-	-
<b>RESIDUAL HEAT REMOVAL</b>									
RHR Pumps	Auxiliary (58')	Flexible Piping	Dynamic Analysis	Pump Hold Down Bolts	W Summary Data	8.31	0.33	0.22	3.35
RHR Heat Exchangers	Auxiliary (100')	12 Hz (H)	Static Analysis	Anchor Bolts & Upper Lateral Support	W Summary Data, M462, M474	8.09	0.24	0.27	3.48
<b>SAFETY INJECTION</b>									
SI Accumulators	Containment (91')	23-34 Hz (H)	Static Analysis	Anchor Studs	W Summary Data, M316	10.01	0.29	0.19	4.53
SI Pumps	Auxiliary (85')	>33 Hz (H)	Static Analysis	Pump Hold Down Bolts	W Summary Data	10.94	0.34	0.18	4.64
Boron Injection Tank	Auxiliary (73')	15-17 Hz (H)	Static Analysis	Anchor Bolts	W Summary Data	8.46	0.27	0.19	3.96
<b>COMPONENT COOLING WATER</b>									
CCW Pumps	Auxiliary (73')	Flexible Piping	Static Analysis	Pump Hold Down Bolts	M006, M007, M318	8.53	0.29	0.21	3.74
CCW Heat Exchangers	Turbine (85')	13 Hz (H)	Dynamic Analysis	Longitudinal Strut Bolts	M008, M336, M475	6.31	0.27	0.28	2.55
CCW Surge Tank	Auxiliary (163')	32 Hz (H)	Static Analysis	Seismic Lateral Brace	M319	7.22	0.33	0.22	2.91
<b>CHEMICAL AND VOLUME CONTROL</b>									
Charging Pumps (centrifugal)	Auxiliary (73')	>33 Hz (H)	Static Analysis	Motor Hold Down Bolts	W Summary Data	10.16	0.31	0.19	4.45
Charging Pumps (reciproc)	Auxiliary (73')	>33 Hz (H)	Static Analysis	Pump Hold Down Bolts	W Summary Data	>10.0	-	-	-
<b>AUXILIARY SALTWATER</b>									
Auxiliary Saltwater Pumps	Intake (2'-2")	43 Hz (H)	Static Analysis	Pump Mounting Bolts	M009	>10.0	-	-	-
<b>CONTAINMENT SPRAY</b>									
CS Pumps	Auxiliary (73')	>33 Hz (H)	Static Analysis	Foundation Bolts	W Summary Data	8.65	0.29	0.20	3.85
Spray Additive Tank	Auxiliary (73')	24 Hz (H)	Static Analysis	Support Pad/Shell	W Summary Data	6.78	0.30	0.18	3.07

Table 6-24 (Continued)  
DIABLO CANYON EQUIPMENT FRAGILITIES  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\frac{V}{S_d}(g)$	$\beta_R$	$\beta_U$	HCLPF (g)
<b>MAIN STEAM</b>									
MS Isolation Valves	Outside Containment (127')	Flexible Piping	Dynamic Analysis/Test	Actuator Support	M067, M463, M469	>10.0	-	-	-
MS Safety Valves	Auxiliary (140')	Flexible Piping	Dynamic Analysis/Test	Generic Function	M397	>10.0	-	-	-
MS PORV'S	Auxiliary (140')	Flexible Piping	Dynamic Analysis/Test	Generic Function	M397	11.51	0.34	0.38	3.51
<b>AUXILIARY FEEDWATER</b>									
AFW Pumps (Motor Driven)	Auxiliary (100')	42 Hz (H)	Static Analysis	Pump Hold Down Bolts	M320A	>10.0	-	-	-
AFW Pumps (Turbine Driven)	Auxiliary (100')	43 Hz (H)	Static Analysis	Pump Hold Down Bolts	M320, M321	7.71	0.29	0.21	3.38
<b>DIESEL GENERATOR</b>									
D.G. Fuel Oil Day Tank	Turbine (85')	10 Hz (V)	Static Analysis	Bottom Plate Rupture	M323	>10.0	-	-	-
D.G. Fuel Oil Pumps/Filters	Underground Vault (77')	Flexible Piping	Static Analysis	Filter Anchor Bolts	M324, M326	8.33	0.27	0.23	3.65
D.G. Fuel Oil Shutoff Valve	Underground Vault (77')	Flexible Piping	None	Possible Link	Data Base	>10.0	-	-	-
D.G. Air Start Compressor	Turbine (85')	>33 Hz (H)	Generic Anchorage Analysis	Hold Down Bolts	M323	>10.0	-	-	-
D.G. Air Start Receiver	Turbine (85')	26 Hz (H)	Dynamic Analysis	Hold Down Bolts	M329	>10.0	-	-	-
Diesel Generators	Turbine (85')	17 Hz (H)	Dynamic Analysis	Skid Anchor Bolts	M423-M426	7.79	0.26	0.20	3.64
D.G. Radiator/Water Pump	Turbine (85')	17 Hz (H)	Dynamic Analysis	Anchor Bolting	M323	8.78	0.29	0.24	3.66
D.G. Inlet Silencer/Air Filter	Turbine (104')	Flexible Piping	Dynamic Analysis	Filter Support Rod Weld	M271, M449	>10.0	-	-	-
D.G. Excitation Cubical	Turbine (85')	13 Hz (H)	Test	Structural	M346, M364	7.40	0.29	0.35	2.57
D.G. Control Panel	Turbine (85')	8 Hz (H)	Test	Chatter	M347, M364, M464, M482	7.77	0.25	0.14	4.08
D.G. Main Lead Terminal/Box	Turbine (85')	10 Hz (H)	Test Static Analysis	Structural Attachment-Fillet Weld	M348	4.55 >10.0	0.30	0.13	2.24
<b>CONTAINMENT BUILDING VENTILATION</b>									
Containment Fan Cooler	Containment (140')	23 Hz (H)	Dynamic Analysis	Foot Plate/Embed. Weld	M399, M499, M420, M421, M448	8.10	0.31	0.33	2.82
<b>CONTROL ROOM VENTILATION</b>									
Supply Fans	Auxiliary (154'-6")	>33 Hz (H)	Static Analysis	Support Bolting	M056	9.79	0.33	0.24	3.82
AC Units/Compressors	Auxiliary (154'-6")	>33 Hz (H)	Static Analysis	Anchor Bolt	M288, M312	>10.0	-	-	-
Control Cabinets	Auxiliary (157')	21 Hz (H)	Test	Structural	M455	>10.0	-	-	-
<b>480V SWITCHGEAR/INVENTER/DC SWITCHGEAR/SPREADING ROOM VENTILATION</b>									
Supply/Return Fans	Auxiliary (163')	>33 Hz (H)	Static Analysis	Expansion Anchor	M310	11.16	0.33	0.30	3.95
Backdraft and Shut-Off Dampers	Auxiliary (163')	>33 Hz (H)	Static Analysis	Structural	M388	>10.0	-	-	-

**Table 6-24 (Continued)**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\gamma$ $S_a$ (g)	$\beta_R$	$\beta_{TJ}$	HCLPF (g)
<b>4160V (VITAL) ELECTRIC POWER</b>									
Switchgear	Turbine (119')	7 Hz (H)	Test Static Analysis	Chatter Guide Rod Bending	M049, M315, M356, M373, M377-380, M482	5.53 7.44	0.35 0.31	0.25 0.25	1.31 2.95
Potential Transformers (Bus F)	Turbine (119')	21 Hz (H)	Static Analysis	Support Leg/Embed. Weld	M049, M375, M416, M450	10.83	0.31	0.38	3.47
(Bus G & H)	Turbine (119')	35 Hz (H)	Static Analysis	Support Leg/Embed. Weld	M049, M375, M416, M450	>10.0	-	-	-
Safeguard Relay Panel	Turbine (119')	11 Hz (H)	Static Analysis	Anchor Welds	M012, M373, M414, M430	10.76	0.34	0.36	3.39
<b>125V DC ELECTRIC POWER</b>									
Batteries	Auxiliary (115')	>33 Hz (H)	Test	Structural	M050, M054, M364	6.04	0.30	0.18	2.74
Battery Racks	Auxiliary (115')	>33 Hz (H)	Static Analysis	Longitudinal End Restraint	M013, M032, M050, M207	11.91	0.26	0.22	5.40
Battery Chargers	Auxiliary (115')	12 Hz (H)	Test	Structural	M054, M364, M453, M462	9.93	0.34	0.40	2.93
Switchgear/Breaker Panels	Auxiliary (115')	7 Hz (H)	Test	Structural	M014, M051, M364	6.67	0.35	0.28	2.36
<b>120V AC ELECTRIC POWER</b>									
Instrument Breaker Panels Inverters	Auxiliary (115') Auxiliary (115')	>20 Hz (H) 5 Hz (H)	Static Analysis Test	Slip-Nut Failure Structural	M051A M015, M016, M355, M415, M436, M451, M467	>10.0 6.82	- 0.31	- 0.24	- 2.75
<b>480V (VITAL) ELECTRIC POWER</b>									
4160V/480V Transformers Breaker Cabinets (Load Centers) Auxiliary Relay Panel	Auxiliary (100') Auxiliary (100') Auxiliary (100')	3 Hz (H) 13 Hz (H) 29 Hz (H)	Static Analysis Static Analysis Test	Structural Anchor Stitch Weld Structural	M052, Walkdown M017, M364 M315, M364	5.34 >10.0 7.25	0.28 - 0.28	0.20 - 0.15	2.42 - 3.57
<b>CONTROL ROOM</b>									
Main Control Boards	Auxiliary (140')	>33 Hz (H)	Test Dynamic Analysis	Switch Function Structural	W Summary Data, M456, M482	>10.0 7.77	- 0.31	- 0.27	- 2.98
Hot Shutdown Panel	Auxiliary (100')	>33 Hz (H)	Test	Switch Function	M317, M383, M342, M479, M482	7.60 7.27	0.27 0.30	0.25 0.14	3.22 3.52
Auxiliary Safeguards Cabinet	Auxiliary (128')	9-13 Hz (H)	Static Analysis Test	Structural	M317, M354, M359	>10.0	-	-	-

**Table 6-24 (Continued)**  
**DIABLO CANYON EQUIPMENT FRAGILITIES**  
(Based on hazard defined over 3 to 8.5 hertz range.)

System and Component	Location	Fundamental Frequency	Method of Seismic Qualification	Failure Mode	Information Source	Spectral Acceleration Capacity			
						$\beta_{Sb}$ (g)	$\beta_R$	$\beta_U$	HCLPF (g)
<b><u>NSSS CONTROL</u></b>									
Process Control and Protection System	Auxiliary (128')	6-10 Hz (H)	Test	Structural	M317, M355	10.78	0.39	0.28	3.57
Solid State Protection System	Auxiliary (140')	8-11 Hz (H)	Test	Structural	M317, M355	12.63	0.37	0.28	4.32
Reactor Trip Switchgear	Auxiliary (115')	8 Hz (H)	Test	Structural	M317, M354	7.90	0.30	0.26	3.14
Resistance & Temperature Detectors	Auxiliary (140')	Not Given	Test	Structural	M345	>10.0	-	-	-
Pressure & $\Delta P$ Transmitters	Containment (117')	>33 Hz (H)	Test	Structural	M341	8.93	0.27	0.20	4.11
<b><u>MISCELLANEOUS COMPONENTS</u></b>									
Auxiliary Relay Rack	Auxiliary (128')	12-20 Hz (H)	Static Analysis	Anchor Bolts	M317, M350, M359	>10.0	-	-	-
Local Starter Boards	Various	18 Hz (H)	Test	Structural	M454	>10.0	-	-	-
Molded Case Circuit Breakers	Auxiliary (115')	>33 Hz (H)	Test	Structural	M476	>10.0	-	-	-
Valve Limit Switches	Auxiliary (Various)	>33 Hz (H&V)	Test	Generic Function	M344	>10.0	-	-	-
Impulse Lines	Containment (Various)	5-20 Hz (H&V)	None	Rupture From Impact	Data Base	7.09	0.28	0.32	2.63
Containment Purge Valves	Containment (132')	>33 Hz (H&V)	Static Analysis	Actuator Attach. Bolts	M432	>10.0	-	-	-
<b><u>GENERIC COMPONENTS</u></b>									
Off-Site Power 230KV	Yard	Flexible	None	Generic Failure	Data Base	1.69	0.24	0.20	0.82
500KV						0.81	0.24	0.20	0.39
Penetrations/Penetration Boxes	Containment (135')	24 Hz (H)	Test	Generic Structural	M054	7.38	0.31	0.27	2.83
BOP Piping and Supports	Various	Flexible Piping	Dynamic Analysis	Generic Support	M020, M381	11.03	0.40	0.39	3.00
Hand, Relief, Solenoid, & Check Valves	Various	Flexible Piping	Dynamic Analysis	Generic Function	Data Base	>10.0	-	-	-
Ais and Motor Operated Valves	Various	Flexible Piping	Dynamic Analysis	Generic Function	M067, M401	17.10	0.35	0.60	2.57
Cable Trays and Supports	Various	Flexible Trays	Static Analysis	Generic Support	M209-M213	>10.0	-	-	-
HVAC Ducting and Supports	Various	Flexible Ducting	Static Analysis	Generic Support	M214-M218	9.78	0.35	0.48	2.49

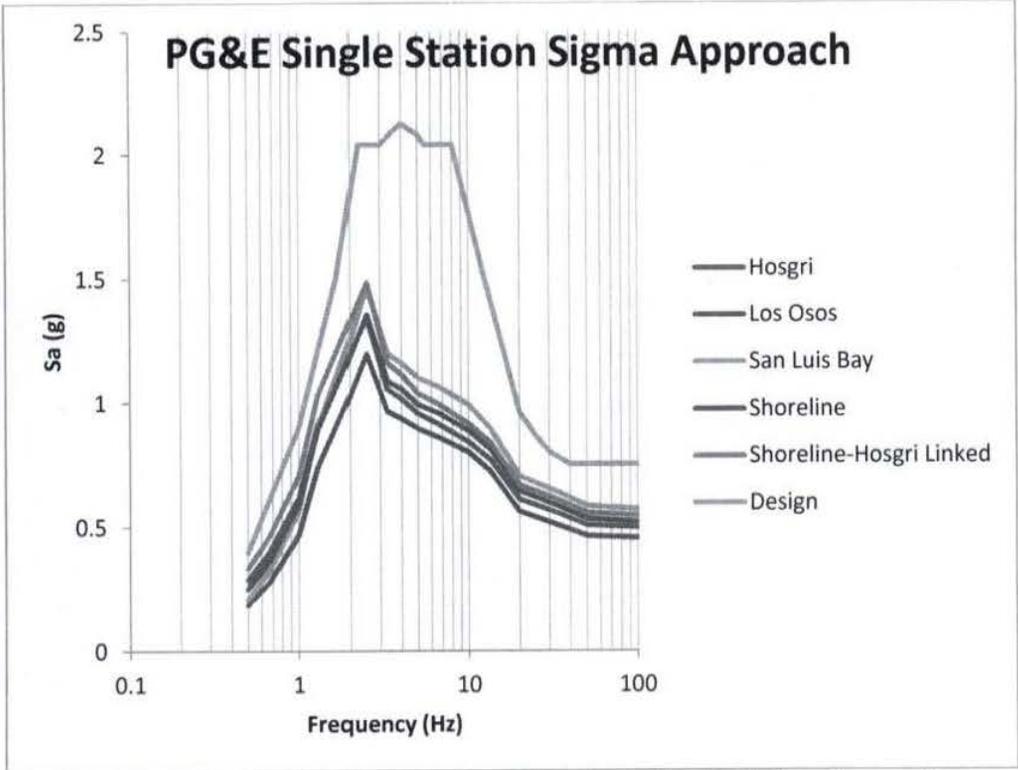


Figure 1 - Deterministic Response Spectrum Single Station Approach

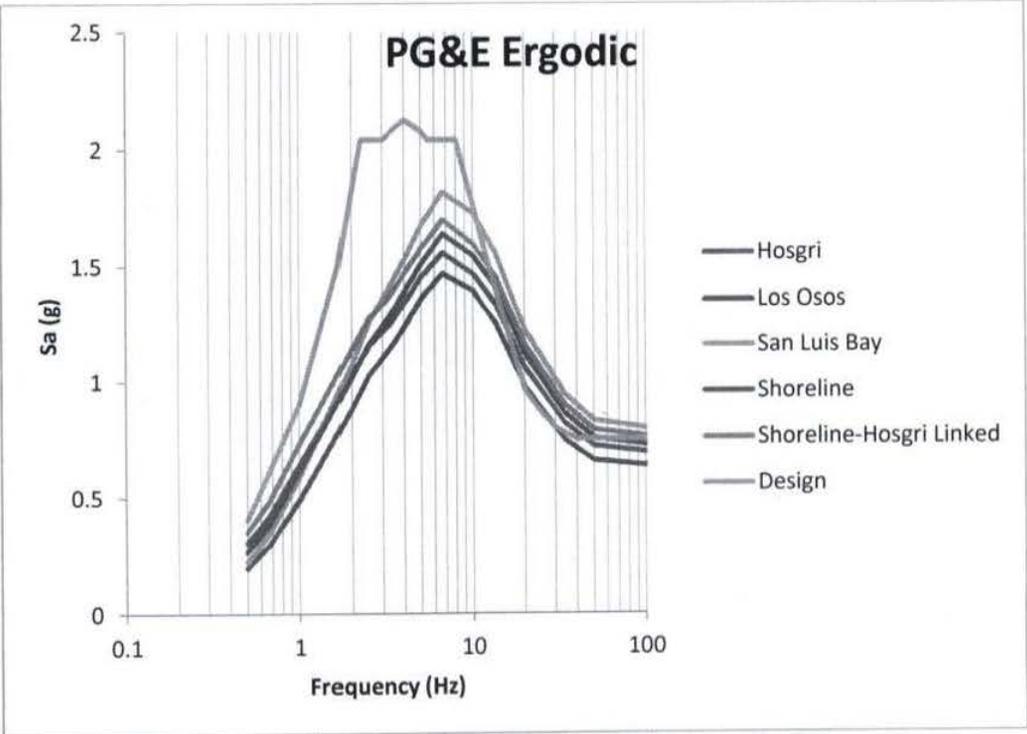


Figure 2 - Deterministic Response Spectrum Ergodic Approach

**From:** [Oesterle, Eric](#)  
**To:** [Lupold, Timothy](#); [Alexander, Ryan](#); [Karas, Rebecca](#); [Markley, Michael](#); [Walker, Wayne](#)  
**Cc:** [Li, Yong](#); [Manoly, Kamal](#); [Wilson, George](#); [Sebrosky, Joseph](#)  
**Subject:** RE: Draft Briefing package for 10/21  
**Date:** Tuesday, October 21, 2014 6:53:07 AM  
**Attachments:** [draft Diablo Canyon Seismic Status Briefing 21Oct2014.pptx](#)  
[image001.png](#)  
**Importance:** High

---

Thanks Tim! I appreciate your input on the briefing slides. This new approach has been incorporated into the slides.

**Everyone** – Please review the attached updated briefing slides based on DE's input. The changes have been denoted in RED. Please get back to me with any changes no than 9AM. Thanks!

Eric

---

**From:** Lupold, Timothy  
**Sent:** Monday, October 20, 2014 6:04 PM  
**To:** Oesterle, Eric; Alexander, Ryan; Karas, Rebecca; Markley, Michael; Walker, Wayne  
**Cc:** Li, Yong; Manoly, Kamal  
**Subject:** RE: Draft Briefing package for 10/21

Last bullet on slide 13 is no longer the approach that will be used. The current plan is to discuss the curve developed by the licensee and note that it is enveloped by the Hosgri curve. An explanation of how uncertainty is treated will be included along with words that indicate the licensee's approach is acceptable for use in an operability determination without addressing individual components for an exceedance at the higher frequencies, and that the approach will be further investigated under the review of the 2.1 information to be provided.

Slide 14 and 15 should be altered also. A seismic margin evaluation will not be completed.

---

**From:** Oesterle, Eric  
**Sent:** Monday, October 20, 2014 10:31 AM  
**To:** Alexander, Ryan; Karas, Rebecca; Lupold, Timothy; Markley, Michael; Walker, Wayne  
**Subject:** FW: Draft Briefing package for 10/21

Good morning,

Just in case my email from home ended up in your spam or trash folder, I wanted to make sure everyone knew that I sent out a draft briefing package for the briefing on 10/21. Please also refer to email below. Thanks.

*Eric R. Oesterle*

NRC Project Manager  
Diablo Canyon Power Plant  
Cooper Nuclear Station  
NRR/DORL/LPL4-1

301-415-1014



---

**From:** ERIC OESTERLE [mailto:[\(b\)\(6\)](#)]

**Sent:** Sunday, October 19, 2014 7:53 AM

**To:** Sebrosky, Joseph; Alexander, Ryan; Karas, Rebecca; Lupold, Timothy; Markley, Michael; Oesterle, Eric; Walker, Wayne

**Subject:** Draft Briefing package for 10/21

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Eric



# **Assessment of PG&E Operability Determination for New Seismic Information**

**NRR, NRO and Region IV Status Briefing  
October 21, 2014**

Contacts: J. Sebrosky (NRR/JLD), T. Lupold (NRR/DE), R. Karas (NRO/DSEA), R. Alexander (RIV),  
W. Walker (RIV), M. Markley (NRR/DORL), and E. Oesterle (NRR/DORL)



## **Briefing Agenda**

- Purpose
- Expected Outcomes
- Overview of Issue
- PG&E Seismic Report
- NRC Response/Action
- Current Status
- Next Step
- Decisional Environment

## **Purpose**

- Inform NRR, NRO, and Region IV management of status on NRC activities/actions that respond to new seismic information for Diablo Canyon that indicates the Shoreline Fault discovered in 2008 is more capable than previously evaluated by licensee and confirmed by NRC to be bounded by the Hosgri evaluation described in the licensing basis



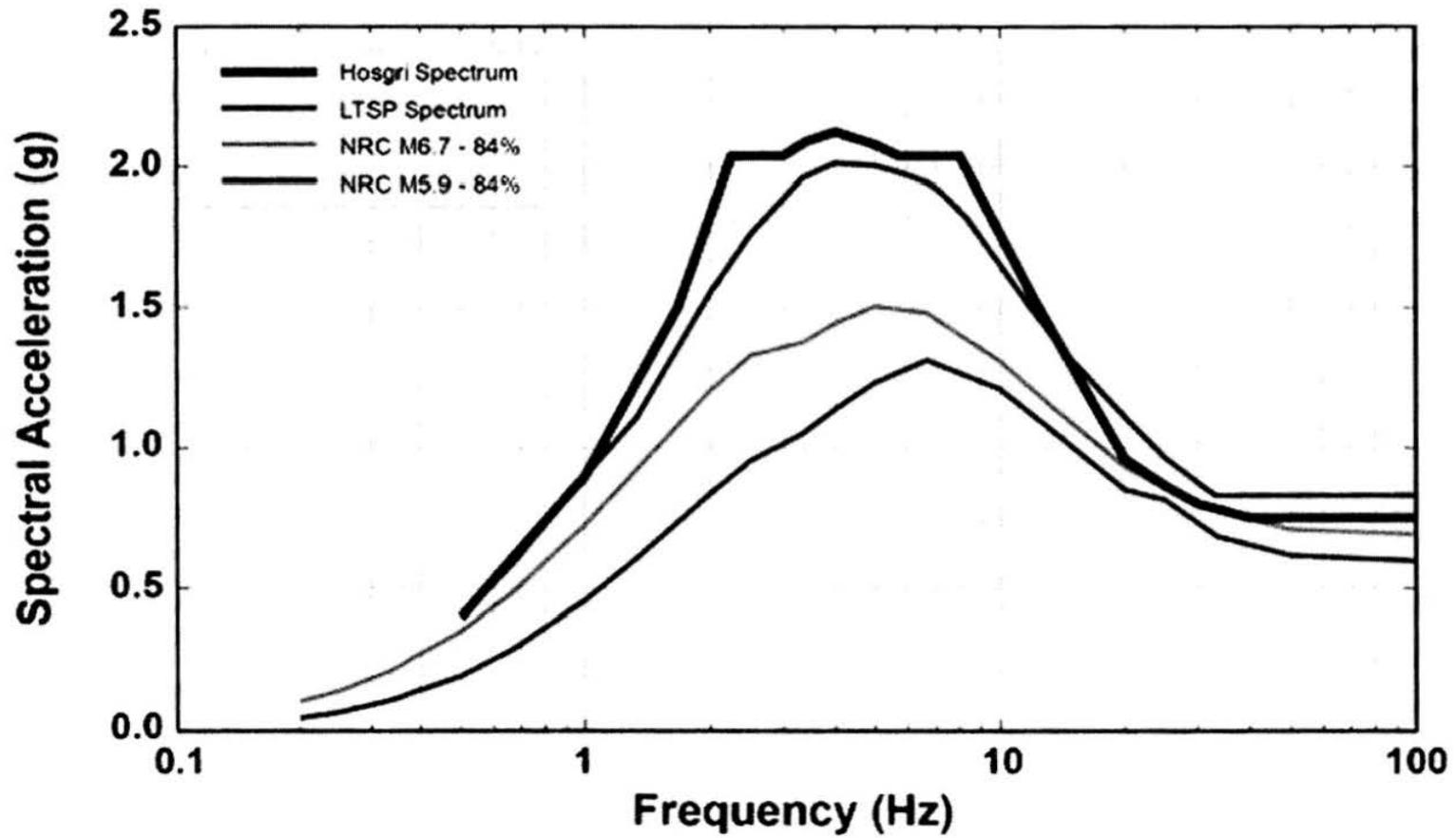
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- Alignment of NRC HQ and Region IV activities, plan, and next steps
- Clear understanding of current status and potential implications of outcomes
- Enhanced perspectives on environmental context in which NRC actions/decisions will be made

## Background

- Current licensing basis for Diablo Canyon seismic hazard includes DE, DDE, Hosgri (HE), & Long Term Seismic Program (LTSP)
- DE = OBE (0.2g); DDE = SSE (0.4g); HE = additional case evaluated in 1977 during OL review (0.75g); LTSP was a License Condition completed and reviewed in SSER 34
- Shoreline fault discovered in 2008 and evaluated by PG&E to be bounded by HE – operability assessment performed by licensee
- Independent confirmatory evaluation of Shoreline fault performed by NRC (RIL 12-01) concluded it was  $\leq$  HE

## NRC Response Spectra from RIL 12-01



## Background (continued)

- NRC issues 50.54(f) letter on March 12, 2012, to all licensees requesting seismic and flooding hazards re-evaluation
- NRC issues letter to PG&E (Oct. 12, 2012) documenting review PG&E Shoreline Fault Report and placing its assessment in the context of the 50.54(f) process
  - ...if new faults are discovered or information is uncovered that would suggest the Shoreline fault is more capable than currently believed, the staff expects that the licensee will provide the NRC with an interim evaluation that describes actions taken or planned to address the higher seismic hazard relative to the design basis, as appropriate, prior to completion of the evaluations requested in the NRC staff's March 12, 2012, request for information. The staff will use this information to independently assess whether the new fault or new information related to the Shoreline fault challenges or changes the staff's current position that the motions associated with the Shoreline fault are at or below those levels of the HE and LTSP ground motions.

## PG&E Seismic Report

- geologic investigations underway to support requirement of AB1632 for report to CA when NRC issued Oct. 12, 2012, letter
- PG&E used new state of the art 2D and 3D onshore and offshore seismic reflection mapping
- PG&E informed NRC of preliminary results at drop-in meeting on August 22, 2014, and committed to provide report to NRC

Fault	2011 Shoreline Report			Updated Parameters		
	Maximum Length (km)	Minimum Dip (degrees)	Mag. (90th fractile)	Maximum Length (km)	Minimum Dip (degrees)	Mag.*
Shoreline	23	90	6.5	45	90	6.7
Hosgri	110	80	7.1	171	75	7.3
Los Osos	36	45	6.8	36	55	6.7
San Luis Bay	16	50	6.3	16	50	6.4

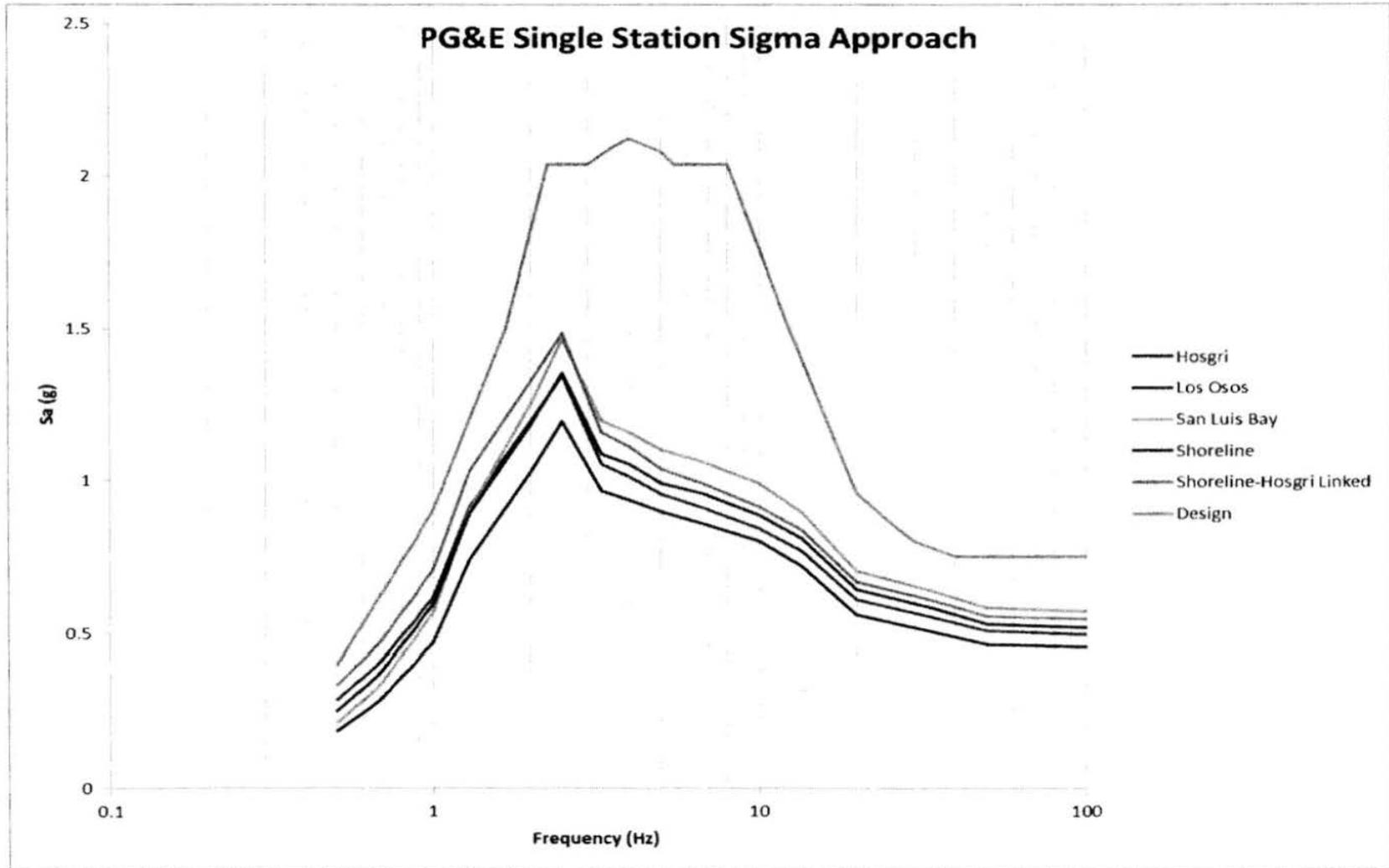
- Report provided to CA and NRC on September 10, 2014

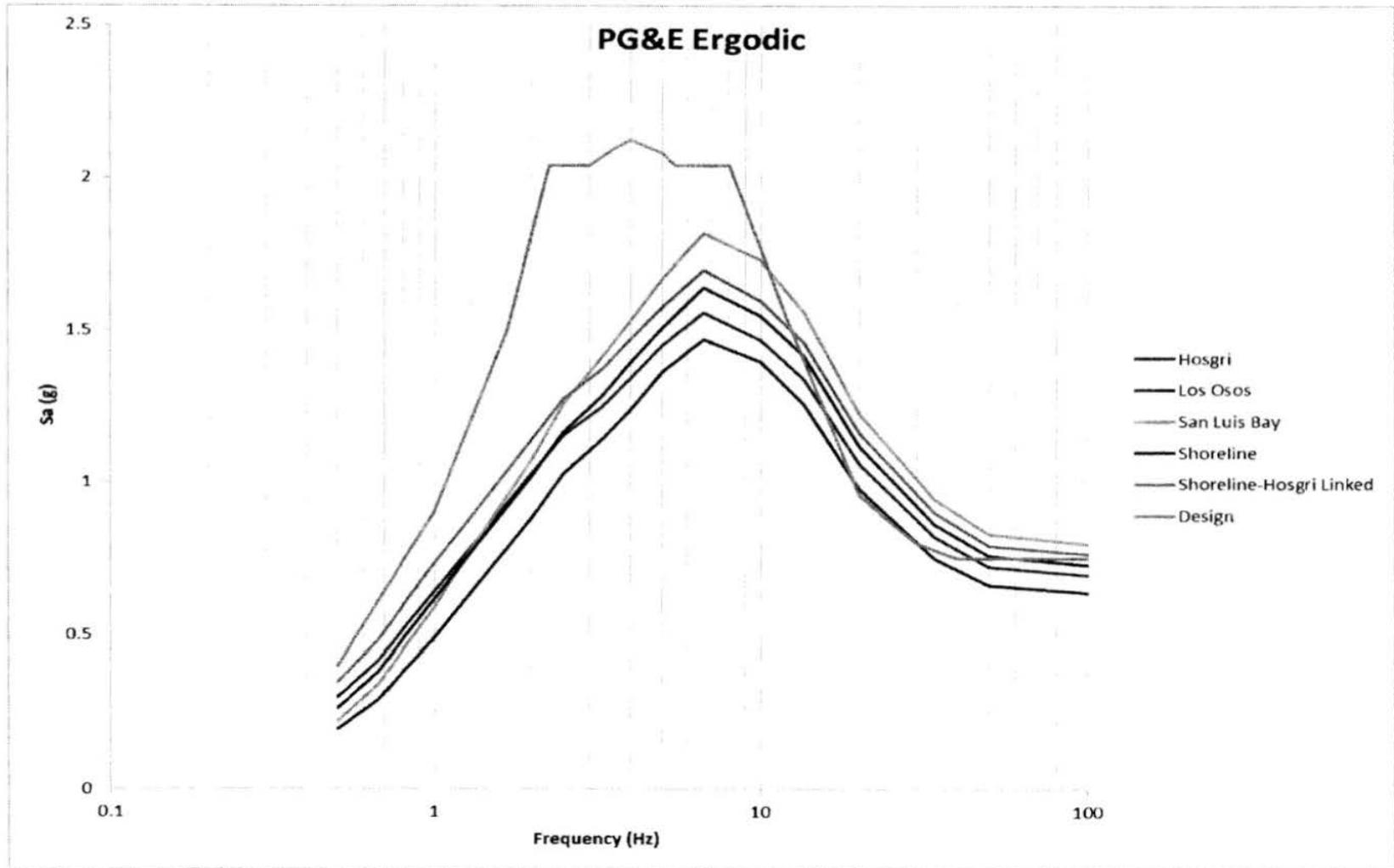
## **NRC Responses/Actions**

- Approach – determine if PG&E operability determination is reasonable and there is no reason to deviate from 50.54(f) process
- Develop project plan and communication plan
- Region IV - initiate inspection of licensee's operability assessment (IR-2014-008) – request technical assistance from HQ
- HQ - develop technically defensible position to support inspection
- HQ - draft letter to licensee documenting inspection outcome and outlining next steps
- NRC and State of CA access to seismic report provided by PG&E several days prior to official issuance of report
- NRC initiated review of preliminary PG&E seismic report and developed requests for additional information

## **NRC Responses/Actions (continued)**

- Region led telecons held with licensee to provide requests for additional information and for licensee to communicate requested information
- PG&E provided access to NRC via electronic reading room to review calculations, data, and graphs
- Based on review of the PG&E seismic report and additional information no one believes there is an immediate safety concern
- NRO developing assessment of PG&E seismic information (single station vs. Ergodic)
- NRO developing assessment of PG&E damping factors used for determining in-structure responses
- NRR developing assessment of licensee approach for use in operability determination





## Current Status

- PG&E expressed unwillingness to consider Ergodic approach and identify SSCs that may be impacted by HE exceedance
- Insufficient time and resources to investigate PG&E single station sigma approach to develop sufficient confidence level
- NRC expects to see the PG&E single station sigma approach combined with seismic risk information in 50.54(f) response in March 2015
- NRC approach to support operability inspection is to discuss the response spectra provided by the licensee, explain how uncertainty associated in these spectra is treated and conclude that the approach is acceptable for use in an operability determination
- The licensees approach will be investigated further when it is submitted as part of the March 2015 response to 50.54(f) letter

## Potential Outcomes

1. NRC is able to conclude that licensees single station sigma approach is acceptable for use in their operability determination
  - NRC letter to licensee documenting results of inspection and continued operability until NRC completes its review of 50.54(f) responses
  - NRC concludes that the results from the new seismic information is insufficient to require deviation from the 50.54(f) process
  
2. NRC is not able to conclude that licensees single station sigma approach is acceptable for use in their operability determination
  - NRC letter to licensee documenting results of inspection that there is no reasonable assurance of operability
  - NRC concludes that DCCP units must either be shutdown or restricted from returning to operation following refueling outage until NRC approval following review of 50.54(f) responses due in March 2015 and completion of any required actions to ensure safety

## Next Steps

- NRO/DSEA & RES complete seismic report technical assessment and provide input/review of writeup to support inspection report
- NRR/DE complete review of licensee approach for use in operability determination and provide input/review of writeup to support inspection report
- NRR/DORL consolidate write-ups to provide report to Region IV for use in completing IR-2014-008
- NRR provides concurrence on IR-2014-008
- Region IV complete IR-2014-008 and schedule Exit with licensee
- NRC management briefing to gain alignment and concurrence on follow-up actions for licensee
- NRC finalize letter to licensee providing assessment on operability and 50.54(f) process and issue to licensee

## **Decisional Environment**

- FOE Hearing Request – de facto license amendment
- FOIA – release of Sewell Report
- Sen. Markey Questions on 50.59s for SGR at Diablo
- FOE Hearing Request – license renewal LAR
- FOIA – timing of PG&E issuance of seismic report and NRC EDO decision on DPO appeal
- PDR request for release of DCPP FSARU Rev. 21
- Leak of DPO and publication in Press
- IG Report on SONGS 50.59s for SGR
- December 2014 Hearings – Senate & House

**From:** [Oesterle, Eric](#)  
**To:** [Alexander, Ryan](#); [Karas, Rebecca](#); [Lupold, Timothy](#); [Markley, Michael](#); [Walker, Wayne](#)  
**Subject:** FW: Draft Briefing package for 10/21  
**Date:** Monday, October 20, 2014 10:31:28 AM  
**Attachments:** [Diablo Canyon Seismic Status Briefing\\_21Oct2014.pptx](#)  
[image001.png](#)

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301-415-1014



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**Subject:** Briefing slides  
**Date:** Monday, October 20, 2014 11:00:22 AM  
**Attachments:** [Diablo Canyon Seismic Status Briefing\\_21Oct2014.pptx](#)  
[image001.png](#)

---

Joe,

Thanks for your comments this morning on the briefing slides. I've updated the slides to incorporate your comments and include some other minor tweaks. All changes except for table added on slide 8 are in RED.

*Eric R. Oesterle*

NRC Project Manager  
Diablo Canyon Power Plant  
Cooper Nuclear Station  
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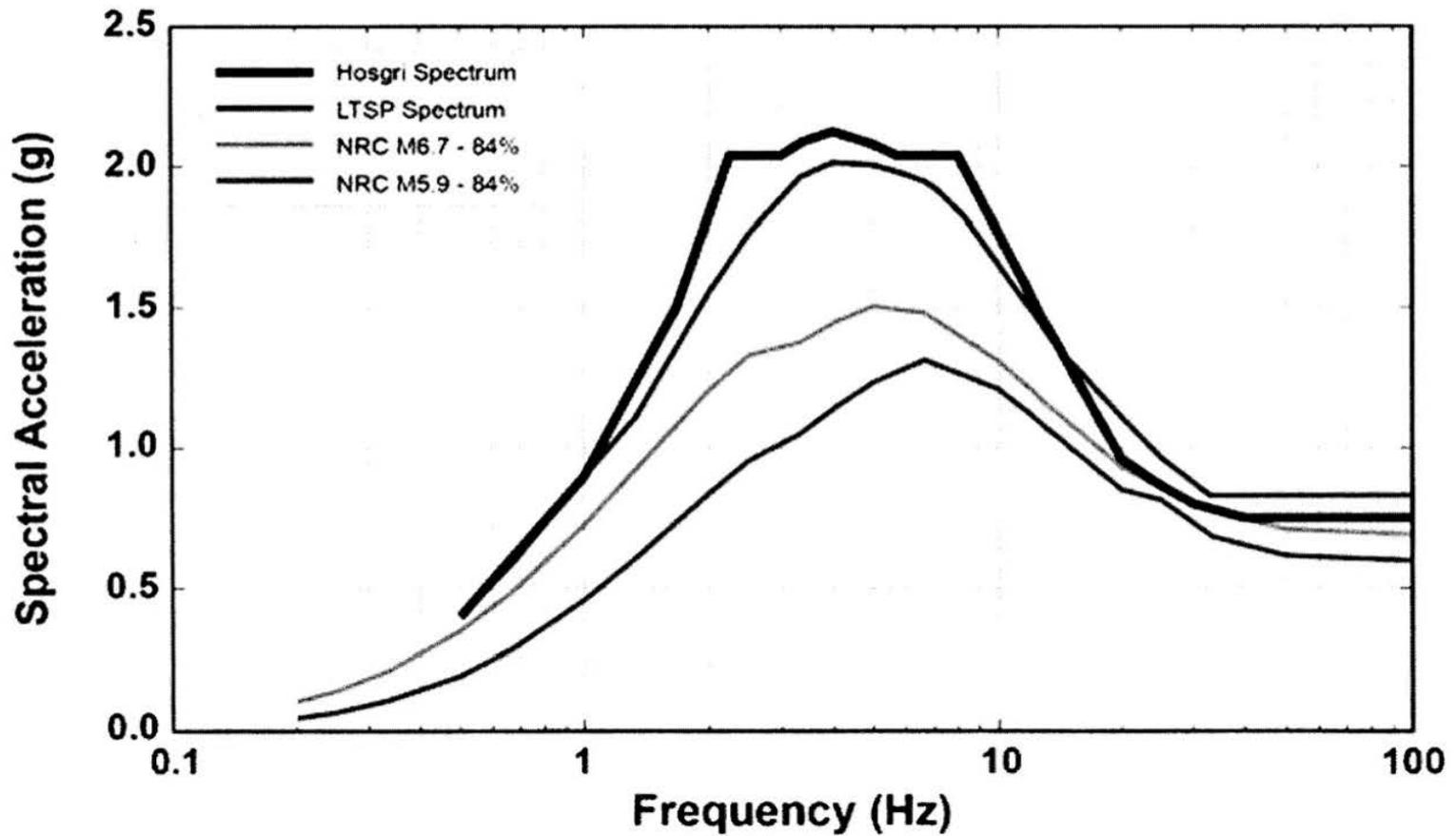
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- PG&E informed NRC of preliminary results at drop-in meeting on August 22, 2014, and committed to provide report to NRC
  - Increased capabilities of Shoreline fault (6.7M vs. 6.5M)
  - Changes to fault lengths (lengthened)
  - Faults connected (Hosgri + San Simeon)
  - Soil characteristics changed attention of seismic forces
  - Damping factors for in-structure responses
- Report provided to CA and NRC on September 10, 2014

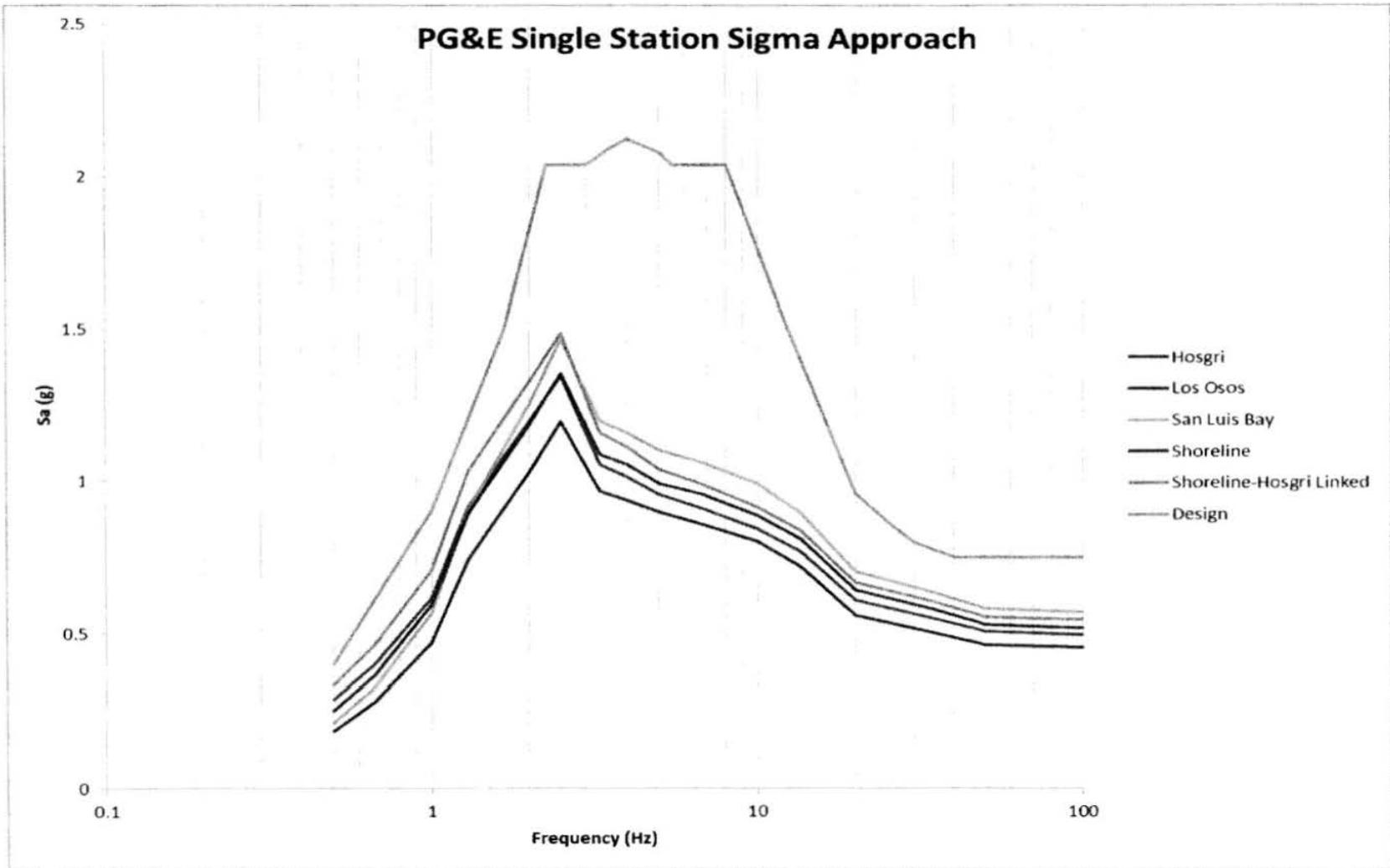
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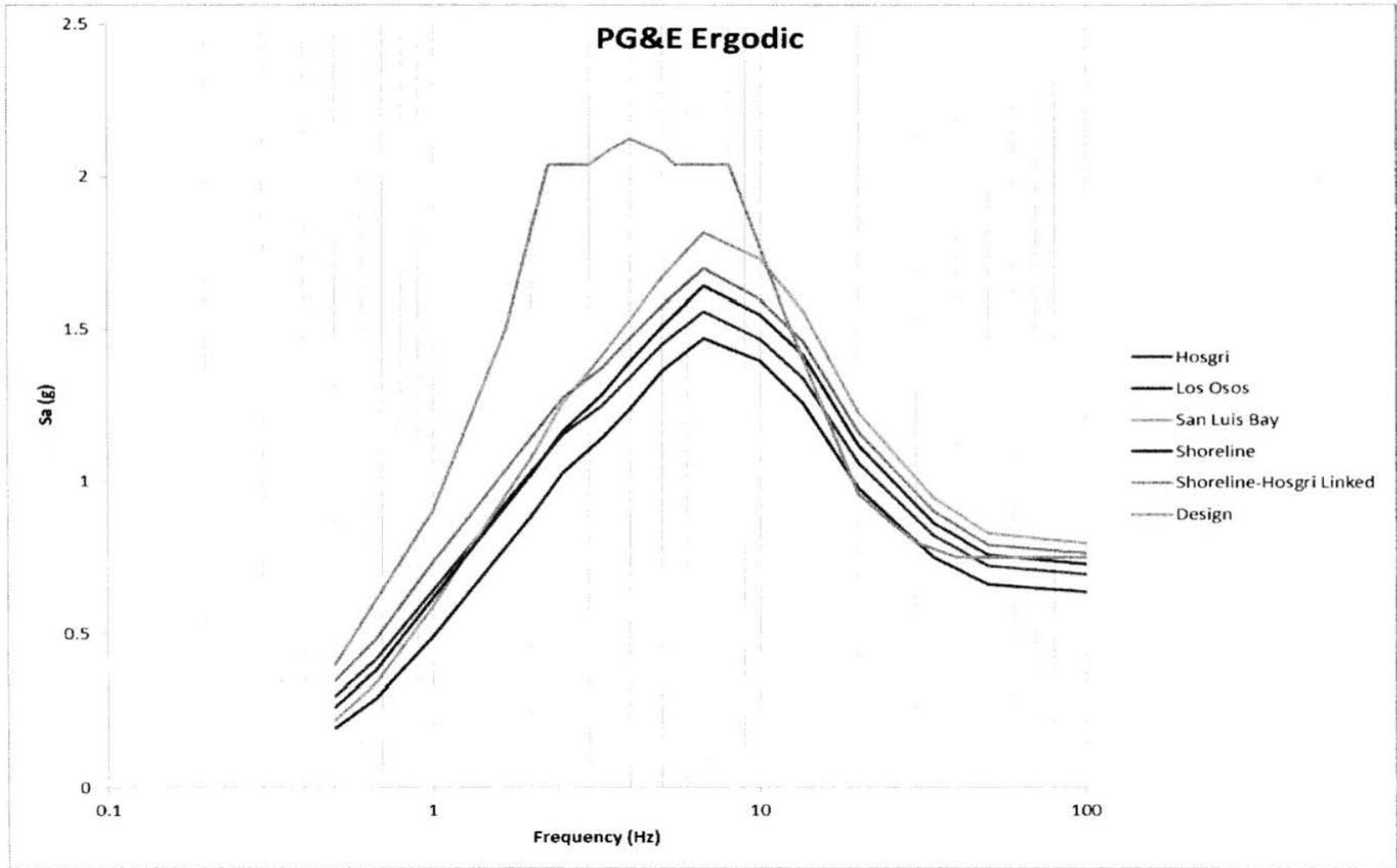
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- Region led telecons held with licensee to provide requests for additional information and for licensee to communicate requested information
- PG&E provided access to NRC via electronic reading room to review calculations, data, and graphs
- Based on review of the PG&E seismic report and additional information no one believes there is an immediate safety concern





## **Current Status**

- PG&E expressed unwillingness to consider ergodic approach and identify SSCs that may be impacted by HE exceedance
- Insufficient time and resources to investigate PG&E single station sigma approach to develop sufficient confidence level
- NRC expects to see the PG&E single station sigma approach combined with seismic risk information in 50.54(f) response in March 2015
- NRC approach to support operability inspection is to determine whether there is sufficient seismic margin for SSCs impacted at frequency range that exceeds HE based on previous licensee evaluations and NRC reviews

## Potential Outcomes

1. NRC is able to conclude that sufficient seismic margin exists for SSCs impacted by HE exceedances in frequency ranges of concern to support operability inspection
  - NRC letter to licensee documenting results of inspection and continued operability until NRC completes its review of 50.54(f) responses
  - NRC concludes that the results from the new seismic information is insufficient to require deviation from the 50.54(f) process
2. NRC is not able to conclude that sufficient seismic margin exists for SSCs impacted by HE exceedances in frequency ranges of concern to support operability inspection
  - NRC letter to licensee documenting results of inspection that there is no reasonable assurance of operability
  - NRC concludes that DCPD units must either be shutdown or restricted from returning to operation following refueling outage until NRC approval following review of 50.54(f) responses due in March 2015 and completion of any required actions to ensure safety (CAL?)

## Next Steps

- NRO/DSEA & RES complete seismic report technical assessment and provide writeup to support inspection report
- NRR/DE complete structural assessment of seismic margins and provide writeup to support inspection report
- NRR/DORL consolidate write-ups to provide technical report to Region IV for use in completing IR-2014-008
- NRO and NRR provide concurrence on IR-2014-008
- Region IV complete IR-2014-008 and schedule Exit with licensee
- NRR/DORL finalize letter to licensee providing follow-up actions
- NRC management briefing to gain alignment and concurrence on follow-up actions for licensee
- NRC issue letter to licensee

## **Decisional Environment**

- FOE Hearing Request – defacto license amendment
- PDR request for release of DCPD FSARU Rev. 21
- FOIA – timing of PG&E issuance of seismic report and NRC EDO decision on DPO appeal
- Leak of DPO and publication in Press
- FOIA – release of Sewell Report
- Sen. Markey Questions on 50.59s for SGR at Diablo
- FOE Hearing Request – license renewal LAR
- IG Report on SONGS 50.59s for SGR
- December 2014 Hearings – Senate & House

**From:** [Oesterle, Eric](#)  
**To:** [Stovall, Scott](#); [Munson, Clifford](#); [Williams, Megan](#); [Li, Yong](#); [Hipschman, Thomas](#); [Walker, Wayne](#); [Markley, Michael](#); [George, Andrea](#); [Jackson, Diane](#); [DiFrancesco, Nicholas](#); [Whaley, Sheena](#); [Uselding, Lara](#); [Ake, Jon](#); [Burnell, Scott](#); [OKeefe, Neil](#); [Farnholtz, Thomas](#); [Manoly, Kamal](#); [Reynoso, John](#); [Hill, Brittain](#); [Harris, Brian](#); [Klett, Audrey](#); [Dudek, Michael](#); [John Stamatakos](#); [Stirewalt, Gerry](#); [Buchanan, Theresa](#); [Weaver, Thomas](#); [Karas, Rebecca](#); [Graizer, Vladimir](#); [Hiland, Patrick](#); [Ross-Lee, MaryJane](#); [Lupold, Timothy](#); [Wilson, George](#); [Bowers, Anthony](#); [Alexander, Ryan](#); [Hay, Michael](#); [Pruett, Troy](#); [Kock, Andrea](#)  
**Subject:** Status of Diablo Canyon Activities  
**Date:** Thursday, October 09, 2014 7:02:34 AM  
**Attachments:** [Status Update on DCPD for Jennifer Uhle.docx](#)  
[image003.png](#)

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The purpose of this email is to provide a status on the multitude of Diablo Canyon activities that staff has been working on this week.

- I. Status briefing provided to Jennifer Uhle on 10/6 (see attached agenda)
  - a. Based on review of PG&E seismic report and licensee responses to staff questions, additional information was determined to be needed to more fully understand licensee's application of single station correction (SSTC) methodology
  - b. Three additional questions were developed (total of 6 questions conveyed) and communicated to licensee on 10/3 – licensee understood questions 4 and 6 and indicated they can answer – question 5 required some rework and that will be communicated today or tomorrow
  - c. Outcome of briefing was an understanding that staff should be able to develop technically defensible position based on review of PG&E seismic report and licensee responses to the 6 staff questions without further "research" or visit to site to fully explore additional details of licensee application of SSTC methodology
  - d. Telecon held on 10/8 with Region IV and HQ technical staff to get alignment on path forward – NRO staff to develop writeup for technical evaluation report (TER) addressing adequacy of new PG&E seismic information to support operability determination – NRR to develop writeup for TER addressing ability of SSCs to withstand new seismic loading in high frequency ranges (i.e., approx. 12 – 100 Hz) where there are minor exceedances of Hosgri spectra based on NRC developed ergodic curves)
  - e. Region IV concurred that above TER approach will provide adequate technical support for IR 2014-008 which addresses licensee's operability evaluation based on new seismic information
  - f. Letter from NRC to licensee also being developed to refer to results of IR 2014-008 and to indicate that previously established path for seismic reevaluation per 50.54(f) response remains valid – timing of IR issuance and letter to licensee is critical and should be concurrent – goal for completion of TER, IR, and letter is near end of October
  - g. Briefings will be provided to DEDOs together with NRR front office; Communications likely with individual Commissioners – to be reflected in Comm Plan that is under development and maintained current
- II. FOIA Request for public release of Sewell Report
  - a. Previous direction from Commission to not release Sewell Report was documented in Feb. 27, 2006, memo for M. Mayfield – because of this previous direction, new direction was needed from current Commission

- b. COMSECY has been developed which informs Commission of staff's intent to release Sewell Report along with several other documents which puts Sewell Report into appropriate context – COMSECY is currently being routed for comment/concurrence at Division Director level (NMSS, NRO/DSEA, NRR/DE, NRR/DORL) – **goal is to issue today (10/9/10)** - outreach on COMSECY performed with CNRWA, Region IV, OPA, OCA and other stakeholders
  - c. Comm Plan concurrently in development to support release of Sewell Report and associated documents – being coordinated with Region IV, OPA, and OCA
  - d. FOIA request completion targeted for 10/16 but prepared to request extension to support Commission action – discussed with FOIA Coordinator
- III. Filings associated with Friends of the Earth (FOE) Hearing Request
- a. NRC response to FOE hearing request filed 10/6
  - b. Additional filings also made by PG&E, NEI, and PG&E Senior Civil Engineer on 10/6
  - c. Next steps – FOE response within 7 days and, also within 10 days of the PG&E's answer and NEI's motion and brief, everybody else (NRC Staff included) can file a motion asking the Commission to take some action against the other filings (e.g. strike part of the answer) - review of the other 3 filings underway
- IV. FOE FOIA request on timing of PG&E Seismic Report and DPO Appeal decision
- a. Information from various offices received by FOIA coordinator – going through duplication review
  - b. Expected release of documents in packages – first one expected this week
  - c. Review of remaining packages for withholding to be performed to support releases expected week of 10/13.
- V. EPW Questions – DORL staff continues to work with Region IV and NRR/DE on finalizing draft responses – coordinating with OCA – target issuance by 10/22

There continues to be a lot of activity associated with Diablo Canyon and I appreciate everyone's support. We are making good progress on these challenging issues and have completed some tasks associated with making portions of the DCPD UFSAR publicly available and getting two very important SSERs into the main ADAMS library. If I have missed something that you are particularly interesting in please don't hesitate to contact me. Thanks!

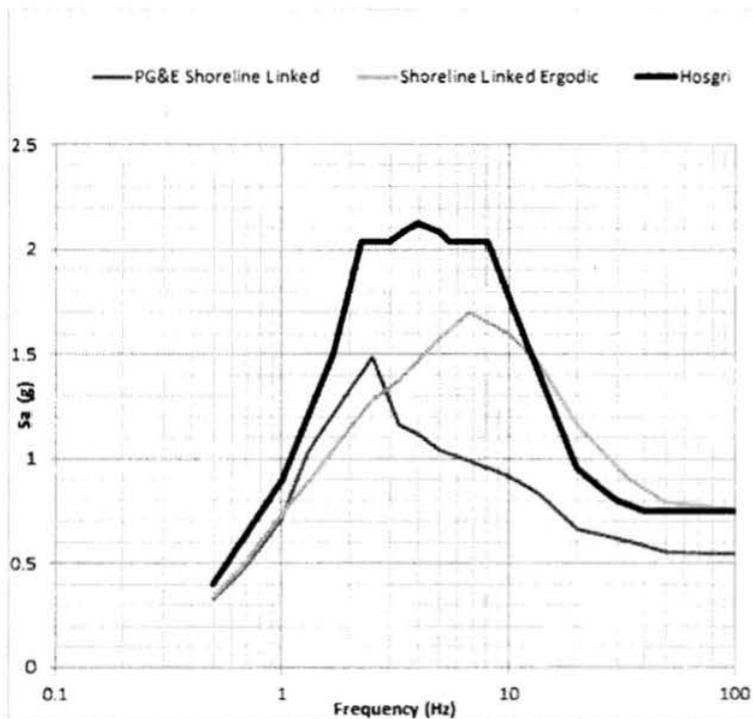
*Eric R. Oesterle*

NRC Project Manager  
 Diablo Canyon Power Plant  
 Cooper Nuclear Station  
 NRR/DORL/LPL4-1  
 301-415-1014



## Status Update on NRC Activities associated with Diablo Canyon Seismic Report

- I. NRC is in inspection space - Inspection Report 2014-008
  - a. technical evaluation report summarizing HQ staff assessment to support IR
  - b. NRC letter to license – continue w/ 50.54(f) or alternate approach
  - c. Communication Plan development to support issuance of IR and NRC letter to licensee
  - d. Project Plan updates
- II. NRC assessment of AB1632 seismic report
  - a. Licensee provides overview 9/18 – discusses deltas from 2011 Shoreline fault report
  - b. NRC identifies need for additional information – communicates 3 Q's to licensee on 9/22
  - c. Licensee provides addition information on 9/29
  - d. NRC develops comparison spectra – requests additional information 3 Q's on 10/3
  - e. Follow-up telecom w/licensee later part of week of 6 Oct 2014 (potential for site visit)



- III. Schedule
  - a. Expect TER completion - end of October
  - b. Expect IR 2014-008 completion - end of October
  - c. Expect NRC letter to Licensee on 50.54(f) process – end of October
  - d. Timing of TER, IR, and Letter to Licensee critical – must follow sequence above
- IV. Other Activities and Schedule considerations
  - a. PG&E held open house 10/2/14 to discuss results of seismic report – no NRC attendance
  - b. PG&E has decided there will not be another public SSHAC meeting
  - c. Region IV considering NRC public meeting – tentative December 2014 timeframe
  - d. Congressional Hearings – tentatively December 2014 timeframe

- V. Additional NRC staff activities (5 – 6 PMs currently supporting DCPD activities)
- a. Friends of the Earth FOIA response – in process
  - b. EPW Congressional Question response – in process
  - c. PDR request for release of latest DCPD FSAR update – complete
  - d. Support for response to FOE hearing request – complete (expect issuance 10/6)
  - e. FOIA request for release of Sewell Report – in process
  - f. Place SSER 7 into ADAMS main library – in process
  - g. Place SSER 34 into ADAMS main library – in process
  - h. Assignment of new NRC PM for DCPD (10/6/14)
  - i. Bill Dean briefing (tentatively 3<sup>rd</sup> week Oct.) – request feedback from J. Uhle
  - j. DEDO Briefing (tentatively 3<sup>rd</sup> week of Oct.) – request feedback from J. Uhle
  - k. CA Briefing (tentatively 3<sup>rd</sup> week of Oct.) – request feedback from J. Uhle

**From:** [Wilson, George](#)  
**To:** [Evans, Michele](#); [Lund, Louise](#)  
**Cc:** [Marklev, Michael](#); [Broaddus, Doug](#); [Khanna, Meena](#); [Beasley, Benjamin](#); [Ennis, Rick](#); [Schaaf, Robert](#)  
**Subject:** 0845 items for Monday's meeting  
**Date:** Monday, October 06, 2014 8:34:50 AM

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## **Region 1**

Non-Responsive Record

## **Region 4**

### **Diablo Canyon -**

- Briefing with Jennifer Uhle on the status of analysis to support RIV inspection of the new seismic report provided by PG&E to the State of California. Questions prepared by NRR/NRO/RES for RIV to ask licensee. Outcome is expected to be an assessment of operability in the RIV inspection report and a technical evaluation report summarizing the Headquarters assessment at 0130.
- Friends of the Earth request for hearing - petition response due to Commission 10/6 (today) (DORL comments sent to OGC, OGC recommends not granting hearing)
- Friends of the Earth FOIA – alleging collusion between the NRC and PG&E on DPO and AB1632 report to California expected to be finalized between OIS and NRR this week.
- Response to EPW questions still progressing with expected response to be provided by 10/22
- Two Commission votes are in for the release of the Sewell tsunami hazards report which has been withheld for approximately 10 years. The reports was requested by former NRC RES Director, Bob Budnitz on behalf of the California Energy Commission [View ADAMS P8 Properties ML14276A548](#) [Open ADAMS P8 Package \(Sewall Report Release.\)](#) Lots of coordination to communicate with OPA, OCA, and NMSS. Likely to have major resource impacts.

Non-Responsive Record

Non-Responsive Record

Non-Responsive Record

George Wilson  
Acting Deputy Director  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation  
USNRC  
301-415-1711  
Office O8E4

**From:** [Sebrosky, Joseph](#)  
**To:** [Oesterle, Eric](#); [Markley, Michael](#)  
**Subject:** FW: The final version Attorney Client Privilege  
**Date:** Monday, October 06, 2014 7:52:45 AM  
**Attachments:** [dave cite check corrections.docx](#)

Note: The 66-page draft attachment is withheld in its entirety under FOIA exemption 5.

FYI – per our discussion - joe

**From:** Roth(OGC), David  
**Sent:** Friday, October 03, 2014 5:53 PM  
**To:** OKeefe, Neil; Sebrosky, Joseph; Manoly, Kamal; Li, Yong  
**Cc:** Young, Mitzi; Roth(OGC), David; Lindell, Joseph; Mizuno, Beth; Wachutka, Jeremy  
**Subject:** The final version Attorney Client Privilege

Good afternoon

Attached is the document we'll be filing Monday after fixing the noted citation errors and changing the document's name. Thank you again for your hard work.

(b)(5)

Thank you

David Roth

NRC Blackberry [\(b\)\(6\)](#)  
HQ Office (301) 415-2749

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Attorney Work Product~~

**From:** OKeefe, Neil  
**Sent:** Thursday, October 02, 2014 2:17 PM  
**To:** Roth(OGC), David  
**Subject:** RE: DER master do not edit without dave's permission 2012 09 22 NRC Staff Answer to FOE Diablo Petition to Intervene

Dave,

(b)(5)

(b)(5)

Neil

**From:** Roth(OGC), David

**Sent:** Wednesday, October 01, 2014 2:37 PM

**To:** OKeefe, Neil; Sebrosky, Joseph; Manoly, Kamal; Li, Yong

**Cc:** Wachutka, Jeremy; Lindell, Joseph; Young, Mitzi; Roth(OGC), David; Mizuno, Beth; Tibbetts, John

**Subject:** RE: DER master do not edit without dave's permission 2012 09 22 NRC Staff Answer to FOE Diablo Petition to Intervene

Good afternoon tech staff.

I heard from Joe (thank you) but nobody else. Attached please find the revised filing. Please review it for tech accuracy and respond back to your legal team by tomorrow morning (10:00 is fine).

As a reminder, do not re-distribute attorney-client information (including this e-mail and attachment). Please see Yellow Announcement 2014-102 for more information. shouldn't re-send the document.

**DISSEMINATION OF DOCUMENTS ISSUED BY THE  
OFFICE OF THE GENERAL COUNSEL**

Margaret M. Doane  
General Counsel

Posted: August 29, 2014

Number: 2014-102

David Roth

NRC Blackberry (b)(6)  
HQ Office (301) 415-2749

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~~Attorney Client Privilege or  
Attorney Work Product~~

**From:** Roth(OGC), David  
**Sent:** Wednesday, October 01, 2014 2:43 PM  
**To:** OKeefe, Neil; Sebrosky, Joseph; Manoly, Kamal; Li, Yong  
**Cc:** Roth(OGC), David  
**Subject:** RE: DER master do not edit without dave's permission 2012 09 22 NRC Staff Answer to FOE Diablo Petition to Intervene

Good afternoon,

We have created an updated version of the Staff's (your) position on the Friends of the Earth request for a hearing in Diablo. The actual filing date is Monday. Neil, Joe, Kamal, Yong, are you in the office today (Wednesday)?

David Roth

NRC Blackberry (b)(6)  
HQ Office (301) 415-2749

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**From:** OKeefe, Neil  
**Sent:** Monday, September 22, 2014 4:25 PM  
**To:** Roth(OGC), David; Sebrosky, Joseph; Manoly, Kamal; Li, Yong  
**Subject:** RE: DER master do not edit without dave's permission 2012 09 22 NRC Staff Answer to FOE Diablo Petition to Intervene  
**Importance:** High

Dave,

I have reviewed the document, and find no technical errors or concerns.

Neil O'Keefe  
Chief, Branch B  
DRP, RIV  
(817) 200-1141 (o)  
(b)(6) (c)

**From:** Roth(OGC), David  
**Sent:** Monday, September 22, 2014 11:20 AM  
**To:** Sebrosky, Joseph; Manoly, Kamal; OKeefe, Neil; Li, Yong  
**Subject:** Fw: DER master do not edit without dave's permission 2012 09 22 NRC Staff Answer to FOE Diablo Petition to Intervene

Please review attached immediately for tech accuracy. We need a very fast turnaround before 2:00 today. Sorry for the short notice. Do not forward this email or the attached document.

David Roth

Office of the General Counsel

Office (301) 415-2749

Work Cell (b)(6)

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Sent from NRC BlackBerry

(b)(6)

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**From:** Roth(OGC), David

**Sent:** Monday, September 22, 2014 12:07 PM

**To:** Tibbetts, John

**Cc:** Mizuno, Beth; Young, Mitzi; Lindell, Joseph; Wachutka, Jeremy; Roth(OGC), David

**Subject:** DER master do not edit without dave's permission 2012 09 22 NRC Staff Answer to FOE Diablo Petition to Intervene

John,

As we discussed, I'm done and you now have permission finalize (for Ed) the filing. Please work from the DER master in the G: drive, so everyone knows that you have it locked for editing.

(b)(5)

John, the file has auto TOC and uses styles for footnotes and for heading levels 1 to 3. I didn't add a TOA there might be one footnote with TOA hypertext markup.

**From:** [Sebrosky, Joseph](#)  
**To:** [Wilson, George](#)  
**Cc:** [Qesterle, Eric](#); [Markley, Michael](#)  
**Subject:** FW: draft agenda for status update for j. uhle  
**Date:** Monday, October 06, 2014 5:59:35 AM  
**Attachments:** [Status Update on DCPD for Jennifer Uhle.docx](#)  
[diablo pm work assignment.docx](#)  
[Draft Questions for PGE - RIV Compilation.docx](#)  
[image001.png](#)

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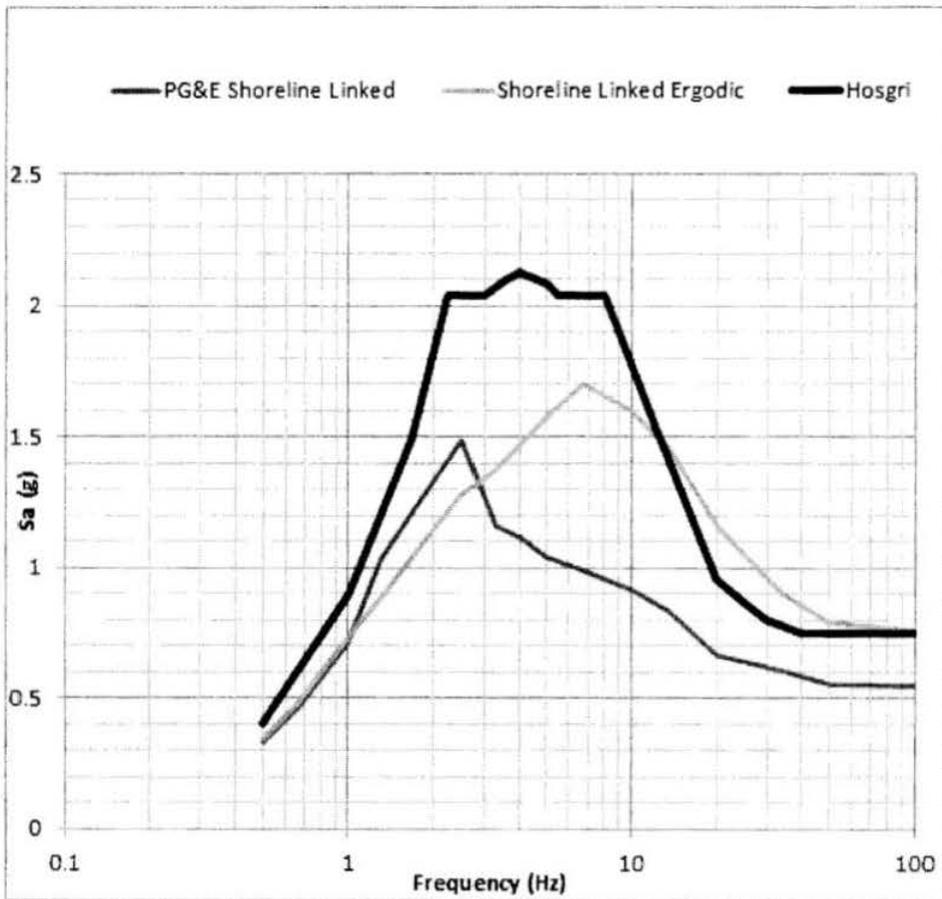
George,

Per our discussion this morning, I sent you the scheduler for the 1:30 pm briefing of Jennifer later today. Attached is the draft agenda that Eric developed over the weekend for the briefing. In Eric's email below he mentions a plot (below is the plot that he will include in the agenda). Also per our discussion, attached is a list of diablo pm assignments that provides a description of the various items that have been released and will be released to the public (including the Sewell report) shortly. Lastly, I included the 3 questions that were verbally provided to PG&E on Friday with the expectation that there will be a phone call later this week.

Let me or Eric know if you have any questions.

Thanks,

Joe



**From:** ERIC OESTERLE [mailto:[\(b\)\(6\)](#)]  
**Sent:** Sunday, October 05, 2014 8:37 AM  
**To:** Sebrosky, Joseph; Markley, Michael  
**Subject:** draft agenda for status update for j. uhle

Guys,

Attached is the draft agenda for the status update to Jennifer Uhle that has been scheduled for 1:30PM on 10/6/14. Thought it would be good to send out prior to tomorrow. The only thing that I wanted to add to the agenda but can't do until I get back to office is the Shoreline linked ergodic spectra developed by NRC staff comparison to PG&E Shoreline linked SSTC and Hosgri. I believe that Jennifer will appreciate that level of detail. Please let me know ASAP if you have any comments on draft agenda. Thanks.

Eric

**From:** [Sebrosky, Joseph](#)  
**To:** [Vaidya, Bhalchandra](#); [Klett, Audrey](#); [Harris, Brian](#)  
**Cc:** [Qesterle, Eric](#); [Markley, Michael](#); [Alexander, Ryan](#); [Walker, Wayne](#); [Hipschman, Thomas](#)  
**Subject:** info: cancellation of 9:00 am diablo canyon pm meeting  
**Date:** Tuesday, October 07, 2014 7:08:06 AM  
**Attachments:** [diablo pm work assignment.docx](#)

---

Bhalchandra, Audrey, and Brian,

I sent you a scheduler cancelling the 9:00 am (eastern) Diablo Canyon meeting today. The reason that it was cancelled is that Jennifer Uhle requested that Eric and I attend the 9:00 am Commission meeting on Fukushima seismic issues in the event questions regarding Diablo Canyon are asked. Attached is the latest Diablo status table. We expect to hear back from Paris So today on the FOE FOIA and someone will be provided with the opportunity to review documents to determine whether or not they can be released. In addition, the path forward on the FOIA for the Sewell report has changed. We had received direction from the Commission to release the report after we had developed a communication plan to ensure that we are prepared for the questions associated with the release of the report. It now appears that the Commission would like to have a COM-SECY written on the release of the report and the Commission formally vote prior to it being released. More details are to follow.

Ryan and Wayne – Eric or I will give you a call filling you in on the background for why we were requested to attend the Commission meeting and the latest direction on release of the Sewell report.

Let me know if you have any questions.

Thanks,

Joe

Diablo PM Work Assignments as of 10/6/14

#	Work assignment	PM(s)	Status – 10/6/14	Date Information Released to the Public
1	Public document room request to release portions of latest Diablo FSAR	Bhalchandra Vaidya	Complete – <u>ML14269A007</u> Publicly available in ADAMS as of 10/1/14	10/1/14
2	Support for response to FOE hearing request	Eric Oesterle, Joe Sebrosky	In process – target issuance 10/6/14	10/6/14 - tentative
3	FOIA review of Sewell report	Eric Oesterle	In process – target date for issuance is 10/6/14	10/6/14 - tentative
4	SSER 7 placed in ADAMS main library	Alan Wang, Eric Oesterle	In process – document has been recalled from storage and will be placed in the ADAMS main library ETA for document being in main library is 10/1/14	10/6/14 - tentative
5	SSER 34 placed in ADAMS main library	Eric and Joe	Version already exists in ADAMS but not sure the veracity of the main library document (no cover letter with the SSER). May need to recall from storage.	10/6/14 - tentative
6	Friends of the Earth (FOE) FOIA response – timing of release of DPO coincident with release of State of California report	Eric Oesterle, Joe Sebrosky, Balwant Singal, Peter Bamford, and Bhalchandra Vaidya.	In process - staff collecting information, FOIA coordinator would like to begin releasing information around 10/8 in a staggered fashion	10/8/14, partial release with more information to follow as redactions are completed
7	EPW congressional question response	Eric Oesterle and Joe Sebrosky	In process – internal meeting on 10/2 to discuss draft response. Target for NRR/DE input is 10/10/14. Targeting providing response to OCA around 10/17 or 10/24	N/A will not be released to the public
8	Continuing support of RIV operability determination	Eric Oesterle and Joe Sebrosky	In process (see project plan)	End of October
9	Development of communication plans for release of operability inspection report and NRR letter to licensee including identification of management briefings and possibility of Commissioners Assistant note	Brian Harris	In process – draft communication plan issued on 10/2	N/A will not be released to the public
10	Development of format for TER to be referenced/included in inspection report and NRR letter to the licensee. NRR letter will also reference inspection report	Audrey Klett	In process – Audrey to work with Ryan Alexander, Rebecca Karas, and Tim Lupold	N/A will not be released to the public

## **10/2/2014 Questions for PG&E Concerning Operability Determination**

1. Provide the bases for use of the Empirical Site-Specific methodology to estimate the site response amplification for DCPD since:
  - a. Only two earthquakes (2003 San Simeon and 2004 Parkfield) are available to implement the approach. In particular, both of these earthquakes occurred at source-to-site distances (35 km for San Simeon and 85 km for Parkfield) and at azimuths that differ from the postulated deterministic scenario events, which occur at much closer source-to-site distances and generally offshore of DCPD.
  - b. A comparison of the response spectrum calculated from the strong motion free-field record of 2003 Deer Canyon earthquake at DCPD with the predicted response spectrum from the NGA-West 2 GMPEs modified with the Empirical Site-Specific Term (ESST) shows a large under prediction of the spectral accelerations over a wide range of frequencies.
  
2. The 2011 PG&E Shoreline Fault Zone Report showed the 84<sup>th</sup> percentile response spectra from the postulated deterministic scenario events using both the Analytical Generic and Empirical Site-Specific site response methodologies to estimate the site response amplification. Provide the basis for using only the Empirical Site-Specific site response methodology to estimate the site response amplification for the 2014 Central Coastal California Seismic Imaging Project (CCCSIP) Report.
  - a. In addition, if the Analytical Generic site response methodology was used rather than the Empirical Site-Specific methodology to develop the 84<sup>th</sup> percentile response spectra from the deterministic scenario events, would there be any effect on the operability of any safety-related SSCs, and if so which SSCs?
  - b. If there would not be any effect on operability, then explain why not, including whether the 84<sup>th</sup> percentile response spectra for any of the postulated deterministic scenario events would exceed the 1977 Hosgri spectrum, and for what frequency ranges.

3. Were the fault rupture scenarios listed in Table 1-1 of Chapter 14 developed based on the definition of a capable fault, per 10 CFR Part 100, Appendix A or are they worst-case scenarios adopted from the current PSHA seismic source evaluation study?

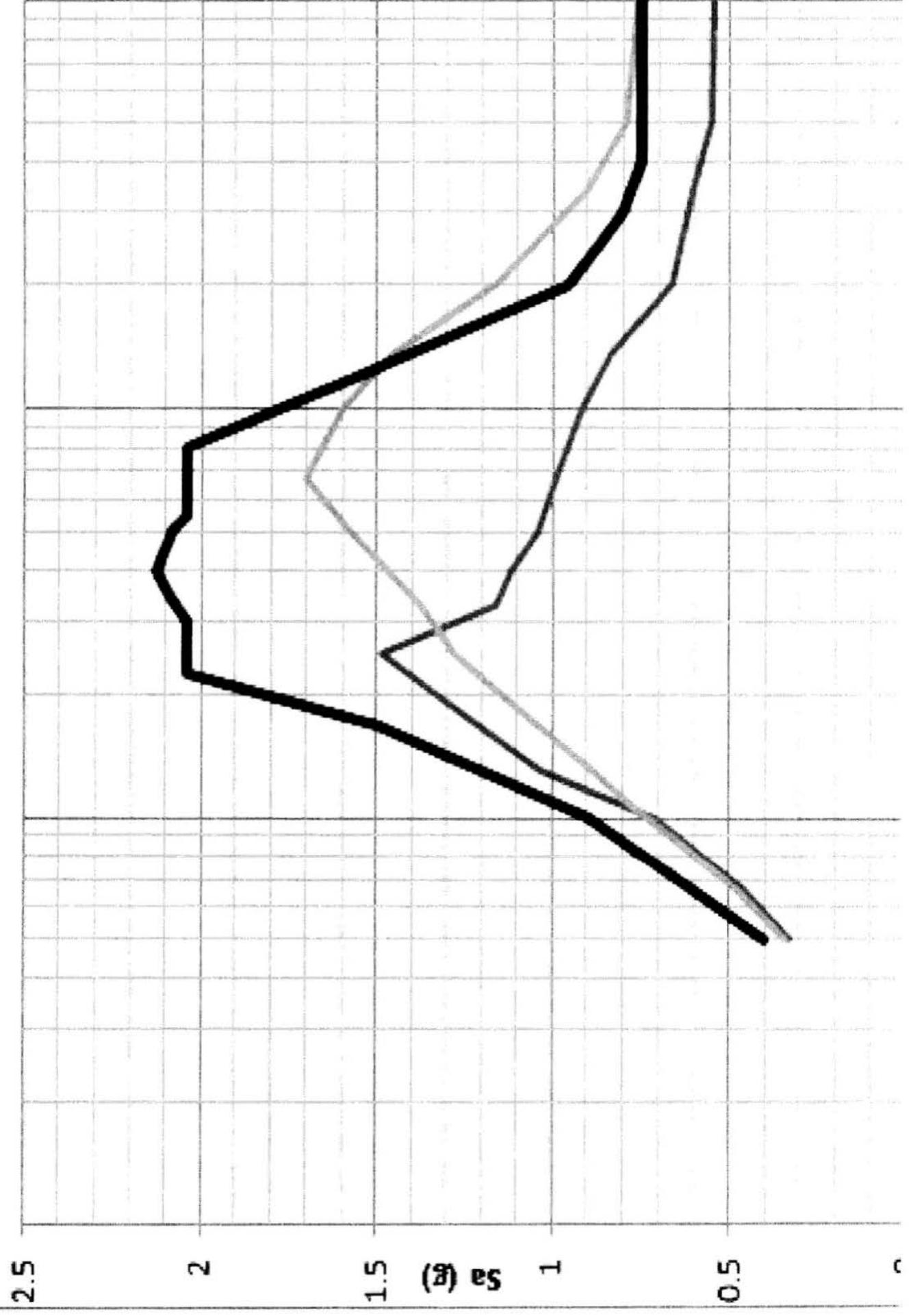
If the former, what is the technical bases supporting the deterministic fault rupture scenarios listed in Table 1-1 of Chapter 14?

- i. How do these technical bases correspond to the capable fault criteria?
- ii. In particular, is there any evidence beyond the possible offset of one of the multiple paleo-stream channels in San Luis Bay for fault displacement on the Shoreline Fault within the last 35,000 years per criteria 1 of the Appendix A definition?
- iii. Is there any geological or seismological evidence to support a linked rupture on the Hosgri and San Simeon faults or the Hosgri and Shoreline faults, per criteria 3 of the Appendix A definition?

## **Status Update on NRC Activities associated with Diablo Canyon Seismic Report**

- I. NRC is in inspection space - Inspection Report 2014-008
  - a. technical evaluation report summarizing HQ staff assessment to support IR
  - b. NRC letter to license – continue w/ 50.54(f) or alternate approach
  - c. Communication Plan development to support issuance of IR and NRC letter to licensee
  - d. Project Plan updates
  
- II. NRC assessment of AB1632 seismic report
  - a. Licensee provides overview 9/18 – discusses deltas from 2011 Shoreline fault report
  - b. NRC identifies need for additional information – communicates 3 Q's to licensee on 9/22
  - c. Licensee provides addition information on 9/29
  - d. NRC develops comparison spectra – requests additional information 3 Q's on 10/3
  - e. Follow-up telecom w/licensee later part of week of 6 Oct 2014 (potential for site visit)
  
- III. Schedule
  - a. Expect TER completion - end of October
  - b. Expect IR 2014-008 completion - end of October
  - c. Expect NRC letter to Licensee on 50.54(f) process – end of October
  - d. Timing of TER, IR, and Letter to Licensee critical – must follow sequence above
  
- IV. Other Activities and Schedule considerations
  - a. PG&E held open house 10/2/14 to discuss results of seismic report – no NRC attendance
  - b. PG&E has decided there will not be another public SSHAC meeting
  - c. Region IV considering NRC public meeting – tentative December 2014 timeframe
  - d. Congressional Hearings – tentatively December 2014 timeframe
  
- V. Additional NRC staff activities (5 – 6 PMs currently supporting DCPD activities)
  - a. Friends of the Earth FOIA response – in process
  - b. EPW Congressional Question response – in process
  - c. PDR request for release of latest DCPD FSAR update – complete
  - d. Support for response to FOE hearing request - complete
  - e. FOIA request for release of Sewell Report – in process
  - f. Place SSER 7 into ADAMS main library – in process
  - g. Place SSER 34 into ADAMS main library – in process
  - h. Assignment of new NRC PM for DCPD (10/6/14)
  - i. DEDO Briefing (tentatively 3<sup>rd</sup> week of Oct.)
  - j. CA Briefing (tentatively 3<sup>rd</sup> week of Oct.)

— PG&E Shoreline Linked      — Shoreline Linked Ergodic      — Hosgri



**From:** [Sehrosky, Joseph](#)  
**To:** [Uhle, Jennifer](#); [Markley, Michael](#); [Lund, Louise](#); [Wilson, George](#)  
**Cc:** [Oesterle, Eric](#); [Klett, Audrey](#); [Harris, Brian](#)  
**Subject:** RE: Diablo canyon  
**Date:** Monday, September 29, 2014 5:54:09 AM  
**Attachments:** [info status of diablo operability review 9-25-14.msg](#)  
[image003.png](#)

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Jennifer,

Attached is the latest on the status of Diablo Canyon issues. There are two issues that the staff believes it needs to address before it can provide you with a recommendation on how to proceed (i.e., single station approach and updating calculations used to resolve the DPO). We received data from PG&E on 9/26 on the single station approach and expect to receive more data today on the DPO calculations. There is a tech staff meeting on 10/1 at which time we hope to be able to make a decision on whether or not we have enough information to make a recommendation or if we need more information or more time. The two issues are discussed in greater detail below. You should also know that Audrey Klett and Brian Harris (JLD PM) have been brought in to help to develop the recommendation letter on whether or not the licensee should proceed with assessing new seismic information using the 50.54(f) process and the communication plan associated with the issuance of an inspection report and the letter back to the licensee based on the data in the 2014 State of California report.

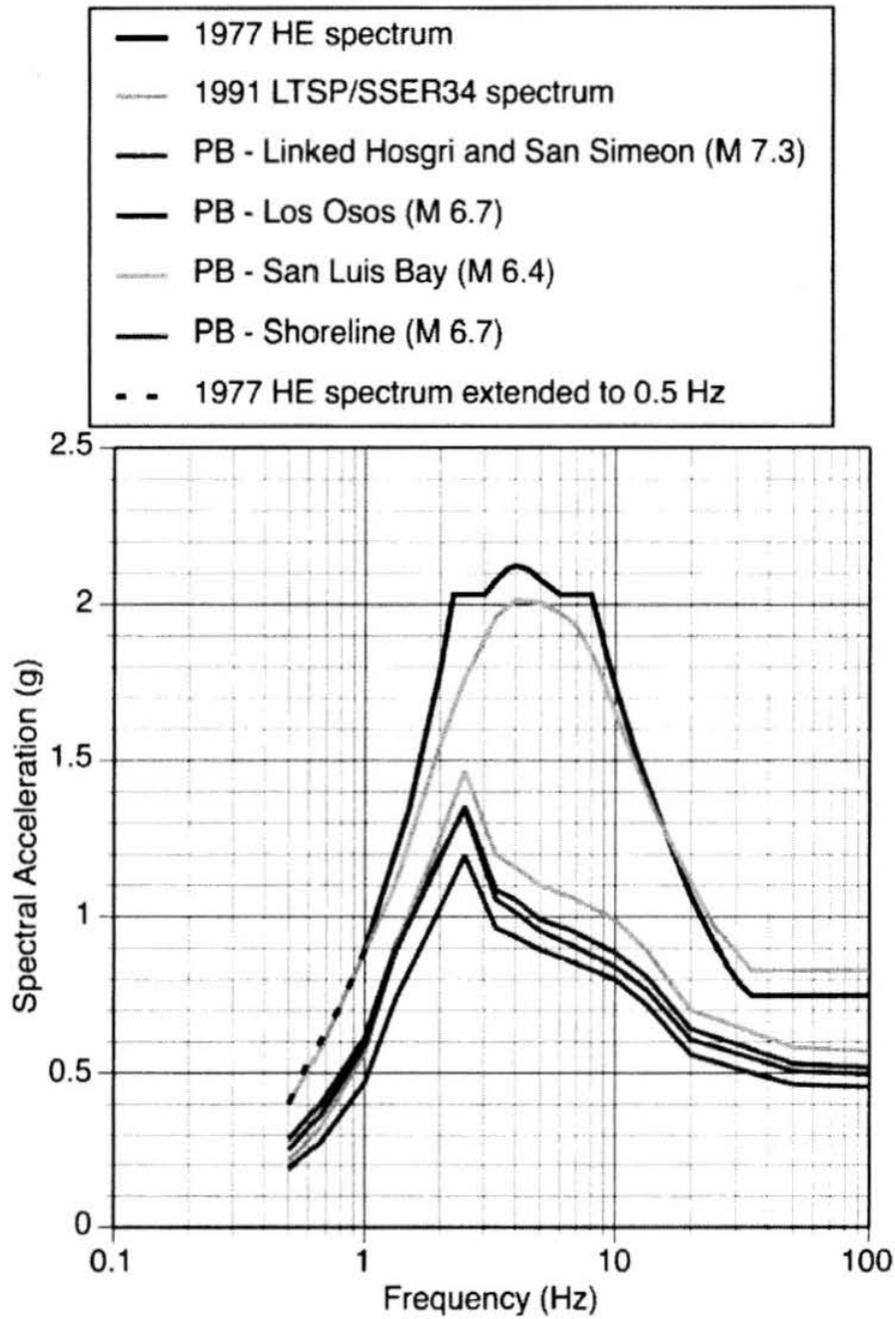
- Single station approach - PG&E provided ground motion response spectrums that used a single station sigma correction (see plots below). The single station approach is discussed in RIL 12-01 (see [ML121230035](#)). The single station approach can be used to address some of the uncertainty in the ground motion prediction equations if high-quality data from a modern seismographic network are available. The single station approach at Diablo was developed based on data from three earthquakes. Although the RIL discusses the single station approach the NRC's deterministic evaluation did not rely on the single station approach so the 2012 RIL curves do not look like the curves below. Jon Ake and Cliff do not think this is a problem. At the time of the RIL the single station approach was new. The approach has since received wider peer reviews and is generally accepted today. If you look at the attached status the first two questions that we asked (which PG&E subsequently provided the data on 9/26) have to do with the single station approach. We have asked for the raw data from three earthquakes to independently verify aspects of the single station approach. If Jon and Cliff are comfortable with how the curves below were developed based on the data from these three earthquakes then their recommendation will be to proceed with the 50.54(f) process. If they are not comfortable then a different recommendation from them will be possible. We just received the raw data and there is a meeting scheduled on Wednesday (10/1) for the technical experts to discuss the issue and determine the following:
  - We have enough information to make a recommendation
  - We need more information
  - We need more time
- Rerunning of DPO calculations – PG&E is in the process of rerunning calculations used to support the resolution of the DPO (see description in DPO case file pdf page 62 of 164 at [ML14252A743](#) which discusses the scaling factors used in the March 2014 PG&E analysis). PG&E indicated that it did not believe that the analysis was needed to demonstrate operability. Nevertheless, PG&E is rerunning the analysis with the data from the 2014 State of California report. We expect to see the results of these calculations today (i.e., 9/29). There is great disagreement within the technical staff as to whether or not these calculations have merit. On 9/19 it was decided by Division Directors (i.e., Pat Hiland (DE), Mike Markley (DORL), Andrea Kock (NRO/DSEA), and Mike Hay (RIV/DRP)), that we would request the calculations as part of our information needs because similar calculations were key to resolving the DPO and the DPO appeal. This issue will also be discussed at Wednesday's technical staff meeting.

Please let me know if you have any questions or if you want me to arrange a briefing for you on the current status.

Thanks,

Joe

File path: S:\100\9301\Figures\TermFigures\_TR14\_09\Figure\_02\_01\_a\_Date:08/10/2014\_User: Seman Bockout.LD



Deterministic Response Spectra (5% Damping)  
for the Power-Block Foundation Level

HAZARD SENSITIVITY AND IMPACT EVALUATION

 Pacific Gas and Electric Company

Figure 2-1

**From:** Uhle, Jennifer  
**Sent:** Friday, September 26, 2014 6:37 PM  
**To:** Markley, Michael; Sebrosky, Joseph; Lund, Louise; Wilson, George  
**Subject:** Diablo canyon

Hi guys. I meant to get an update on where we were with regard to our documenting our "analysis/review" of the information the licensee provided to the State. I know we cannot use the delta-CDF approach. I wanted to ensure that we are not over doing our review. If the seismic experts take a look at the information and do a review and conclude that little if any change in the hazard results from the new discovery of a lengthened shoreline fault, then they can document that. That would mean there is nothing that would make us change the date of the March submittal for the licensee's reevaluation. Is that where we are and has that been communicated to the seismic guys? Thanks, Jennifer

---

**From:** Sebrosky, Joseph  
**Sent:** Thursday, September 25, 2014 12:51 PM  
**To:** Stovall, Scott; Munson, Clifford; Williams, Megan; Li, Yong; Hipschman, Thomas; Walker, Wayne; Oesterle, Eric; Singal, Balwant; Markley, Michael; Jackson, Diane; DiFrancesco, Nicholas; Whaley, Sheena; Uselding, Lara; Ake, Jon; Burnell, Scott; OKeefe, Neil; Farnholtz, Thomas; Manoly, Kamal; Reynoso, John; Hill, Brittain; Dudek, Michael; John Stamatakos (jstam@swri.org); Stirewalt, Gerry; Buchanan, Theresa; Weaver, Thomas; Karas, Rebecca; Graizer, Vladimir; Hiland, Patrick; Ross-Lee, MaryJane; Lupold, Timothy; Wilson, George; Bowers, Anthony; Alexander, Ryan; Hay, Michael; Pruett, Troy; Kock, Andrea; Harris, Brian; Vaidya, Bhalchandra; Klett, Audrey; Smith, Chris  
**Subject:** info: status of diablo operability review 9-25-14

To all,

The purpose of this email is to provide you with updated status regarding the Diablo Canyon operability review. This email includes updates on the status of NRC inspection information requests and the assignment of additional headquarters PMs to help with the workload.

- Based on discussions RIV had with PG&E today, PG&E is targeting providing information that was requested on 9/22 either late today or sometime tomorrow to support the NRC's review of the operability determination. The information that RIV requested was in the following 3 areas:
  - 1) *Provide, as available, the earthquake recordings (time histories and response spectrum ordinates) from the 2003 San Simeon, 2003 Deer Canyon, and 2004 Parkfield earthquakes as recorded at stations ESTA 27 and ESTA 28. These data should reflect the final processed values as used by PG&E in the CEC report.*
  - 2) *Provide the Vs profiles for the power block and turbine building as well as stations ESTA 27 and ESTA 28 as described in the first paragraph of Section 3.2 of the technical report GEO.DCPP.TR.14.06, Rev. 0 (also Ch 11 of the AB1632 CEC Report). Each of the profiles should indicate the starting elevation point for the top of the profile.*
  - 3) *Provide the results of the calculations that were rerun based on the calculations used to support the resolution of the DPO (see description in DPO case file pdf page 62 of 164 at [ML14252A743](#) which discusses the scaling factors used in the March 2014 PG&E analysis). PG&E indicated that it did not believe that the analysis was needed to demonstrate operability. Nevertheless, PG&E was rerunning the analysis with the data from the 2014 State of California report.*
- Access to the information will be via certrec. The following individuals should have received emails yesterday explaining how to access the information (if you have not received an email please inform Ryan Alexander):

NRC HQ

Brittain Hill	<a href="mailto:Brittain.Hill@nrc.gov">Brittain.Hill@nrc.gov</a>
Kamal Manoly	<a href="mailto:Kamal.Manoly@nrc.gov">Kamal.Manoly@nrc.gov</a>
Yong Li	<a href="mailto:Yong.Li@nrc.gov">Yong.Li@nrc.gov</a>
Clifford Munson	<a href="mailto:Clifford.Munson@nrc.gov">Clifford.Munson@nrc.gov</a>
Jon Ake	<a href="mailto:Jon.Ake@nrc.gov">Jon.Ake@nrc.gov</a>

NRC Region IV

Megan Williams	<a href="mailto:Megan.Williams@nrc.gov">Megan.Williams@nrc.gov</a>
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Chris Smith  
Ryan Alexander

[Chris.Smith@nrc.gov](mailto:Chris.Smith@nrc.gov)  
[Ryan.Alexander@nrc.gov](mailto:Ryan.Alexander@nrc.gov)

- Lastly there are now 5 headquarters PMs helping with the Diablo workload. The PMs include me, Eric Oesterle (acting branch chief – future Diablo PM), Bhalchandra Vaidya, Audrey Klett and Brian Harris. Attached is the list of the PM assignments. Each activity has its own support needs so the attached list is not meant to include a list of the support from RIV, NRR/DE, NRO, and RES. The purpose of sharing this information is to ensure you are aware of the PMs that are new to the project so that in the event that they give you a call you will not be surprised.



diablo pm work  
assignment.doc...

In the near term Bhalchandra is helping with processing of a Friends of the Earth (FOE) FOIA and redacted portions of the Diablo FSAR for public release. Audrey is developing an outline for the technical evaluation input that will be provided as a feeder to the inspection report and the NRR letter, and Brian Harris is developing the communication plan to support the issuance of the inspection report and the NRR letter.

- As a gentle reminder the project plan has been updated. The latest version of the project plan can be found at: [View ADAMS P8 Properties ML14260A102](#)  
[Open ADAMS P8 Document \(Project Plan for NRC Staff Review of PG&E's Report to the State of California Regarding Seismic Faults Near the Diablo Canyon Power Plant.\)](#)

Please let me know if you have any questions.

Thanks,

Joe

<b>Work assignment</b>	<b>PM(s)</b>	<b>Status – 9/25/14</b>
Friends of the Earth (FOE) FOIA response	Eric Oesterle, Joe Sebrosky, Balwant Singal, Peter Bamford, and Bhalchandra Vaidya.	In process - staff collecting information
EPW congressional question response	Eric Oesterle and Joe Sebrosky	In process – target for providing draft to RIV 10/1/14
Continuing support of RIV operability determination	Eric Oesterle and Joe Sebrosky	In process (see project plan)
Development of communication plans for release of operability inspection report and NRR letter to licensee including identification of management briefings and possibility of Commissioners Assistant note	Brian Harris	In process – target for draft early week of 9/29
Development of format for TER to be referenced/included in inspection report and NRR letter to the licensee. NRR letter will also reference inspection report	Audrey Klett	In process – Audrey to work with Ryan Alexander, Rebecca Karas, and Tim Lupold
Public document room request to release portions of latest Diablo FSAR	Bhalchandra Vaidya	In process – expect release of portions of the FSAR week of 9/29
Support for response to FOE hearing request	Eric Oesterle, Joe Sebrosky	In process

**From:** [Manoly, Kamal](#)  
**To:** [Sebrosky, Joseph](#)  
**Cc:** [Hill, Brittain](#); [Munson, Clifford](#); [Li, Yong](#); [Markley, Michael](#); [Hiland, Patrick](#); [Ross-Lee, MaryJane](#); [Ake, Jon](#); [Karas, Rebecca](#); [Weaver, Thomas](#); [John Stamatkos](#); [Whaley, Sheena](#); [Young, Mitzi](#); [OKeefe, Neil](#); [Roth\(OGC\), David](#); [Lupold, Timothy](#); [Williams, Megan](#)  
**Subject:** RE: info: status of diablo operability review 9-23-14  
**Date:** Wednesday, September 24, 2014 2:58:48 PM

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Joe,

With regard to the third bullet in your email below about PG&E rerunning the calculation used to support the resolution of the DPO, I concur with PG&E's assertion that such analysis was not really needed to demonstrate operability. The reason is that the threshold to demonstrate operability is based on fundamentally different basis than that used to establish compliance with the licensing basis. Nonetheless, we will have the opportunity to review the re-evaluation to validate the original conclusion.

## Kamal Manoly

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**From:** Sebrosky, Joseph  
**Sent:** Tuesday, September 23, 2014 6:05 AM  
**To:** Stovall, Scott; Munson, Clifford; Williams, Megan; Li, Yong; Hipschman, Thomas; Walker, Wayne; Oesterle, Eric; Singal, Balwant; Markley, Michael; Jackson, Diane; DiFrancesco, Nicholas; Whaley, Sheena; Uselding, Lara; Ake, Jon; Burnell, Scott; OKeefe, Neil; Farnholtz, Thomas; Kanatas, Catherine; Roth(OGC), David; Manoly, Kamal; Reynoso, John; Hill, Brittain; Dudek, Michael; John Stamatkos (jstam@swri.org); Stirewalt, Gerry; Buchanan, Theresa; Weaver, Thomas; Karas, Rebecca; Graizer, Vladimir; Hiland, Patrick; Ross-Lee, MaryJane; Lupold, Timothy; Wilson, George; Bowers, Anthony; Alexander, Ryan; Hay, Michael; Pruett, Troy; Kock, Andrea; Young, Mitzi; Harris, Brian  
**Subject:** RE: info: status of diablo operability review 9-23-14

To all,

The purpose of this email is to provide you with the results of an inspection phone call with the licensee yesterday (9/22) regarding the Diablo Canyon operability review.

Yesterday (9/22) RIV led a call with the licensee to discuss information needs to support the Diablo Canyon operability review. The following two information needs were verbally discussed with the licensee:

- 1) *Provide, as available, the earthquake recordings (time histories and response spectrum ordinates) from the 2003 San Simeon, 2003 Deer Canyon, and 2004 Parkfield earthquakes as recorded at stations ESTA 27 and ESTA 28. These data should reflect the final processed values as used by PG&E in the CEC report.*
- 2) *Provide the Vs profiles for the power block and turbine building as well as stations ESTA 27 and ESTA 28 as described in the first paragraph of Section 3.2 of the technical report GEO.DCPP.TR.14.06, Rev. 0 (also Ch 11 of the AB1632 CEC Report). Each of the profiles should indicate the starting elevation point for the top of the profile.*

The rest of this string may be found as document C/39 in FOIA/PA-2015-0071 (ML15181A428).

**From:** [Sebrosky, Joseph](#)  
**To:** [Hill, Brittain](#)  
**Cc:** [Alexander, Ryan](#); [Walker, Wayne](#); [Karas, Rebecca](#); [Munson, Clifford](#); [Ake, Jon](#); [Li, Yong](#); [Manoly, Kamal](#); [Oesterle, Eric](#); [Markley, Michael](#); [Williams, Megan](#); [Hipschman, Thomas](#)  
**Subject:** question: status of Diablo DDE calcs associated with operability review 9-23-14  
**Date:** Tuesday, September 23, 2014 6:36:17 AM

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Britt,

To answer your question below regarding the Diablo DDE calcs that should be available by the end of the week associated with the operability determination, I expect that the calcs will be made available in an electronic reading room for RIV and headquarters staff to review.

Rebecca,

From my perspective not everyone on the review team will need access to the calcs in the electronic reading room. The following is the list of individuals that I believe need access to the DDE calcs discussed in the email chain below: Britt Hill, Kamal Manoly, Yong Li, Cliff Munson, Jon Ake, and Megan Williams (RIV).

Can you please adjust the list as you see fit and let Ryan Alexander know who should have access to the calcs.

Ryan,

I believe that once you receive the email from Rebecca with the list of individuals that should have access to the calcs, RIV can amend it based on their needs (e.g., if someone other than Megan also needs access) and that you will pass the list onto PG&E so that they can get the electronic reading room access prepared and quickly load the documents when they are available.

Please let me know if I am missing something.

Thanks,

Joe

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**From:** Hill, Brittain  
**Sent:** Tuesday, September 23, 2014 6:27 AM  
**To:** Sebrosky, Joseph  
**Subject:** RE: info: status of diablo operability review 9-23-14

That's good news for the last bullet – if RIV is going to review the calcs, I have some supporting info that might help with the review.

Thanks-

Britt

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**From:** Sebrosky, Joseph

**Sent:** Tuesday, September 23, 2014 6:05 AM

**To:** Stovall, Scott; Munson, Clifford; Williams, Megan; Li, Yong; Hipschman, Thomas; Walker, Wayne; Oesterle, Eric; Singal, Balwant; Markley, Michael; Jackson, Diane; DiFrancesco, Nicholas; Whaley, Sheena; Uselding, Lara; Ake, Jon; Burnell, Scott; OKeefe, Neil; Farnholtz, Thomas; Kanatas, Catherine; Roth(OGC), David; Manoly, Kamal; Reynoso, John; Hill, Brittain; Dudek, Michael; John Stamatakos ([jstam@swri.org](mailto:jstam@swri.org)); Stirewalt, Gerry; Buchanan, Theresa; Weaver, Thomas; Karas, Rebecca; Graizer, Vladimir; Hiland, Patrick; Ross-Lee, MaryJane; Lupold, Timothy; Wilson, George; Bowers, Anthony; Alexander, Ryan; Hay, Michael; Pruett, Troy; Kock, Andrea; Young, Mitzi; Harris, Brian

**Subject:** RE: info: status of diablo operability review 9-23-14

To all,

The purpose of this email is to provide you with the results of an inspection phone call with the licensee yesterday (9/22) regarding the Diablo Canyon operability review.

Yesterday (9/22) RIV led a call with the licensee to discuss information needs to support the Diablo Canyon operability review. The following two information needs were verbally discussed with the licensee:

- 1) *Provide, as available, the earthquake recordings (time histories and response spectrum ordinates) from the 2003 San Simeon, 2003 Deer Canyon, and 2004 Parkfield earthquakes as recorded at stations ESTA 27 and ESTA 28. These data should reflect the final processed values as used by PG&E in the CEC report.*
- 2) *Provide the Vs profiles for the power block and turbine building as well as stations ESTA 27 and ESTA 28 as described in the first paragraph of Section 3.2 of the technical report GEO.DCPP.TR.14.06, Rev. 0 (also Ch 11 of the AB1632 CEC Report). Each of the profiles should indicate the starting elevation point for the top of the profile.*

During the call PG&E provided the following information:

- PG&E will discuss the information needs internally and get back to Region IV when they have a schedule to provide the information. PG&E believes that the information is readily accessible but they need to check with some technical staff before they get back to the region with a schedule.
- Region IV asked whether or not PG&E had determined if it would have a public SSHAC meeting based on the information in the State of California report. PG&E indicated that it is no longer considering a public SSHAC meeting and it will let the NRC know if this position changes. PG&E indicated that it would still most likely proceed with a public outreach meeting on 10/2/14 and that there may be interactions with the State appointed independent peer review panel (IPRP), but a public SSHAC meeting is not considered necessary at this point to support the March 2015 seismic reevaluation submittal.
- PG&E indicated that based on a question from RIV last Friday (9/19) it was rerunning the calculations used to support the resolution of the DPO (see description in DPO case file pdf page 62 of 164 at [ML14252A743](#) which discusses the scaling

factors used in the March 2014 PG&E analysis). PG&E indicated that it did not believe that the analysis was needed to demonstrate operability. Nevertheless, PG&E was rerunning the analysis with the data from the 2014 State of California report and should have the results for the Region to review by the end of this week.

The project plan has been updated to reflect the information above. The latest version of the project plan can be found at:

[View ADAMS P8 Properties ML14260A102](#)

[Open ADAMS P8 Document \(Project Plan for NRC Staff Review of PG&E's Report to the State of California Regarding Seismic Faults Near the Diablo Canyon Power Plant.\)](#)

Please let me know if you have any questions.

Thanks,

Joe

**From:** [Sebrosky, Joseph](#)  
**To:** [Stovall, Scott](#); [Munson, Clifford](#); [Williams, Megan](#); [Li, Yong](#); [Hipschman, Thomas](#); [Walker, Wayne](#); [Oesterle, Eric](#); [Singal, Balwant](#); [Markley, Michael](#); [Jackson, Diane](#); [DiFrancesco, Nicholas](#); [Whaley, Sheena](#); [Uselding, Lara](#); [Ake, Jon](#); [Burnell, Scott](#); [OKeefe, Neil](#); [Farnholtz, Thomas](#); [Kanas, Catherine](#); [Roth\(OGC\), David](#); [Manoly, Kamal](#); [Reynoso, John](#); [Hill, Brittain](#); [Dudek, Michael](#); [John Stamatakos \(jstam@swri.org\)](#); [Stirewalt, Gerry](#); [Buchanan, Theresa](#); [Weaver, Thomas](#); [Karas, Rebecca](#); [Graizer, Vladimir](#); [Hiland, Patrick](#); [Ross-Lee, MaryJane](#); [Lupold, Timothy](#); [Wilson, George](#); [Bowers, Anthony](#); [Alexander, Ryan](#); [Hay, Michael](#); [Pruett, Troy](#); [Kock, Andrea](#); [Young, Mitzi](#); [Harris, Brian](#)  
**Subject:** RE: info: status of diablo operability review 9-22-14  
**Date:** Monday, September 22, 2014 6:00:30 AM  
**Attachments:** [PGE\\_spectral\\_comparison.pptx](#)

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To all,

The purpose of this email is to provide you with the latest status of the Diablo Canyon operability review. Based on discussions with the licensee on 9/18 and an internal meeting directly after that meeting, senior management was briefed on 9/19.

The agenda for the 9/19 meeting can be found below. The outcome of the meeting was as follows:

- RIV took an action to get back to the licensee and inform them that the operability determination should include a discussion of the new hazards against the DDE as well as the Hosgri. (RIV subsequently informed the licensee of this on 9/19 so the licensee is aware of the issue)
- Headquarters will continue to evaluate the State of California report as part of the operability review inspection. If information needs are developed as part of the review they will be provided to RIV and RIV will work with the licensee to get the information needs addressed.
  - For the week of 9/22 Wayne Walker and Ryan Alexander will be the RIV lead for the inspection activities (Tom Hipschman (SRI) is out of the office this week).
  - NRO has scheduled an internal meeting today (9/22) with key technical staff to identify information needs. It is expected that the outcome of that meeting will be provided to Wayne and Ryan
- It was recognized that PG&E may have two public outreach activities in the near term. A public workshop in the beginning of October and a public SSHAC meeting at the end of October. The headquarters staff will continue to review the information in the State of California report and if a public SSHAC meeting is held NRC staff will attend. NRC attendance at the SSHAC meetings is consistent with past practice. It is unclear at this point if the inspection report on the operability determination will be issued before or after the public SSHAC meeting. If an immediate safety concern or operability issue is identified the NRC will take appropriate action regardless of the timing of the SSHAC, but there is some thought that the staff would benefit from the SSHAC discussions as part of its assessment of the information in the State of California report. Regardless the information in the State of California report will be reviewed as part of the March 12, 2015 50.54(f)



**From:** [Ake, Jon](#)  
**To:** [Sebrosky, Joseph](#); [Stovall, Scott](#); [Munson, Clifford](#); [Williams, Megan](#); [Li, Yong](#); [Hipschman, Thomas](#); [Walker, Wayne](#); [Oesterle, Eric](#); [Singal, Balwant](#); [Markley, Michael](#); [Jackson, Diane](#); [DiFrancesco, Nicholas](#); [Whaley, Sheena](#); [Uselding, Lara](#); [Burnell, Scott](#); [OKeefe, Neil](#); [Farnholtz, Thomas](#); [Kanas, Catherine](#); [Roth\(OGC\), David](#); [Manoly, Kamal](#); [Reynoso, John](#); [Hill, Brittain](#); [Dudek, Michael](#); [HQ-OWFN-08B02-12p](#); [John Stamatakos \(jstam@swri.org\)](#); [Stirewalt, Gerry](#); [Buchanan, Theresa](#); [Weaver, Thomas](#); [Karas, Rebecca](#); [Graizer, Vladimir](#); [Hiland, Patrick](#); [Ross-Lee, MaryJane](#); [Lupold, Timothy](#); [Wilson, George](#); [HQ-OWFN-08B06-12p](#)  
**Cc:** [DE\\_Calendar Resource](#)  
**Subject:** RE: info: status of diablo operability review  
**Date:** Friday, September 19, 2014 7:19:59 AM

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To all-

Please note, this was prepared by myself (Jon) and Cliff. We have not really been able to do any more than visually compare these to the plots in the report for the purposes of checking. We will need to double check next week.

Jon

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From: Sebrosky, Joseph  
Sent: Friday, September 19, 2014 6:02 AM  
To: Stovall, Scott; Munson, Clifford; Williams, Megan; Li, Yong; Hipschman, Thomas; Walker, Wayne; Oesterle, Eric; Singal, Balwant; Markley, Michael; Jackson, Diane; DiFrancesco, Nicholas; Whaley, Sheena; Uselding, Lara; Ake, Jon; Burnell, Scott; OKeefe, Neil; Farnholtz, Thomas; Kanas, Catherine; Roth(OGC), David; Manoly, Kamal; Reynoso, John; Hill, Brittain; Dudek, Michael; HQ-OWFN-08B02-12p; John Stamatakos (jstam@swri.org); Stirewalt, Gerry; Buchanan, Theresa; Weaver, Thomas; Karas, Rebecca; Graizer, Vladimir; Hiland, Patrick; Ross-Lee, MaryJane; Lupold, Timothy; Wilson, George; HQ-OWFN-08B06-12p  
Cc: DE\_Calendar Resource  
Subject: info: status of diablo operability review

To all,

The purpose of this email is to provide you with the status of the diablo operability review. Since our internal meeting yesterday two things have happened: 1) Jon Ake has provided plots comparing the 2014 State of California report information to the information in the 2011 shoreline fault report, and 2) a senior management meeting has been scheduled for 9/19 at 1:00 pm (eastern). The plots and the agenda for the senior management meeting are found below. The branch chiefs are meeting in the morning to discuss the issue. Currently the thinking is that the senior management meeting will need to have limited technical assistance. If this changes based on feedback from the 8:00 am branch meeting I will let you know.

As always please let me know if you have any questions or if you think I am missing something.

Thanks,

Joe

Plots

Jon provided the following cautions associated with the plots.

Attached is a set of two plots comparing the PG&E 2011 and 2014 84th-percentile response spectra for the 4 major faults that control the hazard at DCP. For the most part the results are lower for the 2014 results compared to the 2011 estimates.

It is important to remember that this assumes that all elements of the PG&E assessment are "correct" and we agree with them. We will need to spend some time over the next couple of weeks verifying the PG&E calculations were done correctly. The matter of if we agree with the assumptions may take a bit longer to sort out (or at least reach internal agreement).

**From:** [Stovall, Scott](#)  
**To:** [Graizer, Vladimir](#); [Sebrosky, Joseph](#); [Munson, Clifford](#); [Williams, Megan](#); [Li, Yong](#); [Hipschman, Thomas](#); [Walker, Wayne](#); [Oesterle, Eric](#); [Singal, Balwant](#); [Markley, Michael](#); [Jackson, Diane](#); [DiFrancesco, Nicholas](#); [Whaley, Sheena](#); [Uselding, Lara](#); [Ake, Jon](#); [Burnell, Scott](#); [OKeefe, Neil](#); [Farnholtz, Thomas](#); [Kanas, Catherine](#); [Roth\(OGC\), David](#); [Manoly, Kamal](#); [Reynoso, John](#); [Hill, Brittain](#); [Dudek, Michael](#); [HQ-OWFN-08B02-12p](#); [John Stamatakos \(jstam@swri.org\)](#); [Stirewalt, Gerry](#); [Buchanan, Theresa](#); [Weaver, Thomas](#); [Karas, Rebecca](#); [Hiland, Patrick](#); [Ross-Lee, MaryJane](#); [Lupold, Timothy](#); [Wilson, George](#); [HQ-OWFN-08B06-12p](#)  
**Cc:** [DE\\_Calendar Resource](#)  
**Subject:** RE: info: status of diablo operability review  
**Date:** Friday, September 19, 2014 9:34:24 AM

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I thought I heard yesterday PG&E state that the peak at 2.5 Hz is from site response. Based on the Average Vs profiles this seems reasonable.

Scott Stovall

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**From:** Graizer, Vladimir **Sent:** Friday, September 19, 2014 8:41 AM  
**To:** Sebrosky, Joseph; Stovall, Scott; Munson, Clifford; Williams, Megan; Li, Yong; Hipschman, Thomas; Walker, Wayne; Oesterle, Eric; Singal, Balwant; Markley, Michael; Jackson, Diane; DiFrancesco, Nicholas; Whaley, Sheena; Uselding, Lara; Ake, Jon; Burnell, Scott; OKeefe, Neil; Farnholtz, Thomas; Kanas, Catherine; Roth(OGC), David; Manoly, Kamal; Reynoso, John; Hill, Brittain; Dudek, Michael; HQ-OWFN-08B02-12p; John Stamatakos (jstam@swri.org); Stirewalt, Gerry; Buchanan, Theresa; Weaver, Thomas; Karas, Rebecca; Hiland, Patrick; Ross-Lee, MaryJane; Lupold, Timothy; Wilson, George; HQ-OWFN-08B06-12p  
**Cc:** DE\_Calendar Resource  
**Subject:** RE: info: status of diablo operability review

What looks puzzling to me are the shapes of 2014 Hosgri and Shoreline spectra:

What is the origin of an "angle" at 2.5 Hz?

Do they attribute it to site response or a very strong hanging wall effect?

---

**From:** Sebrosky, Joseph  
**Sent:** Friday, September 19, 2014 6:03 AM  
**To:** Stovall, Scott; Munson, Clifford; Williams, Megan; Li, Yong; Hipschman, Thomas; Walker, Wayne; Oesterle, Eric; Singal, Balwant; Markley, Michael; Jackson, Diane; DiFrancesco, Nicholas; Whaley, Sheena; Uselding, Lara; Ake, Jon; Burnell, Scott; OKeefe, Neil; Farnholtz, Thomas; Kanas, Catherine; Roth(OGC), David; Manoly, Kamal; Reynoso, John; Hill, Brittain; Dudek, Michael; HQ-OWFN-08B02-12p; John Stamatakos (jstam@swri.org); Stirewalt, Gerry; Buchanan, Theresa; Weaver, Thomas; Karas, Rebecca; Graizer, Vladimir; Hiland, Patrick; Ross-Lee, MaryJane; Lupold, Timothy; Wilson, George; HQ-OWFN-08B06-12p  
**Cc:** DE\_Calendar Resource  
**Subject:** info: status of diablo operability review

To all,

The purpose of this email is to provide you with the status of the diablo operability review. Since our internal meeting yesterday two things have happened: 1) Jon Ake has provided plots comparing the 2014 State of California report information to the information in the 2011 shoreline fault report, and 2) a senior management meeting has been scheduled for 9/19 at 1:00 pm (eastern). The plots and the agenda for the senior management meeting are found below. The branch chiefs are meeting in the

morning to discuss the issue. Currently the thinking is that the senior management meeting will need to have limited technical assistance. If this changes based on feedback from the 8:00 am branch meeting I will let you know.

As always please let me know if you have any questions or if you think I am missing something.

Thanks,

Joe

#### Plots

Jon provided the following cautions associated with the plots.

*Attached is a set of two plots comparing the PG&E 2011 and 2014 84th-percentile response spectra for the 4 major faults that control the hazard at DCP. For the most part the results are lower for the 2014 results compared to the 2011 estimates.*

*It is important to remember that this assumes that all elements of the PG&E assessment are "correct" and we agree with them. We will need to spend some time over the next couple of weeks verifying the PG&E calculations were done correctly. The matter of if we agree with the assumptions may take a bit longer to sort out (or at least reach internal agreement).*

<< File: PGE\_spectral comparison.pptx >>

#### Senior Management Meeting Draft Agenda (subject to change)

**Purpose:** internal meeting with SES managers to discuss process going forward for Diablo Canyon operability determination associated with new seismic information in the State of California report

**Outcome:** Decision made on how to proceed

#### **Agenda:**

- I. Background – new information in report regarding the capabilities of several faults including the Hosgri-San Simeon, Shoreline, San Luis Bay and Los Osos (see table below)
  - a. Table below provides description of changes to various faults
  - b. Figure below is a plot of the new ground motion response spectrum for the various faults

- c. PG&E operability determination based on comparison of new ground motion response spectrum to hosgri
- d. Public released DPO and DPO appeal suggests in the 2012 time frame the licensee should have also compared the new hazards to the DDE
  - i. DPO decision documents the additional analysis that was done by the licensee
- II. Issue – what is the NRC’s position on the calcs that the licensee should do to verify operability
  - a. Position that no additional calcs are needed
  - b. Position that calcs or comparisons are needed based on precedence set in DPO
    - i. Possibility of doing a comparison between 2014 ground motion plots vs 2011 plots for San Luis Bay, Los Osos, and Shoreline
      - 1. If 2014 plots bounded by 2011 plots no additional calcs are needed because the DDE plots would be bounded
      - 2. Hosgri/san simeon no 2011 plots licensee would have to do some calcs for this scenario
- III. Recommendation
- IV. Next steps
- V. Wrapup

Fault	2011 Shoreline Report		Updated Parameters		Mag. (90th fractile)	Maximum
	Maximum Length (km)	Minimum Dip (degrees)	Maximum Length (km)	Minimum Dip (degrees)		
Shoreline	23	90	6.5	45	90	6.7
Hosgri	110	80	7.1	171	75	7.3
Los Osos	36	45	6.8	36	55	6.7
San Luis Bay	16	50	6.3	16	50	6.4

<< OLE Object: Picture (Device Independent Bitmap) >>

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

**From:** Sebrosky, Joseph

**Sent:** Tuesday, September 16, 2014 9:37 AM

**To:** Sebrosky, Joseph; Stovall, Scott; Munson, Clifford; Williams, Megan; Li, Yong; Hipschman, Thomas; Walker, Wayne; Oesterle, Eric; Singal, Balwant; Markley, Michael; Jackson, Diane; DiFrancesco, Nicholas; Whaley, Sheena; Uselding, Lara; Ake, Jon; Burnell, Scott; OKeefe, Neil; Farnholtz, Thomas; Kanatas, Catherine; Roth(OGC), David; Manoly, Kamal; Reynoso, John; Hill, Brittain; Dudek, Michael; HQ-OWFN-08B02-12p; John Stamatakos ([jstam@swri.org](mailto:jstam@swri.org)); Stirewalt, Gerry; Buchanan, Theresa;

Weaver, Thomas; Karas, Rebecca; Graizer, Vladimir; Hiland, Patrick; Ross-Lee, MaryJane; Lupold, Timothy; Wilson, George; HQ-OWFN-08B06-12p

**Cc:** DE\_Calendar Resource

**Subject:** internal meeting to discuss path forward based on information from phone call with PG&E

**When:** Thursday, September 18, 2014 2:30 PM-4:00 PM (UTC-05:00) Eastern Time (US & Canada).

**Where:** HQ-OWFN-08B06-12p

Bridge: 888-677-0690

Passcode: (b)(6)

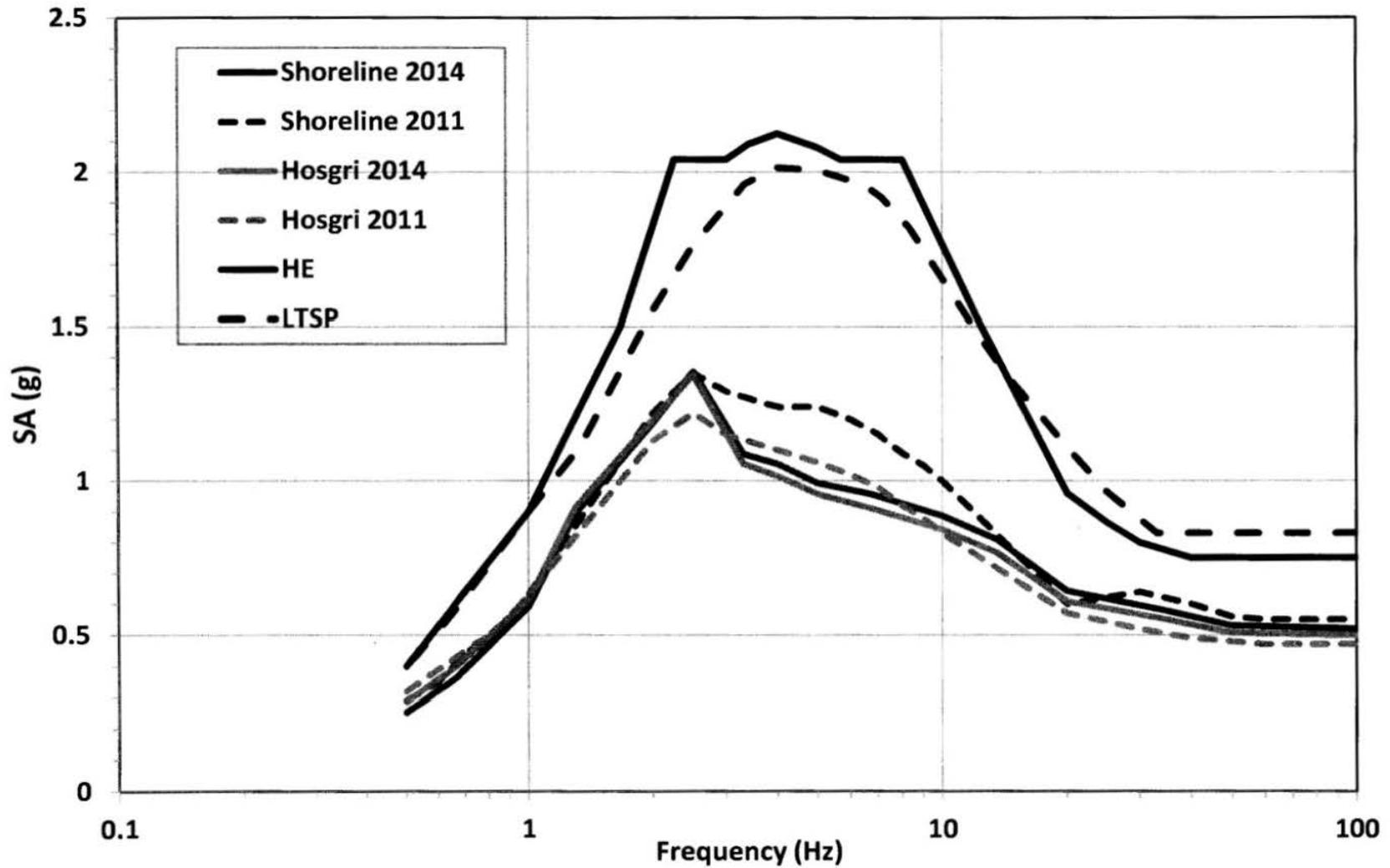
**Purpose:** Internal meeting to discuss path forward on inspection of PG&E operability determination based on information in State of California report

**Outcome:** Determination made on how to proceed including information needs, and briefing of senior management as appropriate

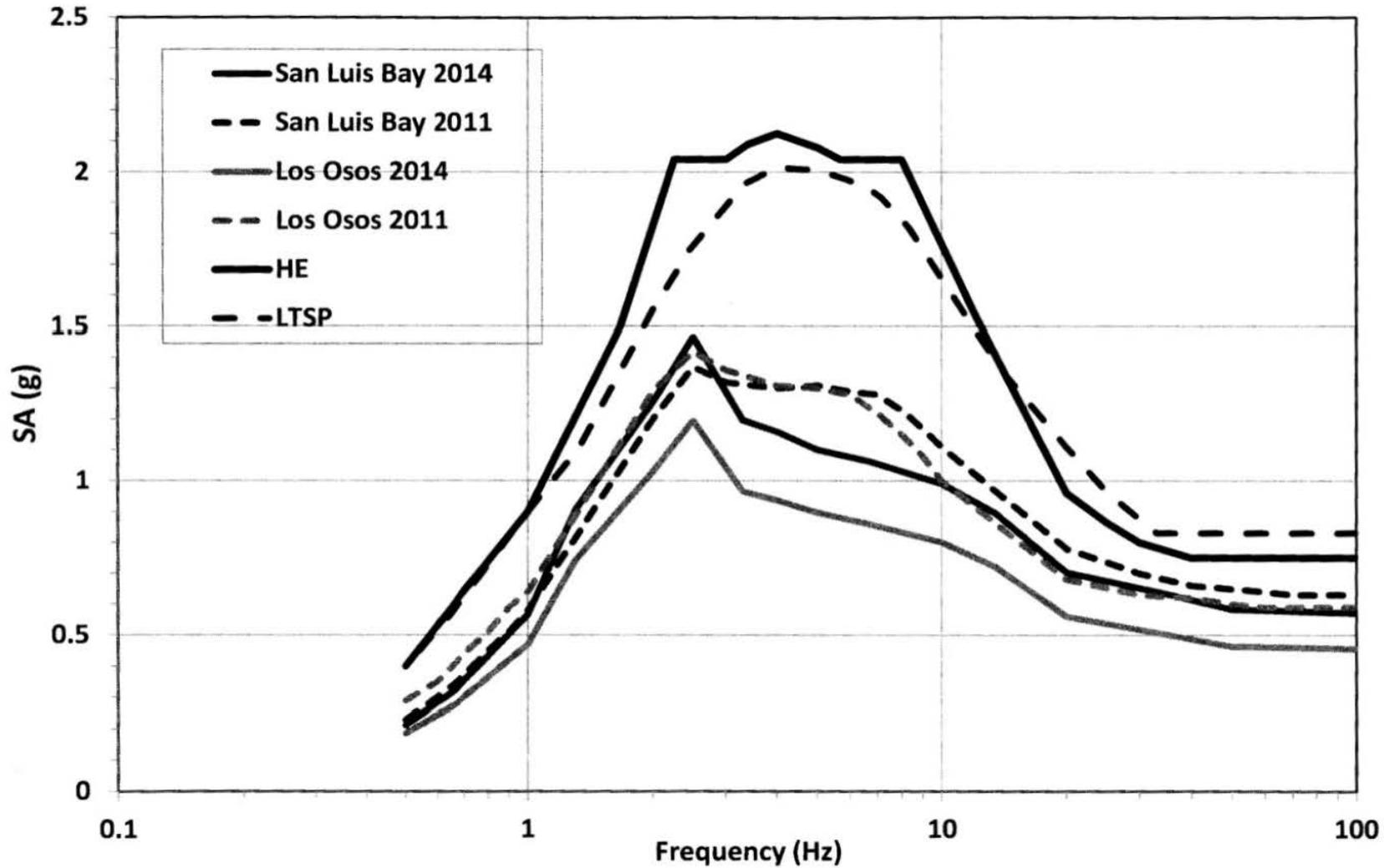
**Agenda:**

- I. Discussion of results of insights gained from immediately preceding phone call with PG&E
- II. Discussion of information needs
- III. Discussion of PG&E's positions on whether or not in-structure motions have been done or need to be done
- IV. Next steps
- V. Wrapup

### PG&E Results-Comparison of Hosgri and Shoreline Fault Spectra: 84th-Percentile-2011 vs 2014, Power Block Elevation



**PG&E Results-Comparison of Los Osos and San Luis Bay Fault Spectra:  
84th-percentile, 2011 vs 2014 Power Block Elevation**



**From:** [Scott, Michael](#)  
**To:** [Oesterle, Eric](#)  
**Cc:** [Pedersen, Renee](#); [Wilson, George](#); [Markley, Michael](#); [Broaddus, Doug](#)  
**Subject:** RE: New AskManagement Submission  
**Date:** Monday, November 10, 2014 5:48:54 PM

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Thanks Eric. I assume the information in the Comm Plan you sent can be freely shared with staff. Please confirm.

Mike

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

From: Oesterle, Eric  
Sent: Monday, November 10, 2014 8:20 AM  
To: Scott, Michael  
Cc: Pedersen, Renee; Wilson, George; Markley, Michael; Broaddus, Doug  
Subject: RE: New AskManagement Submission

Mike,

We prepared a mini Comm-plan associated with the EDO Decision on the Appeal of the DPO (see attached) and the release of the DPO Case file for public availability. Perhaps the attached will address the question. Like Mike Markley indicated, there is no indication that we will be responding directly to the 9/19 article.

Eric R. Oesterle  
NRC Project Manager  
Diablo Canyon Power Plant  
Cooper Nuclear Station  
NRR/DORL/LPL4-1  
301-415-1014

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

From: Markley, Michael  
Sent: Monday, November 10, 2014 8:10 AM  
To: Scott, Michael; Broaddus, Doug  
Cc: Oesterle, Eric; Pedersen, Renee; Wilson, George  
Subject: RE: New AskManagement Submission

Mike,

We had all kinds of stuff going at the time of the DPO Director's Decision and EDO Appeal. The DCPM, Eric Oesterle can provide you with the information subject to our communications plan, but OE owns the DPO process. Rene Pedersen would be the right person to discuss the DPO. I do not believe there is a Sharepoint link.

There were a lot of articles. Some making assertions about how the DPO was handled and timing. We have referred some to the OIG. In DCPM space, September 19 is a long time ago. We are responding to about 10 DCPM Congressional/concerned citizen items right now. I will have the PM, Eric Oesterle take a look, but my guess is we are not responding explicitly to the September 19 article.

Mike

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

From: Scott, Michael  
Sent: Friday, November 07, 2014 5:42 PM  
To: Markley, Michael; Broaddus, Doug  
Subject: FW: New AskManagement Submission

Gentlemen:

Can whichever of you has cognizance of Diablo Canyon please help me out? Can you please ask the PM to send me a link to a Sharepoint site or wherever else that we have compiled information on the Diablo Canyon seismic DPO and the Agency's review and response to it? The below question was submitted anonymously by someone on the Region I staff. I would like to answer it with a simple link to wherever the info can be found, if such a link exists.

Thanks in advance for your help.

Michael (Mike) Scott  
Deputy Director  
Division of Reactor Projects  
Region I  
(610) 337-5126

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

From: r1askmanagement@nrc.gov [<mailto:r1askmanagement@nrc.gov>]  
Sent: Friday, October 31, 2014 7:29 AM  
To: R1ASKMANAGEMENT RESOURCE  
Subject: New AskManagement Submission

On September 19, The Santa Barbara Independent ran an article, which was also put on the R1 website, about the former Diablo Canyon SRI who had a concern about how Diablo Canyon's new seismic information was handled and did not feel that is DPO about this concern was adequately addressed. Does the NRC plan to do anything additional to address his concern in light of the recent article? If so, please inform us of the resolution to this when it is concluded.

**From:** [Chen, Qiao-Lynn](#)  
**To:** [Markley, Michael](#)  
**Subject:** FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)  
**Date:** Thursday, September 25, 2014 1:57:53 PM

---

FYI

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

From: Walker(NRR), Sandra  
Sent: Thursday, September 25, 2014 1:57 PM  
To: Chen, Qiao-Lynn  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Hi Lynn,

The ticket has been closed in STARS. Since it was just an appropriate action I was able to access STARS and state that staff will not be responding.

Thanks,  
Sandra

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

From: Chen, Qiao-Lynn  
Sent: Thursday, September 25, 2014 7:58 AM  
To: Walker(NRR), Sandra  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)  
Importance: High

Good Morning Sandra,  
Would you be able to help me with this answer.

Thank you!

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

From: Burkhardt, Janet  
Sent: Thursday, September 25, 2014 7:52 AM  
To: Chen, Qiao-Lynn; Cox, Linda  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)  
Importance: High

Can either of you please respond to Mike? I have never heard of STARS and don't know how to advise him.

Jan

\*\*\*\*\*  
-----Original Message-----

From: Markley, Michael  
Sent: Thursday, September 25, 2014 7:46 AM  
To: Burkhardt, Janet  
Cc: Orf, Tracy  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Jan,

Do I close a STARS ticket in the same manner as we request extensions for due dates.

Mike

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

From: Stuchell, Sheldon  
Sent: Wednesday, September 24, 2014 5:59 PM  
To: Dudek, Michael; Markley, Michael  
Cc: Mohseni, Aby; Banic, Merrilee; Mensah, Tanya; Khanna, Meena; Singal, Balwant; Oesterle, Eric; Pedersen, Renee  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Mike & Mike,

I'd like to make sure this issue is closed, and any ticket assigned to NRR is closed. Any correspondence coming to the NRC can be considered as a 2.206 petition, if it meets the requirements of our MD and is determined to be an actual petition. In this case, the submittal does not meet the requirements to be a 2.206 petition, and should be considered general correspondence.

The e-mail chain below can be confusing, and I must point out that no single individual submitted this correspondence. It was not Mr. Peck. Mr. Peck, one of our Sr. Resident Inspector's, did in fact have a DPO about Diablo, but that DPO has been dispositioned. The submitter in this case was "change.org."

Therefore, there is no individual we can respond to.

I highly recommend this be closed with no further action. As noted in the ticket, staff is to respond "as appropriate." In this case, the appropriate response is no response to an organization.

If there are still questions as to how to close the issue, it should be worked out between Mike and Mike. This is not a 2.206 petition and NRR/DPR is not involved.

Hope this helps,  
Sheldon

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

From: Banic, Merrilee  
Sent: Wednesday, September 24, 2014 1:36 PM  
To: Stuchell, Sheldon  
Cc: Mensah, Tanya  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

A little background:  
If change.org is basing its petition on M. Peck's, a Sr Resident's, DPO, the NRC resolved his DPO:  
<http://r1.nrc.gov/headlines/DiabloSafe.9-18-2014.pdf>

From: Stuchell, Sheldon  
Sent: Wednesday, September 24, 2014 12:34 PM  
To: Dudek, Michael; Mensah, Tanya; Banic, Merrilee; Markley, Michael; Kokajko, Lawrence; Khanna, Meena  
Cc: Singal, Balwant; Oesterle, Eric; Pedersen, Renee  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

All,

The easiest solution to this, is for the DORL PM to respond by e-mail to the submitter (he is not a petitioner) and let him know that we have received his general correspondence and thank him for his interest in nuclear safety. There is no need to expound or explain any further than that.

We receive numerous submittals all year long, that require nothing more than an acknowledgement.

Sheldon

From: Dudek, Michael  
Sent: Wednesday, September 24, 2014 12:25 PM  
To: Mensah, Tanya; Banic, Merrilee; Markley, Michael; Kokajko, Lawrence; Khanna, Meena  
Cc: Singal, Balwant; Oesterle, Eric; Pedersen, Renee; Stuchell, Sheldon  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

All: As a result of the past e-mails, it now appears that we (the staff) have an action to contact the petitioner (Mr. Peck) to have him formally submit the petition in hard-copy to the NRC so that we have an official record of his concerns.

Question: Does the staff want to take this action, or should I try to go back through the Chairman's Office for this request since that is where is action originated?

Please advise.

Michael I. Dudek  
Michael I. Dudek | OEDO Executive Technical Assistant | U.S. NRC  
• Michael.Dudek@nrc.gov <<mailto:Michael.Dudek@nrc.gov>> | •: (301) 415-6500 | BB: (b)(6)

From: Mensah, Tanya  
Sent: Wednesday, September 24, 2014 11:24 AM  
To: Banic, Merrilee; Markley, Michael; Kokajko, Lawrence; Khanna, Meena  
Cc: Singal, Balwant; Oesterle, Eric; Pedersen, Renee; Dudek, Michael; Stuchell, Sheldon  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

To expand on Lee's comment, in the past we've had several petitioners attempt to direct us to their personal websites or blogs to "download" 2.206 petitions and other supplemental materials. In consultation w/ OGC years ago, their position has always

been consistent with MD 8.11, that the petition be submitted in writing. In these cases, the PM simply informed the petitioner of the process to submit a 2.206 petition, in writing, if they want their concerns considered under that process.

Members of the public often change their website links/blogs. Their URLs may not even exist in a year. So we need an official NRC record of the petitioner's concerns, which they have to submit in writing to the NRC. If the petitioner has videos or other electronic media to support their 2.206 petition, we advise them of the proper way to submit it. I think the DCD has guidance on the proper submission of electronic media to ensure that it is docketed.

Tanya

From: Banic, Merrilee  
Sent: Wednesday, September 24, 2014 8:32 AM  
To: Markley, Michael; Kokajko, Lawrence; Khanna, Meena  
Cc: Singal, Balwant; Oesterle, Eric; Mensah, Tanya; Pedersen, Renee; Dudek, Michael; Stuchell, Sheldon  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Per our MD 8.11 "Section 2.206 requires that the petition be submitted in writing and provide the grounds for taking the proposed action...."

From: Markley, Michael  
Sent: Wednesday, September 24, 2014 8:11 AM  
To: Kokajko, Lawrence; Khanna, Meena  
Cc: Singal, Balwant; Oesterle, Eric; Mensah, Tanya; Banic, Merrilee; Pedersen, Renee; Dudek, Michael  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Lawrence and Tim,

The assertion that this follows the process in 2.206 for submitting petitions to the EDO seems highly out of process. We should not have to download software to review a submittal to the NRC. Likewise, we should not have to go through extreme measures to access the information via an external website. I am struggling to see how the link provides an actual petition. It merely asserts that Michael Peck's DPO should provide the basis for a petition to shut down the plant. This is highly out of process.

From my view, we have nothing to process here. The petitioner should be referred to the regulations in 2.206 and follow the process. NRR/DPR may disagree, but I do not see a document that we have submitted in an official manner that warrants the assignment of a petition manager. Let's talk. I do not see a basis for entering this into the petition process.

Mike Markley

From: Dudek, Michael  
Sent: Tuesday, September 23, 2014 2:43 PM  
To: Markley, Michael  
Cc: Singal, Balwant; Oesterle, Eric  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

I went onto my iPhone and found it on the web site.

[cid:image001.jpg@01CFD800.6EB578A0]  
Petitioning Nuclear Regulatory Commission  
Decommission the aging Diablo Canyon Nuclear Power Plant 1.  
[cid:image002.jpg@01CFD800.6EB578A0]<[https://www.change.org/organizations/uncommon\\_folk](https://www.change.org/organizations/uncommon_folk)>

2.

1. Petition by

Uncommon Folk<[https://www.change.org/organizations/uncommon\\_folk](https://www.change.org/organizations/uncommon_folk)>

In fault-ridden San Luis Obispo County, stands California's last two operating nuclear reactors in the aging Diablo Canyon Power Plant (circa 1973). They are located proximally to the Los Osos, Hosgri, San Andreas, and Shoreline Faults, along shores near Avila Beach.

According to a recent report by Michael Blood (ABC 30 Action News); a senior federal nuclear expert, Michael Peck, has urged regulators to shut down the aging power plant until they can determine whether or not the facility's twin reactors can withstand an earthquake of similar or larger size than the one that recently shook Napa. Blood reports:

Peck, who for five years was Diablo Canyon's lead on-site inspector, says in a 42-page, confidential report that the Nuclear Regulatory Commission is not applying the safety rules it set out for the plant's operation.

In light of the unfolding disaster at the Fukushima Daichii power plant, we the undersigned are asking that Governor Jerry Brown support us in demanding that the Diablo Canyon Plant be shut down until it can be properly earthquake tested and Michael Peck's charges of negligence be thoroughly investigated.

Or better yet, we ask that Jerry Brown work to shut down the Diablo Canyon Plant permanently, as it is located in such an

unsafe region.

We the undersigned ask that NRC Inspector General Hubert T. Bell, Chairman Allison Macfarlane, and Governor Jerry Brown listen to the experts and heed the warnings of recent history, so we are not collectively doomed to repeat such catastrophic failures.

For the sake of California and its citizens, young and old. please shut down the Diablo Canyon Nuclear Power Plant!

Here is a short and enlightening PBS video that was made before several more major faultlines were found in that area...making it even MORE imperative that these professional opinions be heeded. Please take a few minutes to watch. There is a long history of lies and suppression of information surrounding the Diablo Canyon Nuclear Plant, at the peril of our citizens and their families->

<http://video.pbs.org/video/2056655205/>

MORE PETITIONS TO SIGN. THIS MOVEMENT IS GAINING MOMENTUM, THANKS TO ALL OF YOU. Please sign them all and PASS IT ON! Together we can do it->

(1) [http://action.foe.org/p/dia/action3/common/public/?action\\_KEY=16333](http://action.foe.org/p/dia/action3/common/public/?action_KEY=16333)

(2) [http://petitions.moveon.org/sign/nrc-shut-down-diablo?source=s.icn.tw&r\\_by=7595393](http://petitions.moveon.org/sign/nrc-shut-down-diablo?source=s.icn.tw&r_by=7595393)

(3) [http://act.credoaction.com/sign/diablo\\_canyon](http://act.credoaction.com/sign/diablo_canyon)

IMPORTANT TO THOSE LIVING IN NEAR DIABLO CANYON. RECENT STUDY INDICATES SIGNIFICANTLY HIGHER CANCER RATES IN RESIDENTS->

<http://calcoastnews.com/2014/03/high-cancer-rates-near-diablo-canyon-nuclear-plant/>

<http://www.helencaldicottfoundation.org/blogs/health-studies-explode-the-myth-of-the-'safe'-nuclear-power-plant.html> <<http://www.helencaldicottfoundation.org/blogs/health-studies-explode-the-myth-of-the-'safe'-nuclear-power-plant.html>>

<http://worldbusiness.org/nuclear-power-health-impact-study/>

More information->

<http://worldbusiness.org/safe-energy-project/close-diablo-canyon-nuclear-power-plant/>

<http://worldbusiness.org/nuclear-regulators-hear-from-angry-public-on-diablo-canyon-plant/>

<http://www.sfgate.com/news/article/Earthquake-concerns-prompt-call-to-shut-nuclear-5711717.php>

<http://www.cbsnews.com/news/california-earthquake-expert-urges-nuclear-plant-closure-over-threat/>

<http://www.dailynews.com/general-news/20140825/diablo-canyon-nuclear-plant-should-be-closed-for-quake-testing-expert-says>

To:

Nuclear Regulatory Commission, Hubert T. Bell, Inspector General at the NRC Nuclear Regulatory Commission, Allison Macfarlane, Chairman of the NRC Sen. Barbara Boxer, California Gov. Jerry Brown, California Decommissioning Diablo Canyon Nuclear Power Plant

Sincerely,

[Your name]

Michael I. Dudek | OEDO Executive Technical Assistant | U.S. NRC

•: Michael.Dudek@nrc.gov <<mailto:Michael.Dudek@nrc.gov>> | •: (301) 415-6500 | BB

(b)(6)

From: Markley, Michael

Sent: Tuesday, September 23, 2014 2:24 PM

To: Dudek, Michael

Cc: Singal, Balwant; Oesterle, Eric

Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Mike,

Can we go back to the Chairman's office to get a hard copy of the petition.? We are having no luck in accessing the document via the links.

Mike

From: Singal, Balwant  
Sent: Tuesday, September 23, 2014 12:42 PM  
To: Mensah, Tanya  
Cc: Oesterle, Eric; Markley, Michael  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Cathy was unable to help (could not open the file from the link in the file). She suggested contacting CSC. CSC was on my desk yesterday, but were also unable to open the file. They believe there is a problem with the link. Hence, as of now we do not have a resolution and do not have a copy of the petition.

From: Mensah, Tanya  
Sent: Tuesday, September 23, 2014 11:57 AM  
To: Markley, Michael; Banic, Merrilee  
Cc: Singal, Balwant  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Any resolution on this? I typically email Cathy Jaegers for the incoming when we have problems accessing it via ADAMS. Looks like Balwant already submitted an email to her.

Just following up.

Tanya

From: Markley, Michael  
Sent: Monday, September 22, 2014 3:41 PM  
To: Banic, Merrilee; Mensah, Tanya  
Cc: Singal, Balwant  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Lee and Tanya,

We have not seen the actual petition but the OEDO tasking seems at hand.

Mike

From: Singal, Balwant  
Sent: Friday, September 19, 2014 2:26 PM  
To: Jaegers, Cathy  
Cc: Markley, Michael  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Cathy,

Can we get access to the actual petition please?

From: Markley, Michael  
Sent: Friday, September 19, 2014 12:47 PM  
To: Singal, Balwant  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Sorry, Balwant, I am not seeing an actual petition in any of these files. Just a lot of duplicate letters, a Susquehanna Security-related document, and an Army document. The links do not allow access to an actual petition and it is not in any of these ADAMS files.

From: Singal, Balwant  
Sent: Friday, September 19, 2014 12:33 PM  
To: Markley, Michael  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Yes. I was able to open it. It has reference to the following two ML numbers and I was able to get to the documents by clicking the link:

ML14245A494

ML14245A495 (Package)

Contains ML14246A484, ML14246A496, and ML14246A494).

Couple of documents are large (30-40 pages).

I can help on Monday if needed.

From: Markley, Michael  
Sent: Friday, September 19, 2014 12:11 PM  
To: Singal, Balwant; Oesterle, Eric  
Cc: RidsNrrMailCenter Resource; Jaegers, Cathy  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Balwant,

Can you get to the petition? I tried to open the link but it appears to require downloading software that is not supported on NRC systems.

Mike

From: Singal, Balwant  
Sent: Friday, September 19, 2014 10:20 AM  
To: Oesterle, Eric  
Cc: Markley, Michael  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

For your information please.

From: RidsNrrDorl Resource  
Sent: Friday, September 19, 2014 10:11 AM  
To: Singal, Balwant  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

From: RidsNrrMailCenter Resource  
Sent: Thursday, September 04, 2014 1:05 PM  
To: RidsNrrDorl Resource  
Cc: Cox, Linda  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

The following appropriate action on Request Decommissioning of the Aging Diablo Canyon Nuclear Power Plant has been assigned to DORL.

Please let me know if you plan to respond.

SECY would like this document released to the public in ADAMS. Please review and let me know if that is ok.

From: ADAMS p8\_icm\_service  
Sent: Wednesday, September 03, 2014 2:24 PM  
To: ICM\_STARS\_NRR; Dudek, Michael  
Subject: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

A new OEDO Ticket has been assigned to you by Jaegers, Cathy (cej) on 09/03/2014.

[<http://adamsicm.nrc.gov:9080/STARS/STARS.png>] <<https://adamsicm.nrc.gov/STARS>>

Last User Comment has been added to a Ticket by 09/03/2014 on 09/03/2014. The comment was -

09/03/2014

The Ticket information is below.

Ticket Info  
Activity Information

Case Number

LTR-14-0495-1-NRR

Status

New

Activity Type

LTR

EDO Due Date

SECY Due Date

Requested Due Date

Assigned Offices

NRR

Routing Copies to

Region IV | OGC

EDO Point of Contact

Dudek, Michael (mid)

Other Parties

Incoming ADAMS Accession

ML14245A494<<https://adamsxt.nrc.gov/WorkplaceXT/getContent?objectStoreName=Main%20Library&objectType=document&vsId=%7bCF392F21-1FBE-4027-A2AB-429858568D3A%7d>>

Date of Incoming

09/29/2014

Incoming ADAMS Package

ML14245A495<<https://adamsxt.nrc.gov/WorkplaceXT/getContent?objectStoreName=Main%20Library&objectType=document&vsId=%7b814EA5B0-3F37-45A1-9102-4E3394A9DCD1%7d>>

Frequency

Incoming Information

Originator

Keating M

Originator Organization

Citizens

Task

E-mail

Addressee Name

Macfarlane A M

Addressee Affiliation

NRC/Chairman

Incoming Received Date

09/02/2014

Subject

Request Decommissioning of the Aging Diablo Canyon Nuclear Power Plant

Description

Process Information

Special Instructions Type

Appropriate Action

Special Instructions

For Appropriate Action. Office/Region to determine if a response is needed. If response is appropriate, please be sure to include your response to the ADAMS Package and process accordingly. Copies should be sent to RidsEdoMailCenter and RidsSecyMailCenter. The incoming document needs to be made publicly available in ADAMS per SECY for immediate release. If this should not be made publicly available, please let us know ASAP.

Near Term Comment

Requested Action Type

Appropriate Action

Cross Reference Numbers

Signature Level

No Signature Required

OIG Recommend

OEDO Concurrence

OCM Concurrence

OCA Concurrence

**From:** [Cox, Linda](#)  
**To:** [Burkhardt, Janet](#)  
**Cc:** [Markley, Michael](#)  
**Subject:** RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)  
**Date:** Thursday, September 25, 2014 8:29:00 AM

---

When the closeout is sent to RidsNrrMailCenter Resource it gets closed in STARS. NRR works to that end.

Thanks,

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

**From:** Burkhardt, Janet  
**Sent:** Thursday, September 25, 2014 7:52 AM  
**To:** Chen, Qiao-Lynn; Cox, Linda  
**Subject:** FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)  
**Importance:** High

Can either of you please respond to Mike? I have never heard of STARS and don't know how to advise him.

Jan

\*\*\*\*\*

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

**From:** Markley, Michael  
**Sent:** Thursday, September 25, 2014 7:46 AM  
**To:** Burkhardt, Janet  
**Cc:** Orf, Tracy  
**Subject:** FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Jan,

Do I close a STARS ticket in the same manner as we request extensions for due dates.

Mike

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

**From:** Stuchell, Sheldon  
**Sent:** Wednesday, September 24, 2014 5:59 PM  
**To:** Dudek, Michael; Markley, Michael  
**Cc:** Mohseni, Aby; Banic, Merrilee; Mensah, Tanya; Khanna, Meena; Singal, Balwant; Oesterle, Eric; Pedersen, Renee  
**Subject:** FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Mike & Mike,

I'd like to make sure this issue is closed, and any ticket assigned to NRR is closed. Any correspondence coming to the NRC can be considered as a 2.206 petition, if it meets the requirements of our MD and is determined to be an actual petition. In this case, the submittal does not meet the requirements to be a 2.206 petition, and should be considered general correspondence.

The e-mail chain below can be confusing, and I must point out that no single individual submitted this correspondence. It was not Mr. Peck. Mr. Peck, one of our Sr. Resident Inspector's, did in fact have a DPO about Diablo, but that DPO has been dispositioned. The submitter in this case was "change.org."

Therefore, there is no individual we can respond to.

I highly recommend this be closed with no further action. As noted in the ticket, staff is to respond "as appropriate." In this case, the appropriate response is no response to an organization.

If there are still questions as to how to close the issue, it should be worked out between Mike and Mike. This is not a 2.206 petition and NRR/DPR is not involved.

Hope this helps,  
Sheldon

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

**From:** Banic, Merrilee  
**Sent:** Wednesday, September 24, 2014 1:36 PM  
**To:** Stuchell, Sheldon  
**Cc:** Mensah, Tanya

The full version of this email may be found as document C/43 in FOIA/PA-2015-0071 (ML15181A428).

**From:** [Stuchell, Sheldon](#)  
**To:** [Dudek, Michael](#)  
**Cc:** [Markley, Michael](#)  
**Subject:** RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)  
**Date:** Thursday, September 25, 2014 1:52:40 PM

---

Understand. The ticket was assigned to DORL, DPR will support as needed. The only point I have to make, is that the request does not meet 2.206 requirements. Therefore, DPR is not involved.

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

From: Dudek, Michael  
Sent: Thursday, September 25, 2014 1:17 PM  
To: Stuchell, Sheldon  
Cc: Markley, Michael  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Sheldon: The only way that you can close the ticket is to provide the justification to NRR's Mailroom and have them work (through the OEDO STARS System) to close it out. Unfortunately, with the new system, I cannot facilitate closing out a ticket any longer.

Also, FYI, the justification should be in paragraph form and answer all of the who, what, and why for the Chairman's Office.

Thanks!  
Michael I. Dudek

Michael I. Dudek | OEDO Executive Technical Assistant | U.S. NRC  
|: [Michael.Dudek@nrc.gov](mailto:Michael.Dudek@nrc.gov) | |: (301) 415-6500 | BB: (b)(6)

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

From: Stuchell, Sheldon  
Sent: Wednesday, September 24, 2014 5:59 PM  
To: Dudek, Michael; Markley, Michael  
Cc: Mohseni, Aby; Banic, Merrilee; Mensah, Tanya; Khanna, Meena; Singal, Balwant; Oesterle, Eric; Pedersen, Renee  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Mike & Mike,

I'd like to make sure this issue is closed, and any ticket assigned to NRR is closed. Any correspondence coming to the NRC can be considered as a 2.206 petition, if it meets the requirements of our MD and is determined to be an actual petition. In this case, the submittal does not meet the requirements to be a 2.206 petition, and should be considered general correspondence.

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If there are still questions as to how to close the issue, it should be worked out between Mike and Mike. This is not

a 2.206 petition and NRR/DPR is not involved.

Hope this helps,  
Sheldon

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

From: Banic, Merrilee  
Sent: Wednesday, September 24, 2014 1:36 PM  
To: Stuchell, Sheldon  
Cc: Mensah, Tanya  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

A little background:

If change.org is basing its petition on M. Peck's, a Sr Resident's, DPO, the NRC resolved his DPO:  
<http://r1.nrc.gov/headlines/DiabloSafe.9-18-2014.pdf>

From: Stuchell, Sheldon  
Sent: Wednesday, September 24, 2014 12:34 PM  
To: Dudek, Michael; Mensah, Tanya; Banic, Merrilee; Markley, Michael; Kokajko, Lawrence; Khanna, Meena  
Cc: Singal, Balwant; Oesterle, Eric; Pedersen, Renee  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

All,

The easiest solution to this, is for the DORL PM to respond by e-mail to the submitter (he is not a petitioner) and let him know that we have received his general correspondence and thank him for his interest in nuclear safety. There is no need to expound or explain any further than that.

We receive numerous submittals all year long, that require nothing more than an acknowledgement.

Sheldon

From: Dudek, Michael  
Sent: Wednesday, September 24, 2014 12:25 PM  
To: Mensah, Tanya; Banic, Merrilee; Markley, Michael; Kokajko, Lawrence; Khanna, Meena  
Cc: Singal, Balwant; Oesterle, Eric; Pedersen, Renee; Stuchell, Sheldon  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

All: As a result of the past e-mails, it now appears that we (the staff) have an action to contact the petitioner (Mr. Peck) to have him formally submit the petition in hard-copy to the NRC so that we have an official record of his concerns.

Question: Does the staff want to take this action, or should I try to go back through the Chairman's Office for this request since that is where is action originated?

Please advise.

Michael I. Dudek  
Michael I. Dudek | OEDO Executive Technical Assistant | U.S. NRC  
•: Michael.Dudek@nrc.gov<<mailto:Michael.Dudek@nrc.gov>> | •: (301) 415-6500 | BB: (b)(6)

From: Mensah, Tanya

Sent: Wednesday, September 24, 2014 11:24 AM  
To: Banic, Merrilee; Markley, Michael; Kokajko, Lawrence; Khanna, Meena  
Cc: Singal, Balwant; Oesterle, Eric; Pedersen, Renee; Dudek, Michael; Stuchell, Sheldon  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

To expand on Lee's comment, in the past we've had several petitioners attempt to direct us to their personal websites or blogs to "download" 2.206 petitions and other supplemental materials. In consultation w/ OGC years ago, their position has always been consistent with MD 8.11, that the petition be submitted in writing. In these cases, the PM simply informed the petitioner of the process to submit a 2.206 petition, in writing, if they want their concerns considered under that process.

Members of the public often change their website links/blogs. Their URLs may not even exist in a year. So we need an official NRC record of the petitioner's concerns, which they have to submit in writing to the NRC. If the petitioner has videos or other electronic media to support their 2.206 petition, we advise them of the proper way to submit it. I think the DCD has guidance on the proper submission of electronic media to ensure that it is docketed.

Tanya

From: Banic, Merrilee  
Sent: Wednesday, September 24, 2014 8:32 AM  
To: Markley, Michael; Kokajko, Lawrence; Khanna, Meena  
Cc: Singal, Balwant; Oesterle, Eric; Mensah, Tanya; Pedersen, Renee; Dudek, Michael; Stuchell, Sheldon  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Per our MD 8.11 "Section 2.206 requires that the petition be submitted in writing and provide the grounds for taking the proposed action...."

From: Markley, Michael  
Sent: Wednesday, September 24, 2014 8:11 AM  
To: Kokajko, Lawrence; Khanna, Meena  
Cc: Singal, Balwant; Oesterle, Eric; Mensah, Tanya; Banic, Merrilee; Pedersen, Renee; Dudek, Michael  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Lawrence and Tim,

The assertion that this follows the process in 2.206 for submitting petitions to the EDO seems highly out of process. We should not have to download software to review a submittal to the NRC. Likewise, we should not have to go through extreme measures to access the information via an external website. I am struggling to see how the link provides an actual petition. It merely asserts that Michael Peck's DPO should provide the basis for a petition to shut down the plant. This is highly out of process.

From my view, we have nothing to process here. The petitioner should be referred to the regulations in 2.206 and follow the process. NRR/DPR may disagree, but I do not see a document that we have submitted in an official manner that warrants the assignment of a petition manager. Let's talk. I do not see a basis for entering this into the petition process.

Mike Markley

From: Dudek, Michael  
Sent: Tuesday, September 23, 2014 2:43 PM  
To: Markley, Michael  
Cc: Singal, Balwant; Oesterle, Eric  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

I went onto my iPhone and found it on the web site.

[cid:image001.jpg@01CFD800.6EB578A0]

Petitioning Nuclear Regulatory Commission  
Decommission the aging Diablo Canyon Nuclear Power Plant 1.  
[cid:image002.jpg@01CFD800.6EB578A0]<[https://www.change.org/organizations/uncommon\\_folk](https://www.change.org/organizations/uncommon_folk)>

2.

1. Petition by

Uncommon Folk<[https://www.change.org/organizations/uncommon\\_folk](https://www.change.org/organizations/uncommon_folk)>

In fault-ridden San Luis Obispo County, stands California's last two operating nuclear reactors in the aging Diablo Canyon Power Plant (circa 1973). They are located proximally to the Los Osos, Hosgri, San Andreas, and Shoreline Faults, along shores near Avila Beach.

According to a recent report by Michael Blood (ABC 30 Action News); a senior federal nuclear expert, Michael Peck, has urged regulators to shut down the aging power plant until they can determine whether or not the facility's twin reactors can withstand an earthquake of similar or larger size than the one that recently shook Napa. Blood reports:

Peck, who for five years was Diablo Canyon's lead on-site inspector, says in a 42-page, confidential report that the Nuclear Regulatory Commission is not applying the safety rules it set out for the plant's operation.

In light of the unfolding disaster at the Fukushima Daichii power plant, we the undersigned are asking that Governor Jerry Brown support us in demanding that the Diablo Canyon Plant be shut down until it can be properly earthquake tested and Michael Peck's charges of negligence be thoroughly investigated.

Or better yet, we ask that Jerry Brown work to shut down the Diablo Canyon Plant permanently, as it is located in such an unsafe region.

We the undersigned ask that NRC Inspector General Hubert T. Bell, Chairman Allison Macfarlane, and Governor Jerry Brown listen to the experts and heed the warnings of recent history, so we are not collectively doomed to repeat such catastrophic failures.

For the sake of California and its citizens, young and old, please shut down the Diablo Canyon Nuclear Power Plant!

Here is a short and enlightening PBS video that was made before several more major faultlines were found in that area...making it even MORE imperative that these professional opinions be heeded. Please take a few minutes to watch. There is a long history of lies and suppression of information surrounding the Diablo Canyon Nuclear Plant, at the peril of our citizens and their families->

<http://video.pbs.org/video/2056655205/>

MORE PETITIONS TO SIGN. THIS MOVEMENT IS GAINING MOMENTUM, THANKS TO ALL OF YOU.  
Please sign them all and PASS IT ON! Together we can do it->

(1) [http://action.foe.org/p/dia/action3/common/public/?action\\_KEY=16333](http://action.foe.org/p/dia/action3/common/public/?action_KEY=16333)

(2) [http://petitions.moveon.org/sign/nrc-shut-down-diablo?source=s.icn.tw&r\\_by=7595393](http://petitions.moveon.org/sign/nrc-shut-down-diablo?source=s.icn.tw&r_by=7595393)

(3) [http://act.credoaction.com/sign/diablo\\_canyon](http://act.credoaction.com/sign/diablo_canyon)

IMPORTANT TO THOSE LIVING IN NEAR DIABLO CANYON. RECENT STUDY INDICATES  
SIGNIFICANTLY HIGHER CANCER RATES IN RESIDENTS->

<http://calcoastnews.com/2014/03/high-cancer-rates-near-diablo-canyon-nuclear-plant/>

<http://www.helencaldicottfoundation.org/blogs/health-studies-explode-the-myth-of-the-'safe'-nuclear-power-plant.html><<http://www.helencaldicottfoundation.org/blogs/health-studies-explode-the-myth-of-the-'safe'-nuclear-power-plant.html>>

<http://worldbusiness.org/nuclear-power-health-impact-study/>

More information->

<http://worldbusiness.org/safe-energy-project/close-diablo-canyon-nuclear-power-plant/>

<http://worldbusiness.org/nuclear-regulators-hear-from-angry-public-on-diablo-canyon-plant/>

<http://www.sfgate.com/news/article/Earthquake-concerns-prompt-call-to-shut-nuclear-5711717.php>

<http://www.cbsnews.com/news/california-earthquake-expert-urges-nuclear-plant-closure-over-threat/>

<http://www.dailynews.com/general-news/20140825/diablo-canyon-nuclear-plant-should-be-closed-for-quake-testing-expert-says>

To:

Nuclear Regulatory Commission, Hubert T. Bell, Inspector General at the NRC Nuclear Regulatory Commission, Allison Macfarlane, Chariman of the NRC Sen. Barbara Boxer, California Gov. Jerry Brown, California Decommission Aging Diablo Canyon Nuclear Power Plant

Sincerely,

[Your name]

Michael I. Dudek | OEDO Executive Technical Assistant | U.S. NRC

•: Michael.Dudek@nrc.gov<<mailto:Michael.Dudek@nrc.gov>> | •: (301) 415-6500 | BB:

(b)(6)

From: Markley, Michael

Sent: Tuesday, September 23, 2014 2:24 PM

To: Dudek, Michael

Cc: Singal, Balwant; Oesterle, Eric

Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Mike,

Can we go back to the Chairman's office to get a hard copy of the petition.? We are having no luck in accessing the document via the links.

Mike

From: Singal, Balwant

Sent: Tuesday, September 23, 2014 12:42 PM

To: Mensah, Tanya

Cc: Oesterle, Eric; Markley, Michael

Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Cathy was unable to help (could not open the file from the link in the file). She suggested contacting CSC. CSC

was on my desk yesterday, but were also unable to open the file. They believe there is a problem with the link. Hence, as of now we do not have a resolution and do not have a copy of the petition.

From: Mensah, Tanya  
Sent: Tuesday, September 23, 2014 11:57 AM  
To: Markley, Michael; Banic, Merrilee  
Cc: Singal, Balwant  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Any resolution on this? I typically email Cathy Jaegers for the incoming when we have problems accessing it via ADAMS. Looks like Balwant already submitted an email to her.

Just following up.

Tanya

From: Markley, Michael  
Sent: Monday, September 22, 2014 3:41 PM  
To: Banic, Merrilee; Mensah, Tanya  
Cc: Singal, Balwant  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Lee and Tanya,

We have not seen the actual petition but the OEDO tasking seems at hand.

Mike

From: Singal, Balwant  
Sent: Friday, September 19, 2014 2:26 PM  
To: Jaegers, Cathy  
Cc: Markley, Michael  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Cathy,

Can we get access to the actual petition please?

From: Markley, Michael  
Sent: Friday, September 19, 2014 12:47 PM  
To: Singal, Balwant  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Sorry, Balwant, I am not seeing an actual petition in any of these files. Just a lot of duplicate letters, a Susquehanna Security-related document, and an Army document. The links do not allow access to an actual petition and it is not in any of these ADAMS files.

From: Singal, Balwant  
Sent: Friday, September 19, 2014 12:33 PM  
To: Markley, Michael  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Yes. I was able to open it. It has reference to the following two ML numbers and I was able to get to the documents by clicking the link:

ML14245A494

ML14245A495 (Package)

Contains ML14246A484, ML14246A496, and ML14246A494).

Couple of documents are large (30-40 pages).

I can help on Monday if needed.

From: Markley, Michael  
Sent: Friday, September 19, 2014 12:11 PM  
To: Singal, Balwant; Oesterle, Eric  
Cc: RidsNrrMailCenter Resource; Jaegers, Cathy  
Subject: RE: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

Balwant,

Can you get to the petition? I tried to open the link but it appears to require downloading software that is not supported on NRC systems.

Mike

From: Singal, Balwant  
Sent: Friday, September 19, 2014 10:20 AM  
To: Oesterle, Eric  
Cc: Markley, Michael  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

For your information please.

From: RidsNrrDorl Resource  
Sent: Friday, September 19, 2014 10:11 AM  
To: Singal, Balwant  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

From: RidsNrrMailCenter Resource  
Sent: Thursday, September 04, 2014 1:05 PM  
To: RidsNrrDorl Resource  
Cc: Cox, Linda  
Subject: FW: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

The following appropriate action on Request Decommissioning of the Aging Diablo Canyon Nuclear Power Plant has been assigned to DORL.

Please let me know if you plan to respond.

SECY would like this document released to the public in ADAMS. Please review and let me know if that is ok.

From: ADAMS p8\_icm\_service  
Sent: Wednesday, September 03, 2014 2:24 PM  
To: ICM\_STARS\_NRR; Dudek, Michael  
Subject: STARS OEDO Office Notification (LTR-14-0495-1-NRR)

A new OEDO Ticket has been assigned to you by Jaegers, Cathy (cej) on 09/03/2014.

[\[http://adamsicm.nrc.gov:9080/STARS/STARS.png\]](http://adamsicm.nrc.gov:9080/STARS/STARS.png)<<https://adamsicm.nrc.gov/STARS>>

Last User Comment has been added to a Ticket by 09/03/2014 on 09/03/2014. The comment was -  
09/03/2014

The Ticket information is below.

Ticket Info  
Activity Information

Case Number

LTR-14-0495-1-NRR

Status

New

Activity Type

LTR

EDO Due Date

SECY Due Date

Requested Due Date

Assigned Offices

NRR

Routing Copies to

Region IV | OGC

EDO Point of Contact

Dudek, Michael (mid)

Other Parties

Incoming ADAMS Accession

ML14245A494<<https://adamsxt.nrc.gov/WorkplaceXT/getContent?objectStoreName=Main%20Library&objectType=document&vsId=%7bCF392F21-1FBE-4027-A2AB-429858568D3A%7d>>

Date of Incoming

09/29/2014

Incoming ADAMS Package

ML14245A495<<https://adamsxt.nrc.gov/WorkplaceXT/getContent?objectStoreName=Main%20Library&objectType=document&vsId=%7b814EA5B0-3F37-45A1-9102-4E3394A9DCD1%7d>>

Frequency

Incoming Information

Originator

Keating M

Originator Organization

Citizens

Task

E-mail

Addressee Name

Macfarlane A M

Addressee Affiliation

NRC/Chairman

Incoming Received Date

09/02/2014

Subject

Request Decommissioning of the Aging Diablo Canyon Nuclear Power Plant

Description

Process Information

Special Instructions Type

Appropriate Action

Special Instructions

For Appropriate Action. Office/Region to determine if a response is needed. If response is appropriate, please be sure to include your response to the ADAMS Package and process accordingly. Copies should be sent to RidsEdoMailCenter and RidsSecyMailCenter. The incoming document needs to be made publicly available in ADAMS per SECY for immediate release. If this should not be made publicly available, please let us know ASAP.

Near Term Comment

Requested Action Type

Appropriate Action

Cross Reference Numbers

Signature Level

No Signature Required

OIG Recommend

OEDO Concurrence

OCM Concurrence

OCA Concurrence

---

**From:** Pedersen, Renee  
**Sent:** Tuesday, August 20, 2013 1:20 PM  
**To:** Wertz, Trent  
**Cc:** Sewell, Margaret; Solorio, Dave  
**Subject:** ACTION: Status of Establishing DPO Panel  
**Attachments:** QUESTION: DPO-2013-002, Memo Forwarding Differing Professional Opinion Involving Diablo Canyon Seismic Issues ; DPO Panel

Trent,

Can you give me a status of where you are on establishing the DPO Panel? I know you mentioned that Eric was out.

I'll be out the rest of the week, and wanted to make sure I knew where things were so I could get back to the submitter and Neil O'Keefe and give them an update.

Thanks!  
Renée

---

**From:** OKeefe, Neil  
**Sent:** Tuesday, August 20, 2013 10:37 AM  
**To:** Pedersen, Renee  
**Subject:** DPO Panel

Renee,

For the Peck DPO, who is on the panel, and when do they plan to meet?

My travel schedule is very busy for the next month, but I really want to be able to support the panel.

Neil

---

**From:** Peck, Michael  
**Sent:** Tuesday, August 20, 2013 10:17 AM  
**To:** Pedersen, Renee  
**Subject:** QUESTION: DPO-2013-002, Memo Forwarding Differing Professional Opinion Involving Diablo Canyon Seismic Issues

Ms. Pedersen,

Please provide an update on the status of DPO-2013-002. Has Mr. Leeds assigned a committee chair person?

Thank you,  
Michael Peck  
423-855-6515

**From:** Hasan, Nasreen  
**Sent:** Friday, August 02, 2013 4:01 PM  
**To:** Leeds, Eric  
**Cc:** Bergman, Thomas; Campbell, Andy; Campbell, Vivian; Fuller, Karla; Dorman, Dan; Uhle, Jennifer; Howell, Art; Evans, Michele; Markley, Michael; Wertz, Trent; Weber, Michael; Merzke, Daniel; Peck, Michael; Rutledge, Steven; OKeefe, Neil; Wittick, Brian; Sewell, Margaret; Pedersen, Renee; Solorio, Dave; Zimmerman, Roy; Johnson, Michael; Mitchell, Reggie  
**Subject:** DPO-2013-002, Memo Forwarding Differing Professional Opinion Involving Diablo Canyon Seismic Issues

August 2, 2013

MEMORANDUM TO: Eric J. Leeds, Director  
Office of Nuclear Reactor Regulation

FROM: Renée M. Pedersen, Sr. Differing Views Program Manager */RA/*  
Office of Enforcement

Please see the link below.

[View ADAMS P8 Properties ML13213A248](#)  
[Open ADAMS P8 Package \(DPO 2013 002, Differing Professional Opinion Involving Diablo Canyon Seismic Issues \)](#)

ADAMS Package: ML13213A248  
Memo: ML13213A249  
DPO Submittal: ML13214A162  
Milestones and Timeliness Goals: ML13213A259

Note: This document is limited to those on distribution only

*Thank you,*  
*Nasreen Hasan*  
*Administrative Assistant*

***Office of Enforcement***  
***Location / Mailstop: O-4A15A***  
***Office #: (301)415-2741***  
***Fax: (301)415-3431***

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**From:** Pedersen, Renee  
**Sent:** Wednesday, August 28, 2013 9:10 AM  
**To:** Case, Michael; Wertz, Trent  
**Cc:** Sewell, Margaret; Solorio, Dave  
**Subject:** RE: Diablo Canyon DPO  
**Attachments:** Milestones and Timeliness Goals.docx

Actually, the clock has already started. The timeliness goal for the DPO process is to have a DPO Decision issued 120 days from the date when the DPO was accepted, which is 11/29/2013.

I've attached the Milestones and Timeliness Goals. Each milestone has a timeliness goal—a way of meeting the overall goal. The goal for establishing the DPO Panel is 14 days. In this case, we're past that, in part due to Eric's schedule. This is something to keep in mind if an extension is required. The goal for the DPO Panel is still 70 days—the DPO Panel shouldn't necessarily try and make up the time, nor should Eric when he writes the DPO Decision.

Trent, let me know if you need anything for the memo.

Thanks!  
Renée

**From:** Case, Michael  
**Sent:** Wednesday, August 28, 2013 8:55 AM  
**To:** Wertz, Trent  
**Cc:** Pedersen, Renee  
**Subject:** RE: Diablo Canyon DPO

Great. As long as the clock hasn't started...

**From:** Wertz, Trent  
**Sent:** Wednesday, August 28, 2013 8:31 AM  
**To:** Case, Michael  
**Cc:** Pedersen, Renee  
**Subject:** RE: Diablo Canyon DPO

Still working on the last member. Eric needs to talk to Scott Flanders.

**From:** Case, Michael  
**Sent:** Wednesday, August 28, 2013 8:06 AM  
**To:** Wertz, Trent  
**Cc:** Pedersen, Renee  
**Subject:** Diablo Canyon DPO

Hi Trent. Did we get the memo out yet on the panel or is it still working?

---

**From:** Tracy, Glenn  
**Sent:** Wednesday, August 28, 2013 12:05 PM  
**To:** Leeds, Eric  
**Cc:** Wertz, Trent; Dorman, Dan; Uhle, Jennifer; Pedersen, Renee; McCree, Victor; Wert, Leonard; Holahan, Gary; Sheron, Brian; West, Steven; Flanders, Scott; Schum, Constance; Tonacci, Mark; Chokshi, Nilesh  
**Subject:** ~~OOO~~ RESPONSE: DPO Panel Members

~~OOO~~

Eric, I know Scott speaks with you regularly, but I wanted to get back to you regarding our support of your request for Cliff Munson on this panel. Please realize that we will try to minimize the impacts of this request and effort, relative to Cliff's other important ongoing work wrt Fukushima 2.1 and new reactors. There will obviously be some impact. Best always, Glenn

**From:** Leeds, Eric  
**Sent:** Wednesday, August 21, 2013 10:55 AM  
**To:** McCree, Victor; Wert, Leonard; Tracy, Glenn; Holahan, Gary; Sheron, Brian; West, Steven  
**Cc:** Wertz, Trent; Dorman, Dan; Uhle, Jennifer; Pedersen, Renee  
**Subject:** DPO Panel Members

Folks –

We are putting together a DPO panel to handle seismic licensing issues at Diablo Canyon. The NRR ET is requesting your assistance and support for the following individuals:

Mike Case – as the lead SES. Mike brings licensing and all around deep thinking and common sense to the team.

Cliff Munson – Cliff would bring the technical muscle to the team as a seismic guru.

Rudy Bernhard – Rudy was one of three candidates identified by the DPO submitter.

Please let me/Trent Wertz know as soon as possible if you can support. If you can support, Trent will contact the identified individuals. Thanks for your consideration!

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

~~OOO~~

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**From:** Pedersen, Renee  
**Sent:** Thursday, August 29, 2013 8:52 AM  
**To:** Leeds, Eric  
**Cc:** Sewell, Margaret; Wertz, Trent; Solorio, Dave  
**Subject:** RE: ACTION: Question on DPO Panel Member

**Importance:** High

Eric,

It isn't written that you have to take them in the order provided, but employees typically list the nominees in the order that they would like them selected. As I said before, as long as you have a rationale for Rudy vs. the other nominees, we're O.K. I want to avoid any appearance that an employee wasn't selected because they are viewed as too outspoken, etc.,

Because panel selection is so critical to success, I took the liberty of running the selection of Mike Case and Cliff Munson by the submitter. (I didn't say anything about the third member because I wanted to check in with you first.) FYI, the submitter is very concerned with the selection of Cliff Munson. Please see the excerpt from his email:

I would like to alert you to a potential conflict with Mr. Munson as a DPO panel member. Mr. Munson is listed as a senior advisor with the Division of Site Safety and Environmental Analysis. Annie Kammerer is shown on the NRC web page as currently assigned to this division. Dr. Kammerer was largely responsible for the prevailing NRC position on the Diablo Canyon seismic issues and was the primary contributor to the NRC response to my non-concurrence. Dr. Kammerer went so far pressing her viewpoint to include making OIG allegations against me related to the Diablo Canyon seismic issues (I subsequently received an OIG clearance letter related to these allegations).

Please consider Mr. Munson's organizational relationship with Dr. Kammerer during panel selection.

In addition, the submitter also noted...

While seismic is in the title of the DPO, this DPO is really not about seismic technical issues. I've made the assumption that all seismic evaluations (included in the FSAR or presented in the NRC Research Information Letters) are correct. This DPO is about how the agency enforces design and licensing bases requirements and verifies operability for non-conforming and unanalyzed conditions. These issues could be applied to any NRC licensing basis requirements (flooding, ECCS acceptance criteria, containment accident response).

I hope this information helps. I want to emphasize that panel selection is your responsibility--it is not a negotiation with the submitter. That having been said, if the submitter doesn't think the panel is credible, we've failed before we've started.

Please let me know if you need any additional assistance from us.

Renée

**From:** Leeds, Eric  
**Sent:** Wednesday, August 28, 2013 6:31 PM  
**To:** Pedersen, Renee  
**Cc:** Sewell, Margaret; Wertz, Trent; Solorio, Dave  
**Subject:** Re: ACTION: Question on DPO Panel Member

I didn't know that I had to take them in the order provided. I thought that any of the three was acceptable to the submitter. Where is it written differently? Is this a crisis? I picked Rudy because of a number of reasons that I found desirable - no prior involvement with the issue, he's an SRA, different region, etc. I need a team as pure as the driven snow on this issue - I'm sure it will eventually receive media attention.

---

**From:** Pedersen, Renee  
**To:** Leeds, Eric  
**Cc:** Sewell, Margaret; Wertz, Trent; Solorio, Dave  
**Sent:** Wed Aug 28 12:39:34 2013  
**Subject:** ACTION: Question on DPO Panel Member

Eric,

Sorry I didn't catch this sooner, but is there a reason you are including the submitter's 3<sup>rd</sup> choice (Rudy Bernhard) versus his 1<sup>st</sup> (Gerond George) or 2<sup>nd</sup> (Larry Criscione) choice for the DPO Panel? Normally, we would expect the 1<sup>st</sup> choice, unless there were conflicts. As long as there is a rationale, we're in good shape. We wouldn't want someone to claim that an employee wasn't selected because he or she has a history of being outspoken, etc.,

Renée

---

**From:** Leeds, Eric  
**Sent:** Wednesday, August 21, 2013 10:55 AM  
**To:** McCree, Victor; Wert, Leonard; Tracy, Glenn; Holahan, Gary; Sheron, Brian; West, Steven  
**Cc:** Wertz, Trent; Dorman, Dan; Uhle, Jennifer; Pedersen, Renee  
**Subject:** DPO Panel Members

Folks –

We are putting together a DPO panel to handle seismic licensing issues at Diablo Canyon. The NRR ET is requesting your assistance and support for the following individuals:

Mike Case – as the lead SES. Mike brings licensing and all around deep thinking and common sense to the team.

Cliff Munson – Cliff would bring the technical muscle to the team as a seismic guru.

Rudy Bernhard – Rudy was one of three candidates identified by the DPO submitter.

Please let me/Trent Wertz know as soon as possible if you can support. If you can support, Trent will contact the identified individuals. Thanks for your consideration!

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

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**From:** Leeds, Eric  
**Sent:** Thursday, August 29, 2013 12:31 PM  
**To:** Pedersen, Renee; Flanders, Scott  
**Cc:** Wertz, Trent; Sewell, Margaret; Solorio, Dave; Hilton, Nick; Case, Michael  
**Subject:** RE: ~~OUO~~ RESPONSE: DPO Panel Members

Good thoughts Renee! Scott – please look through this email thread. I continue to make life hard for you and your staff – I apologize. Please see the concerns that Renee has raised and consider whether we should switch to Brett.

Thanks for your patience!

Eric

---

**From:** Pedersen, Renee  
**Sent:** Thursday, August 29, 2013 10:33 AM  
**To:** Leeds, Eric  
**Cc:** Wertz, Trent; Sewell, Margaret; Solorio, Dave; Hilton, Nick  
**Subject:** RE: ~~OUO~~ RESPONSE: DPO Panel Members  
**Importance:** High

Eric,

In light of the submitters concerns, I would recommend that you consider Brett Hill. In addition, because of the submitters view on the issues (how the agency enforces design and licensing bases requirements and verifies operability for non-conforming and unanalyzed conditions), you could even consider asking for another panel member from OE. Just a thought.

Renée

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**From:** Leeds, Eric  
**Sent:** Thursday, August 29, 2013 10:20 AM  
**To:** Pedersen, Renee  
**Cc:** Wertz, Trent  
**Subject:** FW: ~~OUO~~ RESPONSE: DPO Panel Members

Just saw this. Do I need to go back to Scott and tell him we need Brett Hill?

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**From:** Flanders, Scott  
**Sent:** Thursday, August 29, 2013 10:07 AM  
**To:** Leeds, Eric; Tracy, Glenn  
**Cc:** Wertz, Trent; Dorman, Dan; Uhle, Jennifer; Pedersen, Renee; McCree, Victor; Wert, Leonard; Holahan, Gary; Sheron, Brian; West, Steven; Schum, Constance; Tonacci, Mark; Chokshi, Niles  
**Subject:** RE: ~~OUO~~ RESPONSE: DPO Panel Members

Eric, I think Cliff is the right person. As Glenn said having Cliff work on the DPO will impact our 2.1 work, but we will work to minimize the impact.

Scott

**From:** Leeds, Eric

**Sent:** Wednesday, August 28, 2013 6:26 PM

**To:** Tracy, Glenn

**Cc:** Wertz, Trent; Dorman, Dan; Uhle, Jennifer; Pedersen, Renee; McCree, Victor; Wert, Leonard; Holahan, Gary; Sheron, Brian; West, Steven; Flanders, Scott; Schum, Constance; Tonacci, Mark; Chokshi, Nilesh

**Subject:** Re: ~~OOO~~ RESPONSE: DPO Panel Members

Thanks, glenn. Scott and I discussed and I'm fine if he wants to propose another individual. He's weighing the pros and cons and will get back to me with a good person.

Scott always comes through!

Eric

---

**From:** Tracy, Glenn

**To:** Leeds, Eric

**Cc:** Wertz, Trent; Dorman, Dan; Uhle, Jennifer; Pedersen, Renee; McCree, Victor; Wert, Leonard; Holahan, Gary; Sheron, Brian; West, Steven; Flanders, Scott; Schum, Constance; Tonacci, Mark; Chokshi, Nilesh

**Sent:** Wed Aug 28 12:04:47 2013

**Subject:** ~~OOO~~ RESPONSE: DPO Panel Members

~~OOO~~

Eric, I know Scott speaks with you regularly, but I wanted to get back to you regarding our support of your request for Cliff Munson on this panel. Please realize that we will try to minimize the impacts of this request and effort, relative to Cliff's other important ongoing work wrt Fukushima 2.1 and new reactors. There will obviously be some impact. Best always, Glenn

---

**From:** Leeds, Eric

**Sent:** Wednesday, August 21, 2013 10:55 AM

**To:** McCree, Victor; Wert, Leonard; Tracy, Glenn; Holahan, Gary; Sheron, Brian; West, Steven

**Cc:** Wertz, Trent; Dorman, Dan; Uhle, Jennifer; Pedersen, Renee

**Subject:** DPO Panel Members

Folks –

We are putting together a DPO panel to handle seismic licensing issues at Diablo Canyon. The NRR ET is requesting your assistance and support for the following individuals:

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Cliff Munson – Cliff would bring the technical muscle to the team as a seismic guru.

Rudy Bernhard – Rudy was one of three candidates identified by the DPO submitter.

Please let me/Trent Wertz know as soon as possible if you can support. If you can support, Trent will contact the identified individuals. Thanks for your consideration!

Eric J. Leeds

Director, Office of Nuclear Reactor Regulation

U.S. Nuclear Regulatory Commission

301-415-1270



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**From:** Craver, Patti  
**Sent:** Tuesday, September 03, 2013 3:02 PM  
**To:** Peck, Michael; Pedersen, Renee  
**Cc:** Wertz, Trent  
**Subject:** DPO-2013-002

Good Afternoon,

Below is the electronic link for the memorandum appointing members to the Ad Hoc Review Panel for the Differing Professional Opinion (DPO) Involving Seismic Issues at Diablo Canyon.

A paper copy has been mailed to each of the panel members with the DPO and milestones and timeliness goals.

[View ADAMS P8 Properties ML13242A305](#)

[Open ADAMS P8 Document \(DPO-2013-002 - Ad Hoc Review Panel - Differing Professional Opinion Involving Seismic Issues at Diablo Canyon\)](#)

Should you have any questions, please contact Trent Wertz by phone at 415-1568.

Thanks!

Patti Craver  
Management Analyst  
Infrastructure Services Branch  
Program Management, Policy Development  
and Analysis Staff  
Office of Nuclear Reactor Regulation  
(301) 415-1513  
[patti.craver@nrc.gov](mailto:patti.craver@nrc.gov)

---

**From:** Leeds, Eric  
**Sent:** Friday, September 06, 2013 8:05 AM  
**To:** Bernhard, Rudolph; Case, Michael; Hill, Brittain  
**Cc:** Wertz, Trent; Schwarz, Sherry; Pedersen, Renee  
**Subject:** DPO Panel

Gentlemen –

Thank you all for being willing to serve on the Diablo Canyon seismic DPO Panel. Each of you were distinctly chosen for what you can bring to the team; your independence from the issue and your expertise, experience and past service to the agency.

I'd like to hold a brief, ½ hour meeting to provide the Panel my thoughts on the DPO process and my expectations for your challenge in conducting this review. Sherry Schwarz will arrange the meeting. Rudy, I understand that you will be unavailable for the next few weeks, so we will work based on your schedule and will try to use the VTC for the meeting. All you need to do to prepare for the meeting is to have read the DPO submittal.

Thank you again for your willingness to serve!

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

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**From:** Leeds, Eric  
**Sent:** Friday, September 06, 2013 9:44 AM  
**To:** Pedersen, Renee  
**Cc:** Sewell, Margaret; Schwarz, Sherry; Wertz, Trent  
**Subject:** RE: ACTION: Can I attend your DPO Panel meeting

Sounds like a good idea, Renee. I'll kick off the meeting. Basically, all I want to tell them is how I value the DPO process, that its important, that they are doing an important service for the agency, etc. About how important the first step in the process is: make sure they document the DPO submitters issue such that they understand it and the submitter agrees that they've captured his issue (fyi – from my read, its not clear in the existing documentation). My expectation is that they need to dig deep into the technical, as well as regulatory aspects of the issue and that they need to avail themselves of the expert staff throughout the agency. Don't work in a vacuum. Then I turn the meeting over to you.

Motherhood and apple-pie. But I want them to know how much I care about the process and that the agency needs them to do a good job.

Whaddyathink?

---

**From:** Pedersen, Renee  
**Sent:** Friday, September 06, 2013 8:51 AM  
**To:** Leeds, Eric  
**Cc:** Sewell, Margaret  
**Subject:** ACTION: Can I attend your DPO Panel meeting

Eric,

I think it's good for you to meet with the panel to discuss your expectations. Taking the time to meet with the panel demonstrates your support for the process. That being said, because independence is a keep attribute of the panel process, we need to be cautious that your engagement with the panel (now and in the future) doesn't get misunderstood as driving the outcome. (I know that you understand the importance of perception vs. reality in dealing with this process.)

I'd like to suggest that Marge and I attend the meeting.

In addition, I typically have a kickoff meeting with the panel to discuss the process and responsibilities, so perhaps I can piggyback off of your meeting? If Sherry sets up the meeting in your conference room with VTC, is it possible to ask for another ½ hour that Marge and I can meet with the panel?

Renée

---

**From:** Leeds, Eric  
**Sent:** Friday, September 06, 2013 8:05 AM  
**To:** Bernhard, Rudolph; Case, Michael; Hill, Brittain  
**Cc:** Wertz, Trent; Schwarz, Sherry; Pedersen, Renee  
**Subject:** DPO Panel

Gentlemen –

Thank you all for being willing to serve on the Diablo Canyon seismic DPO Panel. Each of you were distinctly chosen for what you can bring to the team; your independence from the issue and your expertise, experience and past service to the agency.

I'd like to hold a brief, ½ hour meeting to provide the Panel my thoughts on the DPO process and my expectations for your challenge in conducting this review. Sherry Schwarz will arrange the meeting. Rudy, I understand that you will be unavailable for the next few weeks, so we will work based on your schedule and will try to use the VTC for the meeting. All you need to do to prepare for the meeting is to have read the DPO submittal.

Thank you again for your willingness to serve!

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

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**From:** Case, Michael  
**Sent:** Monday, November 25, 2013 10:42 AM  
**To:** Leeds, Eric  
**Cc:** Sheron, Brian; West, Steven; Pedersen, Renee; Bernhard, Rudolph; Hill, Brittain; Sewell, Margaret; Wertz, Trent  
**Subject:** RE: Diablo Canyon DPO Update  
**Attachments:** Appendix A.docx

The Statement of Concerns is attached (excuse whatever typos are there. Haven't polished yet).

**From:** Leeds, Eric  
**Sent:** Saturday, November 23, 2013 11:17 AM  
**To:** Case, Michael  
**Cc:** Sheron, Brian; West, Steven; Pedersen, Renee; Bernhard, Rudolph; Hill, Brittain; Sewell, Margaret; Wertz, Trent  
**Subject:** Re: Diablo Canyon DPO Update

Thank so much, Mike! As I mentioned to the team, your work will be highly scrutinized both internally and externally, so doing a thorough job is critical. If you can share the statement of concern that your team developed with agreement from the CI, please send it to me.

I really appreciate the heads up!

Eric

---

**From:** Case, Michael  
**To:** Leeds, Eric  
**Cc:** Sheron, Brian; West, Steven; Pedersen, Renee; Bernhard, Rudolph; Hill, Brittain; Sewell, Margaret  
**Sent:** Fri Nov 22 16:04:19 2013  
**Subject:** Diablo Canyon DPO Update

Hi Eric. I just wanted to give you a quick update on the progress on the Diablo Canyon DPO. After the distractions of furloughs, vacations and performance appraisals, I think we have a good head of steam now. We've completed the statement of concerns, and have been primarily in the information gathering phase. Although we still need to gather some more information (including potentially with the licensee), we have a solid outline so we're entering the initial writing phase now. I think there is reasonable alignment among the panel so the struggle is likely to be not what to say, but how to say it.

As you might expect, the professionalism of both my fellow panelist and the folks involved in the Diablo Canyon issue has been outstanding. You're probably wondering about when we are planning to get done. My estimate would be mid-December at this point.

If I don't get to see you, have a great Thanksgiving!

Mike

## **Appendix A:**

### **Statement of Technical Concerns, Derived from Diablo Canyon DPO-2013-002**

1) The NRC has not enforced Diablo Canyon Technical Specification requirements that key plant safety equipment remain operable during reactor operation. New seismic information developed by Pacific Gas and Electric concluded that Technical Specification required Structures, Systems and Components (SSCs) can be exposed to greater vibratory motion than was used to qualify this equipment for the facility safe shutdown earthquake (SSE) design basis. For Technical Specification required SSCs to be considered operable, the licensee is required to demonstrate a reasonable assurance that this plant equipment would still be capable of performing the safety functions in accordance with the plant design bases and safety analysis.

2) Pacific Gas and Electric's operability evaluation following development of the new seismic information was inadequate. Comparison of the new seismic information only against the Hosgri Event (HE) and Long Term Seismic Program (LTSP) ground motions was not adequate to demonstrate Technical Specification required SSCs were operable. Neither the HE nor the LTSP methods were approved to be used in SSE safety analysis. The HE and LTSP methods over-predicted SSC performance when compared to the SSE design basis methods. Even though the HE and LTSP include higher ground motions, neither of these methods were bounding for plant Technical Specification SSCs seismic qualification. Use of the HE and LTSP ground motions failed to demonstrate that the requirements of the American Society of Mechanical Engineers' (ASME) Boiler and Pressure Vessel Code acceptance limits would be met at the higher ground motions. 10 CFR 50.50a required that ASME acceptance limits be met for plant safety Class 1 and 2 following an SSE. Demonstration that the ASME acceptance limits are met provides assurance that the integrity key plant systems, including the reactor coolant pressure boundary would be maintained following the higher seismic stress levels represented by the new seismic information.

3) The NRC has failed to enforce the 10 CFR 50.59 requirements that Pacific Gas and Electric obtain an amendment to the Diablo Canyon Operating License prior to incorporating the Shoreline scenario into the FSARU. A license amendment was required because the change resulted in more than a minimal increase in the likelihood of a malfunction of SSCs important to safety than previously evaluated in the FSARU. A license amendment was also required because this change represents a departure from the FSARU method of evaluation used to establish the seismic SSE design basis. The NRC conclusion that a "reasonable assurance of safety" existed was not an adequate basis to conclude an amendment to the Diablo Canyon Operating License was not required.

4) The NRC failed to adequately address the Los Osos and San Luis Bay faults. The new seismic information concluded that these faults were also capable of producing ground motions in excess of the current plant SSE design basis.

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**From:** Pedersen, Renee  
**Sent:** Wednesday, November 27, 2013 10:12 AM  
**To:** Wertz, Trent  
**Cc:** Sewell, Margaret; Solorio, Dave; Leeds, Eric  
**Subject:** RE: Diablo Canyon DPO Update

**Importance:** High

Trent,

The ticketing must have slipped through the cracks. In any event, just have Eric send an email (like in the past) to [DPOPM.Resource@nrc.gov](mailto:DPOPM.Resource@nrc.gov) requesting an extension.

Include the current due date, the reason for the delay, and the proposed due date. I know that it took longer than expected to establish the panel. Maybe you can include something on that as well as furlough, scheduling issues, etc. Get input from Mike Case on when report will be complete and add 21 days. Although Mike says mid-December, is it realistic with holiday schedules?

Once we have your request, we'll forward iaw with DPO MD guidance.

Renée

P.S. Please be sure to include Marge on your emails because she is attempting to cover day-to-day activities while I work on a special project.

**From:** Wertz, Trent  
**Sent:** Tuesday, November 26, 2013 8:24 AM  
**To:** Pedersen, Renee  
**Subject:** FW: Diablo Canyon DPO Update

Renee,

I talked to Eric about this earlier this morning. Since we don't have a green ticket for the DPO, do we need to request an extension or should we just send a memo to the EDO stating that due to the following reasons the DPO that was originally scheduled to be completed in December will now be finished up in early Feb?

Seems like a better approach.

Let me know what you think.

Thanks,  
Trent

**From:** Leeds, Eric  
**Sent:** Monday, November 25, 2013 4:31 PM  
**To:** Wertz, Trent  
**Subject:** FW: Diablo Canyon DPO Update

Need your help with this – let's discuss! Thanks

**From:** Sewell, Margaret  
**Sent:** Monday, November 25, 2013 4:20 PM  
**To:** Leeds, Eric  
**Cc:** Pedersen, Renee  
**Subject:** FW: Diablo Canyon DPO Update

Hi Eric,

Renée is working on a project today and asked me to follow-up with you on this case. In light of Mike's update below, it's clear that an extension is going to be required. Mike is estimating that the panel report won't be complete until mid-December, which means that your decision should be issued around early January. With the holidays upon us, it may be more realistic to extend your decision to early February....just a thought.

Attached is the original Milestones & Timeliness Goals for your information. Please send us your justification for an extension request along with a new date and we'll be sure to submit it to EDO as soon as possible. We'll look forward to hearing from you.

If you have any questions, just let Renée or me know.

Thanks, Eric.

Marge

**From:** Case, Michael  
**Sent:** Monday, November 25, 2013 10:42 AM  
**To:** Leeds, Eric  
**Cc:** Sheron, Brian; West, Steven; Pedersen, Renee; Bernhard, Rudolph; Hill, Brittain; Sewell, Margaret; Wertz, Trent  
**Subject:** RE: Diablo Canyon DPO Update

The Statement of Concerns is attached (excuse whatever typos are there. Haven't polished yet).

**From:** Leeds, Eric  
**Sent:** Saturday, November 23, 2013 11:17 AM  
**To:** Case, Michael  
**Cc:** Sheron, Brian; West, Steven; Pedersen, Renee; Bernhard, Rudolph; Hill, Brittain; Sewell, Margaret; Wertz, Trent  
**Subject:** Re: Diablo Canyon DPO Update

Thank so much, Mike! As I mentioned to the team, your work will be highly scrutinized both internally and externally, so doing a thorough job is critical. If you can share the statement of concern that your team developed with agreement from the CI, please send it to me.

I really appreciate the heads up!

Eric

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**From:** Case, Michael  
**To:** Leeds, Eric  
**Cc:** Sheron, Brian; West, Steven; Pedersen, Renee; Bernhard, Rudolph; Hill, Brittain; Sewell, Margaret  
**Sent:** Fri Nov 22 16:04:19 2013  
**Subject:** Diablo Canyon DPO Update

Hi Eric. I just wanted to give you a quick update on the progress on the Diablo Canyon DPO. After the distractions of furloughs, vacations and performance appraisals, I think we have a good head of steam now. We've completed the statement of concerns, and have been primarily in the information gathering

phase. Although we still need to gather some more information (including potentially with the licensee), we have a solid outline so we're entering the initial writing phase now. I think there is reasonable alignment among the panel so the struggle is likely to be not what to say, but how to say it.

As you might expect, the professionalism of both my fellow panelist and the folks involved in the Diablo Canyon issue has been outstanding. You're probably wondering about when we are planning to get done. My estimate would be mid-December at this point.

If I don't get to see you, have a great Thanksgiving!

Mike

---

**From:** Case, Michael  
**Sent:** Wednesday, November 27, 2013 11:36 AM  
**To:** Peck, Michael  
**Cc:** Hill, Brittain; Bernhard, Rudolph; Sewell, Margaret  
**Subject:** DPO Update  
**Attachments:** Appendix A.docx

Note: Attachment may be found as part of document B/46 in FOIA/PA-2015-0071 (ML16181A428).

Hi Michael. Happy Thanksgiving. I just wanted to give you a quick update on where we are and what we've been up to. First, attached is the statement of concerns that we're using. We're basically using the markup you provided earlier (there may be typos; my AA had to rekey it in). Since you've been back from leave, we've been mostly talking with other folks related to the DPO so we've done Mike Markley, Neil O'Keefe and Jon Ake. Quite frankly, we're still pulling information related to Diablo. After all, it is about 45 years of history.

Schedule wise, we're not going to make the initial timeline that I think you got when the DPO was initiated. We actually have started to write, but mostly it's just getting background information into the document. As far as estimates on getting our report done, I'm shooting for mid-December. If that turned out to be a final draft, I would be shocked but we have a good chance at a "report with holes" if you are familiar with how SERs are sometimes built.

Britt said you might be in town teaching in December. I'm sure the panel would enjoy meeting with you in person (except for Rudy who is out in Region II). If you have questions about what's going on, feel free to call (although email might be better in some respects. If I have free time, I'll be off working on the DPO which is almost impossible for me to do in my office).

Mike

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**From:** Leeds, Eric  
**Sent:** Wednesday, November 27, 2013 12:05 PM  
**To:** DPOPM Resource  
**Cc:** Sewell, Margaret; Pedersen, Renee; Wertz, Trent; Case, Michael  
**Subject:** DPO Extension Request

To Whom It May Concern,

In accordance with Management Directive 10.159, Handbook (D)(5)(b), DPOs are expected to be completed within 120 days and the 120-day time frame may only be extended with the approval of the EDO through the DPOPM for offices that report to the EDO.

The purpose of this email is to request an extension for DPO-2013-002.

In particular, please revise the current due date from November 29, 2013 to January 31, 2014.

The schedule has been impacted by several issues including the unavailability of one of the panel members due to prior work and leave commitments, the furlough in October, and the complex nature of the issue.

The DPO process affords employees an opportunity to have their views expressed to and considered by high level managers. Ensuring that managers have sufficient time to fully consider the issues is critical to the success of the process. We have reviewed the extension request and think that it is reasonable and consistent with the goals of the DPO Program.

Thank you for your consideration of this request.

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

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**From:** Sewell, Margaret  
**Sent:** Tuesday, December 03, 2013 9:15 AM  
**To:** Leeds, Eric  
**Cc:** Pedersen, Renee; Solorio, Dave; Wertz, Trent; Case, Michael; Hill, Brittain; Bernhard, Rudolph; Peck, Michael; Zimmerman, Roy  
**Subject:** FW: Extension Request for DPO-2013-002  
**Attachments:** DPO Extension Request; Milestones and Timeliness Goals.docx  
**Importance:** High

Eric,

Based on the approved subject extension, attached is the new, updated schedule for DPO-2013-002.

If you have any questions, please feel free to contact us.

Thank you.  
Marge

Marge Sewell  
Safety Culture Specialist  
Office of Enforcement/Concerns Resolution Branch  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

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**From:** Khanna, Meena  
**Sent:** Monday, December 02, 2013 9:19 PM  
**To:** Sewell, Margaret; Pedersen, Renee  
**Cc:** Wertz, Trent  
**Subject:** FW: Extension Request for DPO-2013-002  
**Importance:** High

Just an fyi...thanks!

**From:** Khanna, Meena  
**Sent:** Monday, December 02, 2013 4:28 PM  
**To:** ExtensionRequest, EDO  
**Cc:** Sanfilippo, Nathan  
**Subject:** FW: Extension Request for DPO-2013-002  
**Importance:** High

Denise, I approve NRR's extension request for DPO-2013-002 from Nov 29, 2013 to January 31, 2014.

Thanks,  
Meena

**From:** ExtensionRequest, EDO  
**Sent:** Monday, December 02, 2013 4:22 PM  
**To:** Khanna, Meena

**Subject:** FW: Extension Request for DPO-2013-002  
**Importance:** High

Hi Meena,

For your review and approval.

Thanks,  
Denise

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**From:** Sewell, Margaret  
**Sent:** Wednesday, November 27, 2013 1:05 PM  
**To:** ExtensionRequest, EDO  
**Cc:** Khanna, Meena; Leeds, Eric; Pedersen, Renee; Solorio, Dave; Zimmerman, Roy; Peck, Michael; Case, Michael; Hill, Brittain; Bernhard, Rudolph; Wertz, Trent  
**Subject:** Extension Request for DPO-2013-002  
**Importance:** High

In accordance with Management Directive 10.159, Handbook (D)(5)(b), DPOs are expected to be completed within 120 days and the 120-day time frame may only be extended with the approval of the EDO through the DPOPM for offices that report to the EDO.

The purpose of this email is to request an extension on behalf of Eric Leeds, Director, Office of Nuclear Reactor Regulation, for DPO-2013-002.

In particular, please revise the current due date from November 29, 2013 to January 31, 2014.

I am attaching Eric Leeds' extension request. The schedule has been impacted by several scheduling issues including leave commitments, the Government Shutdown, and the complex nature of the issue.

The DPO process affords employees an opportunity to have their views expressed to and considered by high level managers. Ensuring that managers have sufficient time to fully consider the issue is critical to the success of the process. I have reviewed the extension request and think that it is reasonable and consistent with the goals of the DPO Program.

I am also including the current Milestones and Timeliness Goals for this case.

Please let me or Renée Pedersen know if you have any questions. Thank you for your consideration of this request and we look forward to hearing from you.

Marge Sewell  
Safety Culture Specialist  
Office of Enforcement/Concerns Resolution Branch  
301-415-8045

Renée Pedersen  
Office of Enforcement/Concerns Resolution Branch  
Sr. Differing Views Program Manager  
301-415-2742

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**From:** Pedersen, Renee  
**Sent:** Friday, January 24, 2014 11:16 AM  
**To:** Leeds, Eric  
**Cc:** Wertz, Trent; Sewell, Margaret  
**Subject:** FW: Status of Diablo Canyon Seismic Issues - DPO-2013-002

**Importance:** High

Eric,

Just a heads up on your DPO. BTW, the Chairman's office referred Diane Curran (Mother for Peace) to me to answer her question about the status of this DPO.

Renée

**From:** Sewell, Margaret  
**Sent:** Friday, January 24, 2014 10:54 AM  
**To:** Case, Michael  
**Cc:** Pedersen, Renee; Solorio, Dave  
**Subject:** Status of Diablo Canyon Seismic Issues - DPO-2013-002  
**Importance:** High

Hi Mike,

We noticed that the projected DPO decision is quickly approaching (1/31/14) and just wanted to touch base to see how the panel is progressing. Do you have an approximate date for finalizing the panel report yet? Can you let us know where you are at this point in the process?

While the DPO guidelines say that Eric will have 21 days to make his final decision after receiving the report, he may need more time to do a thorough review of the report and prepare his decision. Consequently, it seems that another extension will be needed. If you haven't already done so, you may want to reach out to Eric so that he can submit an extension request to us as quickly as possible.

Thanks, Mike, and we'll look forward to hearing from you soon.

Marge

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**From:** Sewell, Margaret  
**Sent:** Monday, January 27, 2014 1:34 PM  
**To:** Case, Michael  
**Cc:** Pedersen, Renee; Solorio, Dave; Hill, Brittain; Benney, Brian; Sheron, Brian; Bernhard, Rudolph; Giitter, Joseph; Leeds, Eric; Wertz, Trent  
**Subject:** RE: Status of Diablo Canyon Seismic Issues - DPO-2013-002

Hi Mike,

Thanks very much for the status update. A few questions came to mind as I read your email.

Having Joe Gitter review the final report for a quality/readability check isn't a problem and can certainly add value; however, it's not typically part of the process. Therefore, we want to make sure Michael Peck has been informed of this extra step as well as the additional time involved. Have you discussed it with him yet to make sure he's onboard with the plan?

Also, have you been keeping Michael informed in general of the progress the panel has made and your recommendation to Eric for an extension?

As we've discussed in the past, it's really important to make sure the submitter is aware of the panel's progress, especially any anticipated delays in the final outcome.

If you have any questions, please give Renée (X2742) or me a call. Thanks very much and we'll look forward to receiving the extension request from Eric.

Marge

Marge Sewell  
Safety Culture Specialist  
Office of Enforcement/Concerns Resolution Branch  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

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**From:** Case, Michael  
**Sent:** Monday, January 27, 2014 9:52 AM  
**To:** Wertz, Trent; Leeds, Eric  
**Cc:** Pedersen, Renee; Solorio, Dave; Sewell, Margaret; Hill, Brittain; Benney, Brian; Sheron, Brian; Bernhard, Rudolph; Giitter, Joseph  
**Subject:** RE: Status of Diablo Canyon Seismic Issues - DPO-2013-002

Good morning gentlemen.

I wanted to give you a status update and unfortunately recommend that we seek another extension. As you may recall, back in December, we had a teleconference with the licensee and requested that they develop some information that would support our DPO analysis. That seems to be the long pole in the tent at this point. They are working on it but have had some challenges due to the holidays and an illness. We have a fully written document at this point except for Concern #2 which I expect relatively shortly. We have also coordinated with Joe Giitter who has kindly agreed to give the report a quality/readability check when we complete it. Summarizing, the major steps remaining are:

Receive licensee information  
Complete drafting of Concern #2  
Factor licensee information into existing writeup  
Write conclusion and recommendation section  
QC review  
Issue

I'll touch base with Brian B. on the licensee information but I would think it would take two weeks from the point that we get it to get to final draft. Joe will try to do his review in about a week.

Sorry for the delay. Among the panel, I think we all have a good grasp of the issue (and the submitter has been very helpful with that) and we seem to see the issues in the same way (although we emphasize different aspects).

**From:** Sewell, Margaret  
**Sent:** Friday, January 24, 2014 10:54 AM  
**To:** Case, Michael  
**Cc:** Pedersen, Renee; Solorio, Dave  
**Subject:** Status of Diablo Canyon Seismic Issues - DPO-2013-002  
**Importance:** High

Hi Mike,

We noticed that the projected DPO decision is quickly approaching (1/31/14) and just wanted to touch base to see how the panel is progressing. Do you have an approximate date for finalizing the panel report yet? Can you let us know where you are at this point in the process?

While the DPO guidelines say that Eric will have 21 days to make his final decision after receiving the report, he may need more time to do a thorough review of the report and prepare his decision. Consequently, it seems that another extension will be needed. If you haven't already done so, you may want to reach out to Eric so that he can submit an extension request to us as quickly as possible.

Thanks, Mike, and we'll look forward to hearing from you soon.

Marge

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**From:** ExtensionRequest, EDO  
**Sent:** Thursday, January 30, 2014 4:59 PM  
**To:** Sewell, Margaret; ExtensionRequest, EDO  
**Cc:** Brock, Kathryn; Leeds, Eric; Pedersen, Renee; Solorio, Dave; Zimmerman, Roy; Campbell, Andy; Peck, Michael; Case, Michael; Hill, Brittain; Bernhard, Rudolph; Wertz, Trent; Dorman, Dan; Uhle, Jennifer  
**Subject:** RE: Extension Request for DPO-2013-002

OEDO has reviewed and approved the subject extension. The new due date is 03/28/14.

Thanks,  
Denise

**From:** Sewell, Margaret  
**Sent:** Wednesday, January 29, 2014 2:28 PM  
**To:** ExtensionRequest, EDO  
**Cc:** Brock, Kathryn; Leeds, Eric; Pedersen, Renee; Solorio, Dave; Zimmerman, Roy; Campbell, Andy; Peck, Michael; Case, Michael; Hill, Brittain; Bernhard, Rudolph; Wertz, Trent; Dorman, Dan; Uhle, Jennifer  
**Subject:** Extension Request for DPO-2013-002

In accordance with Management Directive 10.159, Handbook (D)(5)(b), DPOs are expected to be completed within 120 days and the 120-day time frame may only be extended with the approval of the EDO through the DPOPM for offices that report to the EDO.

The purpose of this email is to request an extension on behalf of Eric Leeds, Director, Office of Nuclear Reactor Regulation, for DPO-2013-002.

In particular, please revise the current due date from January 31, 2014 to March 28, 2014.

I am attaching Eric Leeds' extension request. The schedule has been impacted by several issues including the development of information from the licensee (which has been delayed due to the holidays and an illness), addition of a peer review of the information, and the complex nature of the issue.

The DPO process affords employees an opportunity to have their views expressed to and considered by high level managers. Ensuring that managers have sufficient time to fully consider the issue is critical to the success of the process. I have reviewed the extension request and think that it is reasonable and consistent with the goals of the DPO Program.

I am also including the current Milestones and Timeliness Goals for this case.

Please let me or Renée Pedersen know if you have any questions. Thank you for your consideration of this request and we look forward to hearing from you.

Marge Sewell  
Safety Culture Specialist  
Office of Enforcement/Concerns Resolution Branch  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

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**From:** Sewell, Margaret  
**Sent:** Friday, January 31, 2014 9:32 AM  
**To:** Leeds, Eric  
**Cc:** Brock, Kathryn; Pedersen, Renee; Solorio, Dave; Zimmerman, Roy; Campbell, Andy; Case, Michael; Peck, Michael; Hill, Brittain; Bernhard, Rudolph; Wertz, Trent  
**Subject:** Extension Request for DPO-2013-003  
**Attachments:** RE: Extension Request for DPO-2013-002; Milestones and Timeliness Goals.docx

Eric,

OEDO has approved the subject extension request (see attached email). Based on OEDO's approval, the new due date is 3/28/2014. Attached is the updated Milestones & Timeliness Goals for DPO-2013-002.

If you have any questions, please feel free to contact Renée or me.

Thank you.  
Marge

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**From:** Sewell, Margaret  
**Sent:** Monday, February 10, 2014 4:23 PM  
**To:** Leeds, Eric  
**Cc:** Case, Michael; Wertz, Trent; Pedersen, Renee; Solorio, Dave  
**Subject:** FW: FOIA 2014-0134 has been rec'd about a DPO  
**Attachments:** 2014-0134-r.pdf; RE: FOIA 2014-0134 has been rec'd about a DPO

**Importance:** High

Note: FOIA-2014-0134 is publicly available in ADAMS as ML14035A435.

Hi Eric,

We just wanted to give you a heads-up that Michael Peck has submitted the FOIA request below to publicly release his Diablo Canyon Seismic Issues DPO prior to the case closing (i.e., issuance of the management decision). I think you're aware that there has been previous external interest in this case and just wanted to make you aware.

Of course, we provided the attached email explaining that it is premature to publicly release the DPO at this time.

Thanks!  
Marge (& Renée)

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**From:** FOIAPAOE Resource  
**Sent:** Friday, February 07, 2014 9:01 PM  
**To:** Pedersen, Renee; Sewell, Margaret  
**Subject:** FOIA 2014-0134 has been rec'd about a DPO  
**Importance:** High

Hi Renee and Marge,

A FOIA has been rec'd from Michael Peck requesting that his DPO ADAMS Pkg ML13213A248 be made publicly available (see attached PDF of incoming FOIA).

To summarize:

On pg 2 of the incoming he says: "As the author of the DPO, I have expert understanding of the issues raised in the document.

External stockholders, including members of Congress, have expressed an interest in the issues raised in the DPO. Release of the DPO will provide clarity to the public understanding of issues affecting nuclear and seismic safety at Diablo Canyon.

This DPO raised immediate operability concerns related to important to safety plant equipment required by the facility Technical Specifications and the operating license. This DPO was submitted on July 18, 2013 but still remains unresolved by the agency. I request the DPO be released prior to final disposition by the DPO Panel due to the length of time these potential safety significant outstanding issues remained unresolved."

I'm thinking that premature release of this would be contrary to the DPO Mgmt Dir. Pls let me know ASAP if we can make this public or how we can respond to this. (I'm working a late to make up some time. OE has rec'd sevl FOIAs in the past few days.)

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**From:** Case, Michael  
**Sent:** Friday, February 28, 2014 12:58 PM  
**To:** Peck, Michael  
**Cc:** Bernhard, Rudolph; Hill, Brittain; Wertz, Trent; Sewell, Margaret  
**Subject:** Latest Update

Hello Michael. I just wanted to give you a status update. PG&E finished up some additional information for us and Brett and I are flying out to take a look at it Tuesday of next week. The panel has pretty much drafted our report with some open items to write up what we found in this additional information. So we're not done but making some good progress.

Maybe we can hook up Monday and touch base.

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**From:** Sewell, Margaret  
**Sent:** Wednesday, March 19, 2014 10:29 AM  
**To:** Case, Michael  
**Cc:** Sheron, Brian; West, Steven; Hill, Brittain; Bernhard, Rudolph; Leeds, Eric; Giitter, Joseph; Wertz, Trent; Pedersen, Renee; Solorio, Dave  
**Subject:** RE: DPO Status Update  
**Attachments:** DPO Panel Report.doc; Milestones and Timeliness Goals.docx

Hi Mike,

Thanks for the update on the DPO. Just in case you need it, I'm attaching some DPO panel report instructions along with a template for your use. Just let me know if you need anything else.

In light of the activities that still need to be done by the panel, it seems likely that you will need another extension. The current Milestones & Timeliness goals (attached) indicate that Eric will issue his decision by next Fri., 3/28, which may not be realistic. If you decide to request an extension, please let me know as quickly as possible so that I can submit it to EDO.

(b)(5)

Please let me know if you have any questions and/or if you'll need the extension.

Thanks!  
Marge

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**From:** Case, Michael  
**Sent:** Monday, March 10, 2014 2:01 PM  
**To:** Wertz, Trent; Sewell, Margaret; Giitter, Joseph; Leeds, Eric  
**Cc:** Sheron, Brian; West, Steven; Hill, Brittain; Bernhard, Rudolph  
**Subject:** DPO Status Update

I just wanted to keep you all informed about DPO status. Britt and I made it to CA to review some information that PG&E developed for us (see attached status I gave the DPO submitter). I thought what we saw was very good evidence with respect to the issues in the DPO and very much worth the "wait". (Easy for me to say, but we do really appreciate the support you have given us to fully illuminate the issues). Britt deserves a great deal of credit because he was prime architect behind our thoughts.

Still have to formally write up what we saw.  
Do a minimal amount of polishing  
Get Joe to give us a sanity check  
Get the report to Eric.

Thanks again for your support.

MEMORANDUM TO: Panel Chair  
Panel Member  
Panel Member

FROM: (Name of Office Director or Regional Administrator)

SUBJECT: AD HOC REVIEW PANEL - DIFFERING PROFESSIONAL OPINION ON  
(use subject description from tasking) (DPO-20YY-nnn)

In accordance with Management Directive (MD) 10.159, "The NRC Differing Professional Opinions Program," I am appointing you as members of a Differing Professional Opinion (DPO) Ad Hoc Review Panel (DPO Panel) to review a DPO that was forwarded to me to disposition.

The DPO (Enclosure 1) raises concerns (subject).

I have designated (name) chairman of this DPO Panel and (name) as a DPO Panel member. (Name) was proposed by the DPO submitter and serves as the third member of the DPO Panel. [Optional: Because this issue addresses enforcement, (name) is serving as the fourth member.] In accordance with the guidance included in MD 10.159 and consistent with the DPO Program objectives, I task the DPO Panel to do the following:

- Review the DPO submittal to determine if sufficient information has been provided to undertake a detailed review of the issue.
- Meet with the submitter, as soon as practicable, to ensure that the DPO Panel understands the submitter's concerns and scope of the issues. (Normally within 7 days.)
- Promptly after the meeting, document the DPO Panel's understanding of *the submitter's concerns*, provide the Statement of Concerns (SOC) to the submitter, and request that the submitter review and provide comments, if necessary. (Normally within 7 days.)
- Maintain the scope of the review to not exceed those issues as defined in the original written DPO and confirmed in the SOC.
- Consult with me as necessary to discuss schedule-related issues, the need for technical support (if necessary), or the need for administrative support for the DPO Panel's activities.
- Perform a detailed review of the issues and conduct any record reviews, interviews, and discussions you deem necessary for a complete, objective, independent, and impartial review. The DPO Panel should re-interview individuals as necessary to clarify information during the review. In particular, the DPO Panel should have periodic discussions with the submitter to provide the submitter the opportunity to further clarify the submitter's views and to facilitate the exchange of information.

- Provide monthly status updates on your activities via email to Renée Pedersen, Differing Views Program Manager (DVPM) about the last day of the month. This information will be reflected in the Milestones and Timeliness Goals for this DPO. Please provide a copy of email status updates to the submitter and to me.
- Issue a DPO Panel report, including conclusions and recommendations to me regarding the disposition of the issues presented in the DPO. The report should be a collaborative product and include all DPO Panel member's concurrence. Follow the specific processing instructions for DPO documents.
- Consult me as soon as you believe that a schedule extension is necessary to disposition the DPO.
- Recommend whether the DPO submitter should be recognized if the submitter's actions result in significant contributions to the mission of the agency.

Disposition of this DPO should be considered an important and time sensitive activity. The timeliness goal included in the MD for issuing a DPO Decision is 120 calendar days from the day the DPO is accepted for review. The timeliness goal for issuing this DPO Decision is (date).

Process Milestones and Timeliness Goals for this DPO are included as Enclosure 2. The timeframes for completing process milestones are identified strictly as goals—a way of working towards reaching the DPO timeliness goal of 120 calendar days. The timeliness goal identified for your DPO task is 70 calendar days.

Although timeliness is an important DPO Program objective, the DPO Program also sets out to ensure that issues receive a thorough and independent review. The overall timeliness goal should be based on the significance and complexity of the issues and the priority of other agency work. Therefore, if you determine that your activity will result in the need for an extension beyond the overall 120-day timeliness goal, please send me an email with the reason for the extension request and a new completion date. I will subsequently forward this request to the DVPM who will forward it to the EDO for approval.

Please ensure that all DPO-related activities are charged to Activity Code ZG0007.

Because this process is not routine, the DVPM will be meeting and communicating with all parties during the process to ensure that everyone understands the process, goals, and responsibilities. The DVPM will be subsequently sending you information intended to aid you in implementing the DPO process.

An important aspect of our internal safety culture includes respect for differing views. As such, you should exercise discretion and treat this matter sensitively. Documents should be distributed on an as-needed basis. In an effort to preserve privacy, minimize the effect on the work unit, and keep the focus on the issues, you should simply refer to the employee as the DPO submitter. Avoid conversations that could be perceived as "hallway talk" on the issue. We need to do everything that we can in order to create an organizational climate that does not chill employees from raising dissenting views. It is appropriate for employees to discuss the details of the DPO with their co-workers as part of the evaluation; however, as with other predecisional

processes, employees should not discuss details of the DPO outside the agency.

As a final administrative note, please ensure that all correspondence associated with this case include the DPO number in the subject line, be profiled in accordance with ADAMS template OE-011, be identified as non-public with limited viewer rights to those included on distribution of correspondence and declared an official agency record *when the correspondence is issued*. Please email the ADAMS accession number for the record to [DPOPM.Resource@nrc.gov](mailto:DPOPM.Resource@nrc.gov) and the record will be filed in the applicable DPO case file folder (DPO-YYYY-NNN) in the ADAMS Main Library. Following this process will ensure that a complete agency record is generated for the disposition of this DPO. If the submitter requests that the documents included in the DPO Case File be made public when the process is complete, you will be provided specific guidance to support a releasability review.

I appreciate your willingness to serve and your dedication to completing an independent and objective review of this DPO. Successful resolution of the issues is important for NRC and its stakeholders. If you have any questions, you may contact me, Renée Pedersen, DVPM, at (301) 415-2742, or Marge Sewell, Safety Culture Specialist at (301) 415-8045.

I look forward to receiving your independent review results and recommendations.

Enclosures:

1. DPO-20YY-nnn
2. Milestones and Timeliness Goals

cc w/o Enclosure:

Submitter  
DVPM

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**From:** Wertz, Trent  
**Sent:** Tuesday, March 25, 2014 8:32 AM  
**To:** Case, Michael  
**Subject:** RE: DPO Status

Understand. I'll suggest to Eric that he request an extension until April 18. He did mention that he wants to have a meeting with you to discuss the report, possibly even before you send it to him formally. Maybe the afternoon of 4/1 or 4/2 (those are the next free times he has on his calendar).

---

**From:** Case, Michael  
**Sent:** Tuesday, March 25, 2014 7:30 AM  
**To:** Wertz, Trent  
**Cc:** Hill, Brittain; Bernhard, Rudolph; Sewell, Margaret  
**Subject:** RE: DPO Status

Hi Trent. Thanks for your patience. Let me update you on where I think we are. We are working on resolving some comments from Joe Giitter who did an informal review of our report as Eric had suggested. Best case, if we don't have any scheduling issues and alignment issues, I think we could have the report to Eric by Friday. Worst case, it would be a week from Friday.

I'm not sure wrt time how long Eric will need to take to review the report and finalize his decision. The report itself is about 20 pages so it's not huge. We would be available to walk him through it if that would be helpful. I think Margaret has some ballpark time frames from the MD on this part of the process. I think it's about 2 weeks but I could be wrong.

---

**From:** Wertz, Trent  
**Sent:** Monday, March 24, 2014 1:28 PM  
**To:** Case, Michael  
**Subject:** DPO Status

Mike,

Given that the due date is this Friday, what would you project as a reasonable extension date? Perhaps a couple of weeks past the time you project Eric receiving the panel report?

Thoughts?

Thanks,

Trent L. Wertz  
Technical Assistant  
Office of Nuclear Reactor Regulation  
301-415-1568  
[trent.wertz@nrc.gov](mailto:trent.wertz@nrc.gov)

---

**From:** Wertz, Trent  
**Sent:** Tuesday, March 25, 2014 8:41 AM  
**To:** Leeds, Eric  
**Subject:** DPO Extension Request

Eric,

Here is a draft for the DPO extension request. You'll need to send it to DPOPM Resource and copy Marge Sewell, Renee Pedersen, Mike Case, and myself.

To Whom It May Concern,

In accordance with Management Directive 10.159, Handbook (D)(5)(b), DPOs are expected to be completed within 120 days and the 120-day time frame may only be extended with the approval of the EDO through the DPOPM for offices that report to the EDO.

The purpose of this email is to request an extension for DPO-2013-002.

In particular, please revise the current due date from March 28, 2014 to April 18, 2014.

The schedule has been impacted by the complex nature of the issue and the need to gather information from the licensee.

The DPO process affords employees an opportunity to have their views expressed to and considered by high level managers. Ensuring that managers have sufficient time to fully consider the issues is critical to the success of the process. We have reviewed the extension request and think that it is reasonable and consistent with the goals of the DPO Program.

Thank you for your consideration of this request.

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

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**From:** Sewell, Margaret  
**Sent:** Tuesday, March 25, 2014 9:23 AM  
**To:** Case, Michael  
**Cc:** Hill, Brittain; Bernhard, Rudolph; Wertz, Trent; Pedersen, Renee; Solorio, Dave; Leeds, Eric  
**Subject:** RE: DPO Status  
**Attachments:** Milestones and Timeliness Goals.docx; Eric's DPO Extension request.txt

Mike,

Thanks for the update and estimate on getting the report to Eric. The Milestones & Timeliness goals (see attached) allow for 21 days after receiving the report for Eric to issue his decision, which is scheduled for Fri., 3/28. Obviously, this isn't going to happen based on your estimates for submitting the panel report to Eric.

So in your best case scenario, Eric would need to issue his decision on 4/18. In your worst case scenario, 4/25 would be the issue date. Either way, an extension is going to be needed. In order to allow for any scheduling issues, etc., I would recommend requesting an extension to 4/25 or maybe even the end of April just to make sure Eric has enough time to thoroughly evaluate the report before making his final decision.

Please ask Eric to submit his extension request as quickly as possible, so that we can submit to EDO for approval.

For your convenience, I'm attaching the Eric's last extension request submitted on 1/29.

Please call if you have any questions. Thanks, again, and we'll look forward to receiving the request!

Marge (& Renée)

Marge Sewell  
Safety Culture Specialist  
Office of Enforcement/Concerns Resolution Branch  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

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**From:** Case, Michael  
**Sent:** Tuesday, March 25, 2014 7:30 AM  
**To:** Wertz, Trent  
**Cc:** Hill, Brittain; Bernhard, Rudolph; Sewell, Margaret  
**Subject:** RE: DPO Status

Hi Trent. Thanks for your patience. Let me update you on where I think we are. We are working on resolving some comments from Joe Giitter who did an informal review of our report as Eric had suggested. Best case, if we don't have any scheduling issues and alignment issues, I think we could have the report to Eric by Friday. Worst case, it would be a week from Friday.

I'm not sure wrt time how long Eric will need to take to review the report and finalize his decision. The report itself is about 20 pages so it's not huge. We would be available to walk him through it if that would be helpful. I think Margaret has some ballpark time frames from the MD on this part of the process. I think it's about 2 weeks but I could be wrong.

The entire email string may be found as document B/60 in FOIA/PA-2015-0071 (ML15181A427).

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**From:** Leeds, Eric  
**Sent:** Tuesday, March 25, 2014 10:56 AM  
**To:** DPOPM Resource  
**Cc:** Sewell, Margaret; Pederson, Cynthia; Case, Michael; Wertz, Trent  
**Subject:** DPO Extension request

To Whom It May Concern,

In accordance with Management Directive 10.159, Handbook (D)(5)(b), DPOs are expected to be completed within 120 days and the 120-day time frame may only be extended with the approval of the EDO through the DPOPM for offices that report to the EDO.

The purpose of this email is to request an extension for DPO-2013-002.

In particular, please revise the current due date from March 28, 2014 to April 30, 2014.

The schedule has been impacted by the complex nature of the issue and the need to gather information from the licensee.

The DPO process affords employees an opportunity to have their views expressed to and considered by high level managers. Ensuring that managers have sufficient time to fully consider the issues is critical to the success of the process. We have reviewed the extension request and think that it is reasonable and consistent with the goals of the DPO Program.

Thank you for your consideration of this request.

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

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**From:** Sewell, Margaret  
**Sent:** Tuesday, March 25, 2014 4:24 PM  
**To:** ExtensionRequest, EDO  
**Cc:** Brock, Kathryn; Leeds, Eric; Pedersen, Renee; Solorio, Dave; Zimmerman, Roy; Case, Michael; Case, Michael; Hill, Brittain; Bernhard, Rudolph; Wertz, Trent  
**Subject:** Extension Request for DPO-2013-002  
**Attachments:** DPO Extension request; Milestones and Timeliness Goals.docx

In accordance with Management Directive 10.159, Handbook (D)(5)(b), DPOs are expected to be completed within 120 days and the 120-day time frame may only be extended with the approval of the EDO through the DPOPM for offices that report to the EDO.

The purpose of this email is to request an extension on behalf of Eric Leeds, Director, Office of Nuclear Reactor Regulation, for DPO-2013-002.

In particular, please revise the current due date from March 28, 2014 to April 30, 2014.

I am attaching Eric Leeds' extension request. The schedule has been impacted by the complex nature of the issue and the need to gather information from the licensee.

The DPO process affords employees an opportunity to have their views expressed to and considered by high level managers. Ensuring that managers have sufficient time to fully consider the issue is critical to the success of the process. I have reviewed the extension request and think that it is reasonable and consistent with the goals of the DPO Program.

I am also including the current Milestones and Timeliness Goals for this case.

Please let me or Renée Pedersen know if you have any questions. Thank you for your consideration of this request and we look forward to hearing from you.

Marge

Marge Sewell  
Safety Culture Specialist  
Office of Enforcement/Concerns Resolution Branch  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

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**From:** Case, Michael  
**Sent:** Wednesday, March 26, 2014 7:24 AM  
**To:** Hill, Brittain; Bernhard, Rudolph  
**Cc:** Wertz, Trent  
**Subject:** FW: DPO Status

Hi guys. How's your availability on April 1<sup>st</sup> or 2<sup>nd</sup> afternoon (Briit, I think you said you were out). Trent, I'm available both days. Probably April 1<sup>st</sup> would be preferred.

---

**From:** Wertz, Trent  
**Sent:** Tuesday, March 25, 2014 8:32 AM  
**To:** Case, Michael  
**Subject:** RE: DPO Status

Understand. I'll suggest to Eric that he request an extension until April 18. He did mention that he wants to have a meeting with you to discuss the report, possibly even before you send it to him formally. Maybe the afternoon of 4/1 or 4/2 (those are the next free times he has on his calendar).

---

**From:** Case, Michael  
**Sent:** Tuesday, March 25, 2014 7:30 AM  
**To:** Wertz, Trent  
**Cc:** Hill, Brittain; Bernhard, Rudolph; Sewell, Margaret  
**Subject:** RE: DPO Status

Hi Trent. Thanks for your patience. Let me update you on where I think we are. We are working on resolving some comments from Joe Giitter who did an informal review of our report as Eric had suggested. Best case, if we don't have any scheduling issues and alignment issues, I think we could have the report to Eric by Friday. Worst case, it would be a week from Friday.

I'm not sure wrt time how long Eric will need to take to review the report and finalize his decision. The report itself is about 20 pages so it's not huge. We would be available to walk him through it if that would be helpful. I think Margaret has some ballpark time frames from the MD on this part of the process. I think it's about 2 weeks but I could be wrong.

---

**From:** Wertz, Trent  
**Sent:** Monday, March 24, 2014 1:28 PM  
**To:** Case, Michael  
**Subject:** DPO Status

Mike,

Given that the due date is this Friday, what would you project as a reasonable extension date? Perhaps a couple of weeks past the time you project Eric receiving the panel report?

Thoughts?

Thanks,

Trent L. Wertz  
Technical Assistant

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**From:** Sewell, Margaret  
**Sent:** Friday, March 28, 2014 12:28 PM  
**To:** Leeds, Eric  
**Cc:** Case, Michael; Peck, Michael; Hill, Brittain; Bernhard, Rudolph; Wertz, Trent; Pedersen, Renee; Solorio, Dave; Zimmerman, Roy; Foster, Jack; Brock, Kathryn  
**Subject:** Approved Extension Request - DPO-2013-003  
**Attachments:** RE: Extension Request for DPO-2013-002; Milestones and Timeliness Goals.docx

Eric,

OEDO has approved the subject extension request (see attached email). Based on OEDO's approval, the new due date is 4/30/2014. Attached is the updated Milestones & Timeliness Goals for DPO-2013-002.

If you have any questions, please feel free to contact Renée or me.

Thanks!  
Marge

Marge Sewell  
Safety Culture Specialist  
Office of Enforcement/Concerns Resolution Branch  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

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**From:** Case, Michael  
**Sent:** Tuesday, April 01, 2014 7:21 AM  
**To:** Peck, Michael  
**Cc:** Hill, Brittain; Bernhard, Rudolph; Wertz, Trent; Sewell, Margaret  
**Subject:** DPO Status Update

Hi Michael. I'm doing a rotation in the next couple of days down at IP so things are a bit crazy. I just wanted to keep you up to speed on status. We very close to being done on our piece of the process. Eric has asked us for a status briefing of where we are and we are scheduled to do that today. Unless there are some surprises from that meeting, we would expect to sign out the panel report shortly thereafter.

When we send it to Eric, we also send copies to you (and a few other folks). That will give you an opportunity to review it and then maybe we can schedule some time with you and the panel to field some questions. Eric has about 3 weeks before he issues his decision (I think they are targeting the end of April)

---

**From:** Pedersen, Renee  
**Sent:** Tuesday, April 08, 2014 11:45 AM  
**To:** Leeds, Eric  
**Cc:** Wertz, Trent; Sewell, Margaret; Solorio, Dave  
**Subject:** RE: I've received the draft Diablo Canyon DPO report - EOM  
**Attachments:** DPO Decision.doc

Eric,

For your convenience, here is a template for the decision.

Renée

**From:** Leeds, Eric  
**Sent:** Tuesday, April 08, 2014 10:55 AM  
**To:** Case, Michael  
**Cc:** Wertz, Trent; Pedersen, Renee  
**Subject:** I've received the draft Diablo Canyon DPO report - EOM

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

## DPO Decision Template/Instructions

MEMORANDUM TO: DPO Submitter

FROM: OD or RA

SUBJECT: DIFFERING PROFESSIONAL OPINION DECISION INVOLVING (ISSUE)  
(DPO-YYYY-NNN)

### GENERAL INSTRUCTIONS:

The DPO Decision should be a factual discussion focused on the DPO and the decision (including the rationale for the decision). It should not include personnel performance type issues. If these issues are necessary to be addressed, they should be addressed separately. Although the DPO Decision is being issued to the individual employee, the submitter may request that the DPO case file be made public. Therefore, the DPO Decision has the ability to affect and/or influence the entire staff and the NRC's public image.

The format of the DPO Decision is meant to be flexible to accommodate each unique DPO. For example, some DPOs include multiple issues. The DPO Panel's report may include conclusions and recommendations that do not align with each DPO concern. The format of the DPO Decision may be influenced by whether the OD or RA agrees or disagrees with all the conclusions, or whether the OD or RA agrees with some conclusions and disagrees with others.

Regardless of specific formatting, the DPO Decision should address the following elements:

Introduction/purpose: identify (1) issue and date of DPO submittal; (2) date DPO Panel was established; (3) date(s) (or statement) that DPO Panel met with submitter to establish a concise statement of the submitter's concern(s); (4) date (or statement) that submitter approved statement of concern(s).

Statement of how the decision was made, e.g., after reviewing the DPO Panel's report, meeting with the DPO Panel, meeting with the submitter, meeting with the staff, reviewing the submitter's

comments on the DPO Panel's report.

List of Concern(s)

DPO Panel conclusion(s)

DPO Panel recommendation(s)

Decision

Rationale

Closing statement thanking the submitter for raising the concern(s).

Notification that a summary of the DPO will be included in the Weekly Information Report to advise interested employees of the outcome when the case is closed.

Notification that the submitter will be included on correspondence involving the development/listing of followup actions and implementation schedules.

cc: DPOPM

Backup DPOPM

Director, OE

DPO Panel members

ADAMS DOCUMENT PROCESSING INSTRUCTIONS:

Use DPO ADAMS template OE-011

Name of record=DPO Decision

Document type= Differing Professional Opinion Case File

Case/reference number=DPO-YYYY-NNN

Keyword=OE-011

Make the record non-public

Limit viewers to those NRC employees on distribution and provide owner rights to "DPO Staff"

Declare the document as an OAR

Send email to [DPOPM.Resource@nrc.gov](mailto:DPOPM.Resource@nrc.gov) with the ML # so that we can file the record in the ADAMS DPO Case Files folder for the specific DPO

---

**From:** Wertz, Trent  
**Sent:** Tuesday, April 29, 2014 12:35 PM  
**To:** Leeds, Eric  
**Subject:** DPO Extension request

Eric,

Suggested wording for the DPO extension request. Please edit and send to DPOPM Resource and copy Marge Sewell, Mike Case, and myself.

To Whom It May Concern,

In accordance with Management Directive 10.159, Handbook (D)(5)(b), DPOs are expected to be completed within 120 days and the 120-day time frame may only be extended with the approval of the EDO through the DPOPM for offices that report to the EDO.

The purpose of this email is to request an extension for DPO-2013-002.

In particular, please revise the current due date from April 30, 2014 to May 30, 2014.

The schedule has been impacted by the complex nature of the issue, the need to gather information from the licensee, and competing schedule commitments.

The DPO process affords employees an opportunity to have their views expressed to and considered by high level managers. Ensuring that managers have sufficient time to fully consider the issues is critical to the success of the process. We have reviewed the extension request and think that it is reasonable and consistent with the goals of the DPO Program.

Thank you for your consideration of this request.

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

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**From:** Sewell, Margaret  
**Sent:** Tuesday, April 29, 2014 5:30 PM  
**To:** ExtensionRequest, EDO  
**Cc:** Brock, Kathryn; Leeds, Eric; Pedersen, Renee; Solorio, Dave; Zimmerman, Roy; Campbell, Andy; Case, Michael; Peck, Michael; Hill, Brittain; Bernhard, Rudolph; Wertz, Trent  
**Subject:** DPO-2013-002 - Extension Request  
**Attachments:** DPO extension request.; Milestones and Timeliness Goals.docx

In accordance with Management Directive 10.159, Handbook (D)(5)(b), DPOs are expected to be completed within 120 days and the 120-day time frame may only be extended with the approval of the EDO through the DPOPM for offices that report to the EDO.

The purpose of this email is to request an extension on behalf of Eric Leeds, Director, Office of Nuclear Reactor Regulation, for DPO-2013-002.

In particular, please revise the current due date from April 30, 2014 to May 30, 2014.

I am attaching Eric Leeds' extension request. The schedule has been impacted by the complex nature of the issue, the need to gather information from the licensee, and competing schedule commitments.

The DPO process affords employees an opportunity to have their views expressed to and considered by high level managers. Ensuring that managers have sufficient time to fully consider the issue is critical to the success of the process. I have reviewed the extension request and think that it is reasonable and consistent with the goals of the DPO Program.

I am also including the current Milestones and Timeliness Goals for this case.

Please let us know if you have any questions. Thank you for your consideration of this request and we look forward to hearing from you.

Marge Sewell  
Safety Culture Specialist  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

Renée Pedersen  
Sr. Differing Views Program Manager  
301-415-2742  
[Renee.pedersen@nrc.gov](mailto:Renee.pedersen@nrc.gov)

Marge Sewell  
Safety Culture Specialist  
Office of Enforcement/Concerns Resolution Branch  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

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**From:** Sewell, Margaret  
**Sent:** Friday, May 09, 2014 4:21 PM  
**To:** Leeds, Eric  
**Cc:** Case, Michael; Peck, Michael; Hill, Brittain; Bernhard, Rudolph; Wertz, Trent; Pedersen, Renee; Solorio, Dave; Zimmerman, Roy; Foster, Jack; Weil, Jenny  
**Subject:** Approved Extension Request - DPO-2013-002  
**Attachments:** STARS OEDO Office Notification (OEDO-14-00211-NRR); Milestones and Timeliness Goals.docx

Eric,

OEDO has approved the subject extension request (see attached email). Based on OEDO's approval, the new due date is May 30, 2014. Attached is the updated Milestones & Timeliness Goals for DPO-2013-002.

If you have any questions, please feel free to contact Renée or me.

Thanks!  
Marge

Marge Sewell  
Safety Culture Specialist  
Office of Enforcement/Concerns Resolution Branch  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

## DPO Milestones and Timeliness Goals

DPO-2013-002: Diablo Canyon Seismic Issues

Assigned to: Eric Leeds, NRR

DPO Panel: Michael Case, Panel Chair;  
Britt Hill, Panel Member; Rudolph Bernhard, Panel Member

DPO Milestone	Timeliness Goals*	Actual Date
Individual submits DPO (NRC Form 680)	None	7/19/2013
DPOPM receives, screens, and accepts DPO	8 days	7/31/2013
DPOPM forwards DPO to office manager	7 days	8/2/2013
Office manager establishes DPO Panel	14 days	9/3/2013
DPO Panel conducts review and issues report <ul style="list-style-type: none"> <li>- meets with submitter (≈7 days)</li> <li>- establishes Statement of Concern (≈7 days)</li> <li>- confirms schedule with office manager (≈7 days)</li> <li>- completes review (≈ 49 days after start of review)</li> <li>- writes report (≈21 days after completion of review)</li> </ul>	70 days	
Office manager issues DPO Decision	21 days	5/29/2014
<b>DPO TIMELINESS GOAL</b> (time from acceptance of DPO to DPO Decision)	120 days 11/29/2013 1/31/2014 (1) 3/28/2014 (2) 4/30/2014 (3) 5/30/2014 (4)	302 days

\*The timeframes for completing process milestones are identified strictly as goals—a way of working towards reaching the Differing Professional Opinions (DPO) timeliness goal of 120 calendar days.

Office managers should e-mail requests for extension beyond the 120-day timeframe to [DPOPM.Resource@nrc.gov](mailto:DPOPM.Resource@nrc.gov) and the DPOPM will forward the request to the EDO with a recommendation.

- (1) New Schedule approved by EDO 12/3/2013. Extension due to several scheduling issues including leave commitments, the Government Shutdown, and the complex nature of the issue.
- (2) New Schedule approved by EDO 1/30/2014. Extension due to development of information from the licensee (which has been delayed due to the holidays and an illness), addition of a peer review of the information, and the complex nature of the issue.

- (3) New Schedule approved by EDO 3/28/2014. Extension due to complex nature of issue and need for Panel to gather information from the licensee.
- (4) New schedule approved by EDO 5/9/2014. The schedule has been impacted by the complex nature of the issue, the need to gather information from the licensee, and competing schedule commitments.

DPO Appeal Milestone	Timeliness Goals*	Actual Date
Individual submits DPO Appeal (NRC Form 690)	NLT 21 days of DPO Decision	6/23/2014
DPOPM screens, accepts, and requests statement of views from OD or RA	4 days	6/24/2014
OD or RA provides statement of views to DPOPM	14 days	6/27/2014
DPOPM provides DPO appeal package to EDO	2 days	7/7/2014
EDO issues DPO Appeal Decision	30-60 days	9/9/2014
<p style="text-align: center;"><b>DPO APPEAL TIMELINESS GOAL</b></p> (time from acceptance of appeal to DPO Appeal Decision)	50-80 days	77 days

\*The timeframes for completing process milestones are identified strictly as goals—a way of working towards reaching the DPO appeal timeliness goal of 80 calendar days.

**From:** Sewell, Margaret  
**Sent:** Tuesday, May 13, 2014 2:54 PM  
**To:** Wertz, Trent  
**Subject:** DPO-2013-002 Submittal & Panel Report

Trent,  
 Got your voicemail. Here's the ADAMS link to the documents you're looking for as well as a screen shot. So, it looks like everything is there and you have viewer rights. Just let me know if you have any other questions.

p.s. thanks so much for attending the OCWE Champion mtg. this morning. It was good to finally meet you in person!

<https://adamsxt.nrc.gov/WorkplaceXT/Browse.jsf>

The screenshot shows the ADAMS FileNet Workplace XT interface. On the left is a navigation tree with folders for various document types, including DPO-2008-002 through DPO-2014-001, EDO Congressional Materials, EDO Office Operating Plans, and ELECTRONIC DOCKET folders. The main area displays a table of document details:

Name	Accession Number	Official Record?	Availability
Differing Professional Opinion Report On Diablo Canyon Seismic Issues (DPO-2013-002)	ML14093A008	Yes	Non-Publicly Available
DPO 2013 002, Differing Professional Opinion Involving Diablo Canyon Seismic Issues	ML13213A248	Yes	Non-Publicly Available
DPO-2013-002 - Ad Hoc Review Panel - Differing Professional Opinion Involving Seismic Issues at Diablo Canyon	ML13242A305	Yes	Non-Publicly Available

At the bottom right of the interface, it says "Local intranet | Protected Mode: Off".

Marge Sewell  
Safety Culture Specialist  
Office of Enforcement/Concerns Resolution Branch  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

---

**From:** Cho, Esther  
**Sent:** Tuesday, May 20, 2014 10:49 AM  
**To:** Wertz, Trent  
**Subject:** RE: DPO Memo

Good Morning,

I have added the document in ADAMS and provided OE, Renee Pedersen, and yourself "owner" rights to the document.

The Accession No. is as follows:

- ML14140A225 – Differing Profession Opinion Involving Seismic Issues at Diablo Canyon (DPO-2013-002)

I also left a hard copy for you on your chair. Please let me know if there is anything else I can assist you with. Thank you!

Sincerely,  
Esther Cho

**From:** Wertz, Trent  
**Sent:** Tuesday, May 20, 2014 9:38 AM  
**To:** Cho, Esther  
**Subject:** DPO Memo

Attached.

Trent L. Wertz  
Technical Assistant  
Office of Nuclear Reactor Regulation  
301-415-1568  
[trent.wertz@nrc.gov](mailto:trent.wertz@nrc.gov)

---

**From:** Pedersen, Renee  
**Sent:** Thursday, May 22, 2014 9:12 AM  
**To:** Leeds, Eric  
**Cc:** Wertz, Trent; Sewell, Margaret; Solorio, Dave; Zimmerman, Roy  
**Subject:** Diablo Canyon DPO

**Importance:** High

Eric,

I just wanted to pass this on to you. This reinforces my recommendation to you to consider a communication plan, which would bring OPA in. In addition, we will pass the DPO Decision on to senior management and the Commission to keep them informed because we delay the WIR until the process is complete (which could take time if the submitter appeals). (Lesson learned from previous DPO).

Trent,

On an administrative note, include Dave Skeen on distribution for the DPO Decision. Declare as non-public and limit view rights to those on distribution, including "DPO Staff" as a viewer and email the ADAMS ML to [DPOPM.Resource@nrc.gov](mailto:DPOPM.Resource@nrc.gov).

Please let us know if you have any questions or if there is something that we can do to support you.

*We're here to help!*

Renée & Marge

P.S. Starting next week, I will be out for 2 weeks (I know--unbelievable), so if you need assistance, please contact Marge or Dave Solorio.

---

**From:** Pedersen, Renee  
**Sent:** Thursday, May 22, 2014 8:54 AM  
**To:** McIntyre, David  
**Cc:** Sewell, Margaret; Solorio, Dave  
**Subject:** RE: DPO Process

Dave,

Two wrongs don't make a right. We are still in a predecisional process and should not release or discuss documents until the process is complete and records are reviewed iaw for procedures for discretionary release.

When Eric Leeds issues the DPO Decision on Diablo Canyon, we will notify the submitter of his right to appeal the decision and will remind him our policy on not releasing predecisional information to the public.

Renée

---

**From:** McIntyre, David  
**Sent:** Thursday, May 22, 2014 8:40 AM  
**To:** Pedersen, Renee  
**Cc:** Sewell, Margaret  
**Subject:** RE: DPO Process

Thanks, Renee. If the submitter leaks it to the press (he has already been in touch with an AP reporter in California), are we then free to discuss it?

**From:** Pedersen, Renee  
**Sent:** Wednesday, May 21, 2014 5:11 PM  
**To:** McIntyre, David  
**Cc:** Sewell, Margaret  
**Subject:** RE: DPO Process

The DPO Decision is part of the DPO Case file which does not go public (if the submitter wants and it has been screened by management) until the process is complete. The DPO process is complete if the employee does not appeal the decision or after the EDO issues a decision on the appeal.

This is why we wait until the process is complete before we put a summary in the WIR.

Renée

**From:** McIntyre, David  
**Sent:** Wednesday, May 21, 2014 3:48 PM  
**To:** Pedersen, Renee  
**Subject:** DPO Process

Hi Renee – when a DPO decision is signed by an office director, how does it become public? Five days later in ADAMS?

Thanks,  
Dave

---

**From:** Cho, Esther  
**Sent:** Thursday, May 22, 2014 10:17 AM  
**To:** DPOPM Resource  
**Cc:** Wertz, Trent; Pedersen, Renee  
**Subject:** Diablo Canyon DPO

Good Morning,

On behalf of the NRR Front Office, I have made adjustments to the distribution and viewer permissions of the Diablo Canyon DPO as requested.

The ADAMS Accession No. is as follows:

- ML14140A225 – Differing Profession Opinion Involving Seismic Issues at Diablo Canyon (DPO-2013-002)

Please let me know if there is anything else I can assist you with. Thank you. Have a great day!

Sincerely,  
Esther Cho

Contract Administrative Assistant  
U.S. Nuclear Regulatory Commission  
NRR/DPR/MSD, Location: O-13H18  
Main: 301-415-2239 Direct: 301-415-0618  
[Esther.Cho@nrc.gov](mailto:Esther.Cho@nrc.gov)

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**From:** Leeds, Eric  
**Sent:** Thursday, May 22, 2014 11:23 AM  
**To:** Dapas, Marc; Reynolds, Steven  
**Cc:** Dricks, Victor; Burnell, Scott; McIntyre, David; Johnson, Michael; Dorman, Dan; Uhle, Jennifer; Evans, Michele; Lund, Louise; Flanders, Scott; Cook, Christopher; Wertz, Trent; Kennedy, Kriss; Schwarz, Sherry; Case, Michael  
**Subject:** FW: Heads up!!!! Belay my last on Diablo Canyon

Folks –

Marc and I discussed the issue this morning and I need to reflect on what I heard before I issue my decision. I still plan to issue the decision this month – certainly by the end of next week. I appreciate everyone's attention on this matter and your interest in being prepared to discuss the issue in a public forum once the DPO submitter grants release of the information. I will let everyone know if anything changes with regard to my proposed key messages.

Sorry for any confusion.

Eric

---

**From:** Leeds, Eric  
**Sent:** Wednesday, May 21, 2014 1:26 PM  
**To:** Dapas, Marc; Reynolds, Steven  
**Cc:** Dricks, Victor; Burnell, Scott; McIntyre, David; Johnson, Michael; Dorman, Dan; Uhle, Jennifer; Evans, Michele; Lund, Louise; Flanders, Scott; Cook, Christopher; Wertz, Trent; Kennedy, Kriss; Schwarz, Sherry  
**Subject:** Heads up!!!! Diablo Canyon DPO on seismic

RIV –

Heads up. I'm planning on signing out my decision on the DPO involving seismic issues at Diablo Canyon by COB tomorrow, Thursday May 22. We will send everyone on concurrence for this email a copy of the final letter. Obviously, we expect stakeholder interest in the issue, so I am providing you some high level key messages for external (and internal) stakeholders.

Key messages:

- The DPO Panel, a group of three independent staff members who have NOT worked on the seismic issues at Diablo Canyon previously (and one of which had been recommended by the DPO submitter), concluded that there is not a significant or immediate safety concern regarding the seismic design of the Diablo Canyon Nuclear Power Plant (DCNPP). The Director of the Office of Nuclear Reactor Regulation has concluded that this is not a safety significant issue as independent groups have verified that the most recent seismic information is bounded by the existing analysis for DCNPP.
- The NRC is currently re-evaluating the seismic hazards at all the nuclear power plants in the US, as part of its response to the accident at the Fukushima Dai-ichi nuclear power plant. The Diablo Canyon plant is required to provide its response to the re-evaluation in March 2015.
- In order to clarify the regulatory process in this area, the NRC is committed to revise its formal regulatory guidance for evaluating new information on natural hazards, including new seismic information, as part of its response to the Fukushima accident.

Let me know if you have any questions.

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

**From:** Sewell, Margaret  
**Sent:** Tuesday, May 27, 2014 2:01 PM  
**To:** Wertz, Trent  
**Subject:** DPO-2013-002 - ML13268A466

Trent,  
Got you message. Try the subject ML# for the actual DPO submittal. Here's a screen shot to show you where it is too. Call if you have any more questions.

Package Contents - ML13213A248 - Microsoft Internet Explorer provided by USNRC

Package Name: DPO 2013 002, Differing Professional Opinion Involving Diablo Canyon Seismic Issues  
Accession Number: ML13213A248

Package Properties

Paste into Package    Unfile    View    Profile    Open    Checkout    F

	Name	Accession Number	Official Record?
	DPO-2013-002, Memo Forwarding Differing Professional Opinion Involving Diablo Canyon Seismic Issues (OEDO-14-00211)	ML13213A249	Yes
	DPO-2013-002, Milestones and Timeliness Goals (OEDO-14-00211)	ML13213A259	Yes
	DPO-2013-002, Diablo Canyon Seismic Issues, DPO Submittal (OEDO-14-00211)	ML13268A466	Yes

There are 3 Documents in this Package

Recorder

Local in

Marge Sewell  
Safety Culture Specialist

Office of Enforcement/Concerns Resolution Branch  
301-415-8045  
[margaret.sewell@nrc.gov](mailto:margaret.sewell@nrc.gov)

---

**From:** Leeds, Eric  
**Sent:** Wednesday, May 28, 2014 3:31 PM  
**To:** Wertz, Trent  
**Cc:** Dapas, Marc; Johnson, Michael  
**Subject:** Diablo Canyon DPO

Trent -

I've reflected on my conversation with Marc Dapas as well as the email I received from Michael Peck today. I stand firm on my decision with regard to Mr. Peck's DPO that we discussed last week. Please issue the DPO letter as we have previously discussed and that I signed. Thanks! See you in the office when I return from Paris!

Eric

---

**From:** Leeds, Eric  
**Sent:** Thursday, May 29, 2014 12:43 AM  
**To:** Dapas, Marc  
**Cc:** Johnson, Michael; Uhle, Jennifer; Wertz, Trent  
**Subject:** Re: Follow up from our meeting with the Mothers for Peace last Tuesday afternoon

Thanks Marc. I think you've done all you can. I'm sure my decision will elicit feedback. I've chosen to focus on the safety aspect of the issue and will be rather short and direct in stark contrast to the DPO submittal, as well as the work done by the DPO panel. At the least, it should be understandable to all.

Eric

**From:** Dapas, Marc  
**Sent:** Wednesday, May 28, 2014 09:10 PM  
**To:** Leeds, Eric  
**Cc:** Johnson, Michael; Krsek, Robert  
**Subject:** FW: Follow up from our meeting with the Mothers for Peace last Tuesday afternoon

In follow up to our discussion last week Eric, I am forwarding this to you so that you are aware of my communication with Jane Swanson of the Mothers for Peace on the subject matter. Thanks.

**From:** Dapas, Marc  
**Sent:** Wednesday, May 28, 2014 8:08 PM  
**To:** (b)(6)  
**Subject:** Follow up from our meeting with the Mothers for Peace last Tuesday afternoon

Jane, I much appreciate the opportunity we had to meet with you and the other members of your Mothers' Board last week. I thought the discussion was mutually beneficial in terms of providing me with a perspective on the various issues/concerns you and your fellow board members have with respect to operation of the Diablo Canyon plant and affording us the chance to answer your questions.

Since the Differing Professional Opinion (DPO) filed by Mr. Peck was the subject of some of our discussion, I wanted to follow up with you on the current status of the DPO process. Eric Leeds, who is the Director of our Office of Nuclear Reactor Regulation, will be signing out the DPO decision tomorrow. The DPO panel, which is comprised of three independent staff members who have not previously worked on the seismic issues at Diablo Canyon (and one of which had been recommended by the DPO submitter), forwarded to Mr. Leeds the results of the panel's review of the DPO. Mr. Leeds has reviewed the panel's recommendation and supporting basis and is ready to make his decision on the DPO. Once Mr. Leeds issues his DPO decision, we will notify the DPO submitter (in this case, Mr. Peck) of his right to appeal the decision to our Executive Director for Operations (Mark Satorius) and will remind him of our policy not to release pre-decisional information. The DPO decision is considered pre-decisional if the DPO submitter decides to appeal the decision to the EDO since in that circumstance, the EDO has to review the case and make a final agency determination regarding the appeal. If Mr. Peck decides not to appeal the DPO decision, the DPO process is complete, and therefore, if Mr. Peck asked us to make his DPO public, we would honor his request. Should Mr. Peck appeal the DPO decision, once the EDO has rendered a decision on the appeal, the DPO process would be complete and we would make the DPO public upon Mr. Peck's request for us to do so.

I hope you find this responsive to my commitment to keep you informed of where we are in the process with respect to Mr. Peck's DPO submittal. Thanks and please let me know if you have any questions.

---

**From:** Cho, Esther  
**Sent:** Thursday, May 29, 2014 4:08 PM  
**To:** Skeen, David; Pedersen, Renee; Zimmerman, Roy; Case, Michael; Bernhard, Rudolph; Dapas, Marc; Johnson, Michael; Satorius, Mark; Hill, Brittain  
**Cc:** Wertz, Trent  
**Subject:** Differing Professional Opinion Involving Seismic Issues at Diablo Canyon (DPO-2013-002)  
**Attachments:** DPO Panel Report.pdf; ML14140A225.pdf

Good Afternoon,

**Please follow the link below for the electronic distribution of:**

**DATE:** May 29, 2014

**TO:** Michael S. Peck

**FROM:** Eric J. Leeds

**SUBJECT:** Differing Professional Opinion Involving Seismic Issues at Diablo Canyon (DPO-2013-002)

This has been sent to the submitter. This has not been released to the public. Thank you.

Sincerely,  
Esther Cho

Contract Administrative Assistant  
U.S. Nuclear Regulatory Commission  
NRR/DPR/MSD, Location: O-13H18  
Main: 301-415-2239 Direct: 301-415-0618  
[Esther.Cho@nrc.gov](mailto:Esther.Cho@nrc.gov)

---

**From:** Burnell, Scott  
**Sent:** Wednesday, September 03, 2014 9:14 AM  
**To:** McIntyre, David; Brenner, Eliot; Harrington, Holly  
**Subject:** Re: Chairman brief on Diablo

I can call in, of course, but if we prefer in-person then it's obviously Dave.

Sent from an NRC Blackberry  
Scott Burnell

(b)(6)

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

**From:** McIntyre, David  
**Sent:** Wednesday, September 03, 2014 09:01 AM  
**To:** Burnell, Scott; Brenner, Eliot; Harrington, Holly  
**Subject:** RE: Chairman brief on Diablo

Per the morning meeting, this meeting has now been moved to THURSDAY at 11 am.

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

**From:** Burnell, Scott  
**Sent:** Wednesday, September 03, 2014 6:16 AM  
**To:** Brenner, Eliot; Harrington, Holly; McIntyre, David  
**Subject:** RE: Chairman brief on Diablo

I've dealt with the Diablo seismic issues for years. Both Dave and I are working on the foreign ownership paper, for whatever that's worth.

---

**From:** Brenner, Eliot  
**Sent:** Wednesday, September 03, 2014 12:16 AM  
**To:** Harrington, Holly; McIntyre, David; Burnell, Scott  
**Subject:** Re: Chairman brief on Diablo

I think dave because this is a long running operating issue.

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

**From:** Harrington, Holly  
**Sent:** Tuesday, September 02, 2014 10:01 PM  
**To:** Brenner, Eliot; McIntyre, David; Burnell, Scott  
**Subject:** FW: Chairman brief on Diablo

Ok, the one we're invited to is this Friday from 3 to 3:45. Who is best to represent OPA?

Holly Harrington

Senior Level Advisor  
Office of Public Affairs  
U.S. Nuclear Regulatory Commission

301.415.8203

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

From: Burnell, Scott  
Sent: Tuesday, September 02, 2014 3:20 PM  
To: Harrington, Holly; McIntyre, David; Uselding, Lara; Brenner, Eliot  
Subject: RE: Chairman brief on Diablo

Understood.

---

From: Harrington, Holly  
Sent: Tuesday, September 02, 2014 3:17 PM  
To: Burnell, Scott; McIntyre, David; Uselding, Lara; Brenner, Eliot  
Subject: RE: Chairman brief on Diablo

Thursday's meeting is the one we're not invited to. The one we are is yet unscheduled

Holly Harrington

Senior Level Advisor  
Office of Public Affairs  
U.S. Nuclear Regulatory Commission

301.415.8203

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

From: Burnell, Scott  
Sent: Tuesday, September 02, 2014 3:09 PM  
To: McIntyre, David; Harrington, Holly; Uselding, Lara; Brenner, Eliot  
Subject: RE: Chairman brief on Diablo

I can certainly call in to the separate meeting if it's Thursday -- both Dave and I have kept an eye on the foreign ownership issue.

---

From: McIntyre, David  
Sent: Tuesday, September 02, 2014 3:03 PM  
To: Harrington, Holly; Uselding, Lara; Brenner, Eliot  
Cc: Burnell, Scott  
Subject: RE: Chairman brief on Diablo

Sounds like a fun day.

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

From: Harrington, Holly  
Sent: Tuesday, September 02, 2014 2:54 PM  
To: Uselding, Lara; Brenner, Eliot  
Cc: McIntyre, David; Burnell, Scott  
Subject: RE: Chairman brief on Diablo

From Jen: It's my understanding that Thursday's meeting is going to deal with the technical issues associated with the Shoreline fault and an update of what's going on with the DPO, and that Phil has requested a separate meeting (as yet unscheduled) to address messaging on Diablo and the foreign ownership issue - to which he's asked that OPA, OCA, and assorted others be invited.

Holly Harrington

Senior Level Advisor  
Office of Public Affairs  
U.S. Nuclear Regulatory Commission

301.415.8203

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

From: Uselding, Lara  
Sent: Tuesday, September 02, 2014 2:07 PM  
To: Brenner, Eliot; Harrington, Holly  
Subject: Chairman brief on Diablo

Hello: I left a voicemail for Scott as I heard from a RIV staffer that the Chairman wants a brief on all things Diablo this Thursday. Do you know about this and if so, will someone from HQ OPA sit in on that?  
Lara

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

From: Burnell, Scott  
Sent: Tuesday, September 02, 2014 1:03 PM  
To: Uselding, Lara  
Subject: I'm out today and tomorrow

Sorry, should have updated my voicemail. Haven't heard anything about a chairman brief. Check w/Holly?

Sent from an NRC Blackberry  
Scott Burnell

(b)(6)

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**From:** Burnell, Scott  
**Sent:** Wednesday, September 10, 2014 8:34 AM  
**To:** Brenner, Eliot; McIntyre, David; Harrington, Holly; Uselding, Lara; Dricks, Victor  
**Cc:** Oesterle, Eric  
**Subject:** DPO comm plan

I'm told by reliable sources that NRR is updating the plan to account for the EDO decision and we'll see it this morning.

Sent from an NRC Blackberry  
Scott Burnell

(b)(6)

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**From:** Burnell, Scott  
**Sent:** Wednesday, September 10, 2014 9:45 AM  
**To:** McIntyre, David; Uselding, Lara; Brenner, Eliot; Harrington, Holly  
**Subject:** Re: Diablo DPO IS public in ADAMS

Yes, I agree.

Sent from an NRC Blackberry  
Scott Burnell

(b)(6)

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**From:** McIntyre, David  
**Sent:** Wednesday, September 10, 2014 09:42 AM  
**To:** Burnell, Scott; Uselding, Lara; Brenner, Eliot; Harrington, Holly  
**Subject:** RE: Diablo DPO IS public in ADAMS

But it IS public as of yesterday. They just won't be able to find it via our nrc.gov website until later today.

---

**From:** Burnell, Scott  
**Sent:** Wednesday, September 10, 2014 9:42 AM  
**To:** McIntyre, David; Uselding, Lara; Brenner, Eliot; Harrington, Holly  
**Subject:** Re: Diablo DPO IS public in ADAMS

I would imagine someone's given ADAMS staff a nudge to immediately replicate it to the public site.

Sent from an NRC Blackberry  
Scott Burnell

(b)(6)

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**From:** McIntyre, David  
**Sent:** Wednesday, September 10, 2014 09:39 AM  
**To:** Uselding, Lara; Brenner, Eliot; Harrington, Holly; Burnell, Scott  
**Subject:** Diablo DPO IS public in ADAMS

Lara, et al – The DPO is public in Adams at ML14252A743. It was dated yesterday (9/9) and date to be released is yesterday (9/9). It does not yet come up in web-based Adams, which has a 1-day delay; however, anyone who has direct adams access can already find it. (eg., Platts, I imagine)

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**From:** Burnell, Scott  
**Sent:** Wednesday, September 10, 2014 11:39 AM  
**To:** Uselding, Lara; Sebrosky, Joseph  
**Subject:** RE: Scott/Joe ; review of blog prior to sending to Eliot  
**Attachments:** SEP2014blogAB1632\_srb.docx

Here are my edits.

---

**From:** Uselding, Lara  
**Sent:** Wednesday, September 10, 2014 11:03 AM  
**To:** Burnell, Scott; Sebrosky, Joseph  
**Subject:** Scott/Joe ; review of blog prior to sending to Eliot  
**Importance:** High

## Diablo Canyon In the News



Today PG&E issued a report to the state as required by [California Assembly Bill 1632](#) and has also shared a copy with the NRC. In 2006, the bill required the California Energy Commission to assess the vulnerability of the state's nuclear power plants to seismic hazards and plant aging among other things. As part of the assessment, PG&E performed state-of-the-art seismic studies on and offshore the area near the plant.

The methodology used for the state report is different than was used to assess the Shoreline fault after it was discovered in 2008. New seismic information in the state-required report indicates that the Shoreline fault is both longer than previously thought and able to produce a stronger earthquake. Along with the report, PG&E provided Region IV with an operability evaluation after entering the new information in their corrective action program to assess its impact on plant operations.

NRC Resident Inspectors and Region IV staff have looked at the licensee's PG&E's assessment and so far the information indicates reasonable assurance of public health and safety after a seismic event there is no new information that would lead the NRC to conclude that continued safe operation of Diablo Canyon is challenged. This is because While the new seismic information gathered by PG&E adds detail about the Shoreline fault's length and strength, and the company's evaluation reaffirms that the Shoreline fault is a lesser included fault still bounded by not as powerful as the Hosgri earthquake Diablo Canyon must withstand.

However, Just as was done the NRC with the reviewed of the Shoreline fault information in 2009 and 2012 2014, the agency NRC will do a more thoroughly review of the new information through our inspection process. The 1,000-page seismic report is 1,000 pages and contains new technical information that will be reviewed by staff to independently verify the calculations.

Previously, NRC provided its assessment of the Shoreline fault seismic hazard in the Research Information Letter (RIL) 12-01 "Confirmatory Analysis of Seismic Hazard at the Diablo Canyon Power Plant from the Shoreline Fault Zone." In the RIL, NRC staff determined that the

maximum ground motion expected at Diablo from a seismic event along the Shoreline fault would be bounded by expected ground motion for seismic events along the Hosgri fault. Even though the shoreline fault is capable of producing a bigger earthquake than previously calculated, it is still bounded by the Hosgri for which the plant is able to safely shutdown and protect the public and the environment.

~~This PG&E will also use this new seismic information will also be used to respond to in providing an overall seismic hazard re-analysis to the NRC's request for every U.S. nuclear power plant to re-analyze their earthquake hazards following Japan's as part of the agency's response to the 2011 Fukushima nuclear accident. PG&E's response re-analysis is due to the NRC in March 2015.~~

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**From:** Burnell, Scott  
**Sent:** Wednesday, September 10, 2014 11:50 AM  
**To:** Brenner, Eliot; Harrington, Holly; McIntyre, David; Dricks, Victor  
**Subject:** FW: DPO Case file now public

FYI

---

**From:** Pedersen, Renee  
**Sent:** Wednesday, September 10, 2014 11:47 AM  
**To:** Burnell, Scott; Oesterle, Eric; Buchanan, Theresa; Uselding, Lara; Walker, Wayne; Hipschman, Thomas; Hill, Brittain; Sebrosky, Joseph; Pruett, Troy; Williams, Megan  
**Cc:** Markley, Michael  
**Subject:** RE: DPO Case file now public

It's there now.

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 DPO Case File-DPO-2013-002 (Public).

September 08, 2014

September 05, 2014

 09/25/2014 Corrosion rates for Fitness for Service (FFS) evaluations of buried pipe

September 04, 2014

September 03, 2014

 NUREG-2157 Vol 1, "Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel: Final Report."

September 02, 2014

August 2014

July 2014

June 2014

May 2014

April 2014

March 2014

February 2014

January 2014

December 2013

November 2013

October 2013

September 2013

August 2013

July 2013

June 2013

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**From:** Pedersen, Renee  
**Sent:** Wednesday, September 10, 2014 11:38 AM  
**To:** Burnell, Scott; Oesterle, Eric; Buchanan, Theresa; Uselding, Lara; Walker, Wayne; Hipschman, Thomas; Hill, Brittain; Sebrosky, Joseph; Pruett, Troy; Williams, Megan  
**Cc:** Markley, Michael  
**Subject:** RE: DPO Case file now public

Scott,

Thanks for bringing this to my attention. We're looking into it and will send out clarification.

---

**From:** Burnell, Scott  
**Sent:** Wednesday, September 10, 2014 11:13 AM  
**To:** Pedersen, Renee; Oesterle, Eric; Buchanan, Theresa; Uselding, Lara; Walker, Wayne; Hipschman, Thomas; Hill, Brittain; Sebrosky, Joseph; Pruett, Troy; Williams, Megan  
**Cc:** Markley, Michael  
**Subject:** RE: DPO Case file now public

Still not visible in the public website ADAMS.

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**From:** Pedersen, Renee  
**Sent:** Wednesday, September 10, 2014 11:11 AM  
**To:** Oesterle, Eric; Buchanan, Theresa; Uselding, Lara; Burnell, Scott; Walker, Wayne; Hipschman, Thomas; Hill, Brittain; Sebrosky, Joseph; Pruett, Troy; Williams, Megan  
**Cc:** Markley, Michael  
**Subject:** FYI: DPO Case file now public

FYI, the DPO Case File is now public.

---

**From:** Oesterle, Eric  
**Sent:** Wednesday, September 10, 2014 9:55 AM  
**To:** Buchanan, Theresa; Uselding, Lara; Burnell, Scott; Walker, Wayne; Hipschman, Thomas; Hill, Brittain; Sebrosky, Joseph; Pedersen, Renee; Pruett, Troy; Williams, Megan  
**Cc:** Markley, Michael  
**Subject:** draft DPO Comm Plan  
**Importance:** High

Everyone,

Good morning. Attached please find a draft of the DPO Comm plan that was discussed at the 8:30 call this AM. This is provided to you for comment. Please note that it reflects real-time action on the DPO Appeal and incorporates comments from the discussion this morning on the AB-1632 Seismic Report. Much of the Q&A comes from the "living-DCPP Comm Plan" that is being maintained by RIV (the highlighted questions are troublesome to NRR/DORL but we understand that RIV prefers to maintain these). I have included a question at the end about whether new information in the AB-1632 report could impact the DPO conclusions. Also note that the Comm Plan does not contain a timeline as we are already real-time. Please let me know if you have any questions or comments.

*Eric R. Oesterle*  
Acting Branch Chief  
NRR/DORL/LPL4-1  
301-415-1014

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**From:** Burnell, Scott  
**Sent:** Wednesday, September 10, 2014 4:52 PM  
**To:** Uselding, Lara; OPA Resource; Dricks, Victor  
**Subject:** Re: Diablo Canyon nuclear plant decision?

Thanks.

Sent from an NRC Blackberry  
Scott Burnell

(b)(6)

---

**From:** Uselding, Lara  
**Sent:** Wednesday, September 10, 2014 04:51 PM  
**To:** Burnell, Scott; OPA Resource; Dricks, Victor  
**Subject:** RE: Diablo Canyon nuclear plant decision?

Yes. I took care of this

---

**From:** Burnell, Scott  
**Sent:** Wednesday, September 10, 2014 3:17 PM  
**To:** OPA Resource; Uselding, Lara; Dricks, Victor  
**Subject:** RE: Diablo Canyon nuclear plant decision?

Lara's handling these requests.

---

**From:** OPA Resource  
**Sent:** Wednesday, September 10, 2014 4:16 PM  
**To:** Burnell, Scott  
**Subject:** FW: Diablo Canyon nuclear plant decision?

Scott,

Can you please help with the below email.

Thanks.

Office of Public Affairs  
U.S. Nuclear Regulatory Commission  
(301) 415-8200  
[opa.resource@nrc.gov](mailto:opa.resource@nrc.gov)

---

**From:** Raab, Lauren [<mailto:Lauren.Raab@latimes.com>]  
**Sent:** Wednesday, September 10, 2014 4:03 PM  
**To:** OPA Resource  
**Subject:** Diablo Canyon nuclear plant decision?

Can you confirm reports that an NRC official has rejected a call to shut down Diablo Canyon, California's last remaining nuclear power plant, until it can be determined whether the facility can stand up to an earthquake off the Central Coast?

I'd appreciate any details and/or documents you can provide.

In case it helps you route the question to the right person, the Associated Press is saying this:

A top Nuclear Regulatory Commission official has rejected a federal expert's recommendation to shut down California's last operating nuclear power plant until it can determine whether its reactors can withstand powerful shaking from nearby earthquake faults.

In a decision released Wednesday, operations executive Mark Satorius said there is no immediate or significant safety concern at the Diablo Canyon plant.

Thank you very much.

Lauren Raab

Los Angeles Times

Work: (213) 237-6090

Cell: (b)(6)

Twitter: @raablauren