



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

February 23, 2011

LICENSEE: Pacific Gas and Electric Company

FACILITY: Diablo Canyon Power Plant, Units 1 and 2

SUBJECT: SUMMARY OF JANUARY 26, 2011, PRE-LICENSING MEETING WITH PACIFIC GAS AND ELECTRIC COMPANY ON RESPONSES TO THE U.S. NUCLEAR REGULATORY COMMISSION STAFF'S QUESTIONS FROM THE PREVIOUS PUBLIC MEETING ON DECEMBER 9, 2010 (TAC NOS. ME5033 AND ME5034)

On January 26, 2010, the U.S. Nuclear Regulatory Commission (NRC) staff, as noticed in letter dated January 13, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML110120564), conducted a Category 1 pre-licensing public meeting with representatives of Pacific Gas and Electric Company, licensee for Diablo Canyon Power Plant (DCPP), Units 1 and 2, via an audio teleconference. The purpose of the meeting was to discuss licensee responses to the NRC staff's questions from the previous public meeting on December 9, 2010, as noticed and summarized in the ADAMS Accession Nos. ML103270067 and ML103610074, respectively. This previous meeting discussed the licensee's plans to submit a license amendment request to incorporate management of new geotechnical seismic information into its design and licensing basis at DCPP, Units 1 and 2. A list of attendees is provided in Enclosure 1.

The licensee first answered the agenda items addressing the NRC staff's questions from the December 9, 2010, public meeting. Utilizing the figures in Enclosure 2, the licensee:

- Clarified the differences in terminology and usage between the Long Term Seismic Program (LTSP) evaluation method and the LTSP seismic ground motion spectra;
- Discussed the model change process it intends to apply for its probabilistic seismic hazard analysis;
- Provided quantifications with some basis for its core damage frequency (CDF) and deterministic analysis margins;
- Clarified the specific proposed changes to its facility operating licenses;
- Discussed its proposed license amendment linkage to Generic Issue 199, "Implications of Updated Probabilistic Seismic Hazard Estimates in Central and Eastern United States on Existing Plants;"


- Discussed the method by which the LTSP evaluation method and seismic ground motion spectra will be utilized in future operability determinations and functionality assessments once incorporated into the license; and
- Clarified which aspects of this license amendment submittal and NRC staff review that the licensee may request pilot program credit, if any.

The NRC staff focused numerous questions on the licensee's flowchart from Enclosure 2 titled "DCPP LTSP Update – Evaluation of Updated Ground Motion," draft dated January 25, 2011, which will be the cornerstone of the new methodology the licensee desires to include in its licensing basis in its Updated Final Safety Analysis Report (UFSAR). The staff questioned which technical standards the licensee was utilizing as the basis for the analysis process and the basis for the CDF and deterministic margin values included in the flowchart (that were not provided during the meeting on December 9, 2010). The licensee reviewed hypothetical scenarios of different magnitude, new seismic information, and how the ground motion information would be evaluated per the flowchart. The NRC staff questioned the LTSP methodology's relationship to the current design and licensing basis, the method by which the licensee intends to peer review its probabilistic seismic hazard model, how its proposed license amendment will address future advances in seismic technology, and how it plans to include the NRC technical review during hazard model step changes. The staff also questioned when the provisions of Title 10 of the *Code of Federal Regulations (10 CFR)*, Section 50.59, "Changes, tests, and experiments," will be triggered in the LTSP flowchart process, and if this licensing action would incorporate a "seismic" program in Technical Specifications (TS), Section 5, "Administrative Controls." Lastly, the NRC staff inquired on the licensee's current submittal schedule for its proposed license amendment.

In response to the questions, the licensee reviewed an initial list of technical standards documents it utilized in the LTSP methodology development and agreed to provide the complete list to the NRC staff following the meeting. The licensee discussed the general basis for the CDF and margin values with the NRC staff noting that the safety evaluation for a potential license amendment will emphasize the review of those values. The licensee stated that all new seismic information will be evaluated both deterministically and probabilistically (both sides of the flowchart), and that while the LTSP provides bounding for the current design and licensing basis, the existing ground motion spectra within its license will remain its licensing basis. The licensee stated that it plans to provide detail in its license amendment submittal to address probabilistic hazard model peer review, future advances in seismic technology, a method for NRC review during hazard model step changes, specificity to include 10 CFR 50.59 procedural guidance, and potential inclusion of this program within TS. Lastly, the licensee agreed that additional discussions would be needed before the license amendment could be submitted.

Eleven members of the public were in attendance. Public Meeting Feedback forms were not received.

Please direct any inquiries to Jim Polickoski at 301-415-5430 or [james.polickoski@nrc.gov](mailto:james.polickoski@nrc.gov).



Alan B. Wang, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosures:

1. List of Attendees
2. Licensee Provided Background Information

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LIST OF ATTENDEES

JANUARY 26, 2011, MEETING WITH PACIFIC GAS AND ELECTRIC COMPANY

U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-275 AND 50-323

**NRC Participants:**

Headquarters:

Michael Markley, Chief, Plant Licensing Branch IV, NRR/DORL  
Kamal Manoly, Senior Level Advisor for Structural Mechanics, NRR/DE\*  
Annie Kammerer, Senior Seismologist/Geophysicist, Structural, Geotechnical & Seismic Engineering Branch, RES/DE  
Maxwell Smith, Attorney, Office of General Counsel  
Alan Wang, Project Manager, Plant Licensing Branch IV, NRR/DORL  
James Polickoski, Project Manager, Plant Licensing Branch IV, NRR/DORL

Region IV:

Don Allen, Chief, Reactor Projects Branch B \*  
Michael Peck, Senior Resident Inspector, Diablo Canyon Power Plant \*  
Christie Denissen, Reactor Inspector, Engineering Branch 1 \*  
Jonathan Braisted, Project Engineer, Reactor Projects Branch C \*

**Pacific Gas and Electric Company Participants:**

Loren Sharp, Senior Director, Technical Services \*  
Ken Peters, Senior Director, Engineering Services \*  
Norman Abrahamson, Principal Consulting Technology Seismologist, Geosciences \*  
Rich Klimczak, Manager, Design Engineering \*  
Nathan Barber, Engineer, Probabilistic Risk Assessment \*  
Bill Hourstman, Consulting Engineer, Civil Engineering \*  
Philippe Soenen, Licensing Supervisor, Regulatory Services \*  
Jennifer Post, Attorney, Environmental Compliance and Nuclear \*

**Members of the Public:**

Diane Curran, Mothers for Peace  
Rochelle Becker, Executive Director, Alliance for Nuclear Responsibility \*  
Mark Johnsson, California Coastal Commission \*  
Greg Hardy, Senior Principal, Simpson, Gumpertz, and Heger \*  
Jason Kolons, Nuclear Engineer, Southern California Edison \*  
Caroline McAndrews, Southern California Edison \*  
David Van Horsen, Southern California Edison \*  
Joe Wambold, consultant to Southern California Edison \*  
Loyd Wright, Southern California Edison \*  
Walker Matthews, Southern California Edison \*  
Linda Conklin, Southern California Edison \*

Enclosure 1

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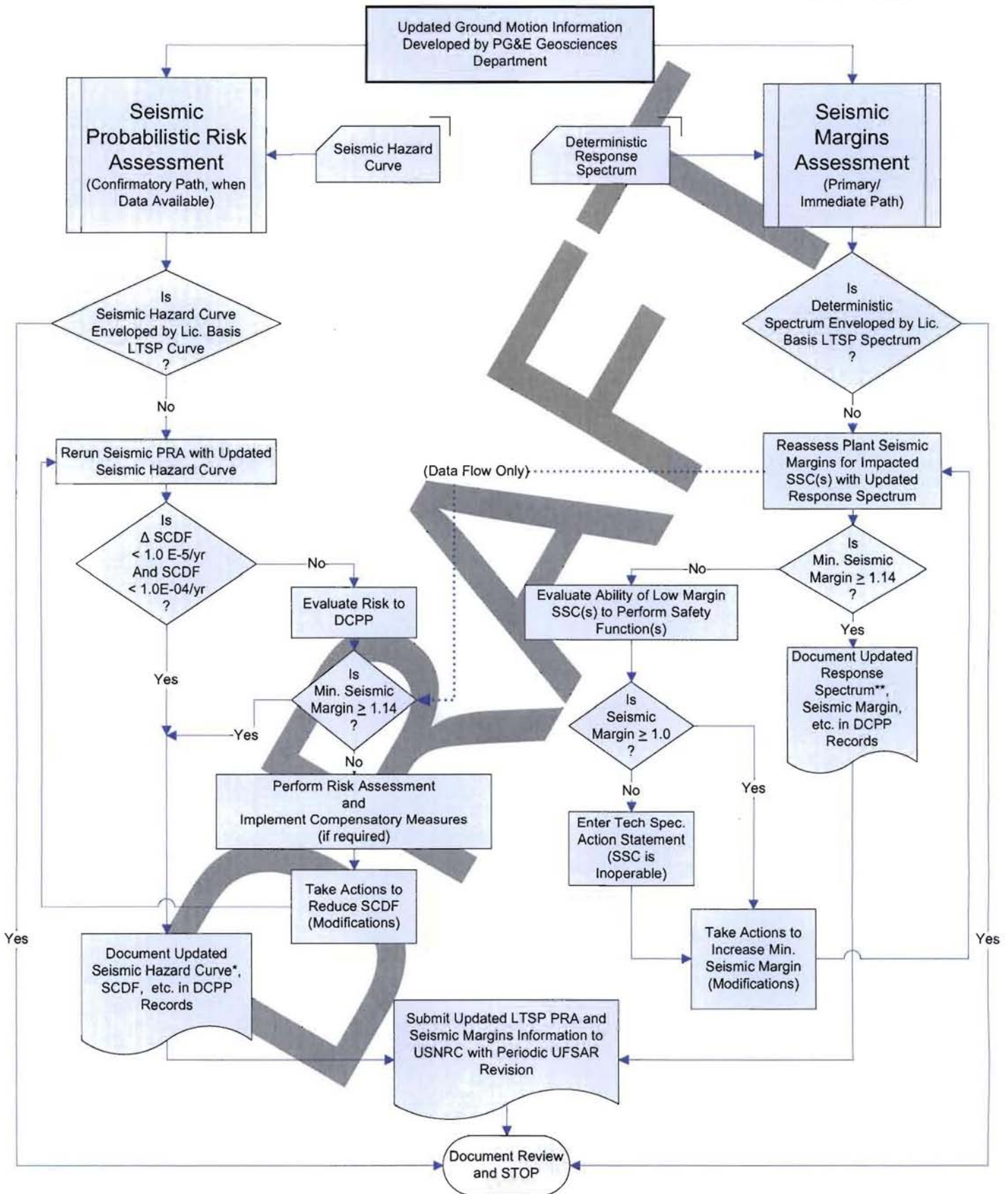
denotes participating via teleconference

ENCLOSURE 2

LICENSEE PROVIDED BACKGROUND INFORMATION

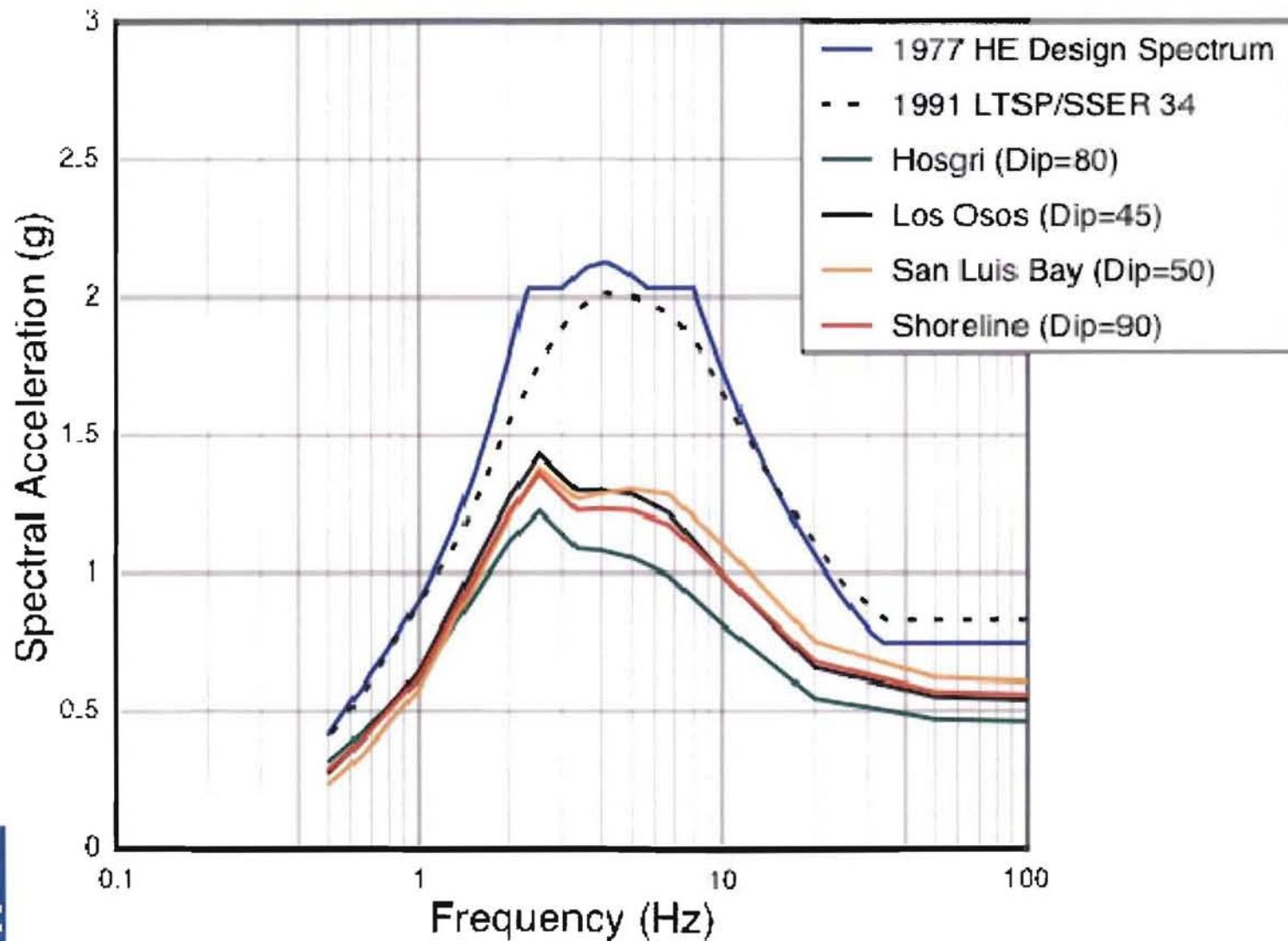
# DCPP LTSP Update Evaluation of Updated Ground Motion

DRAFT  
(01-25-2011)



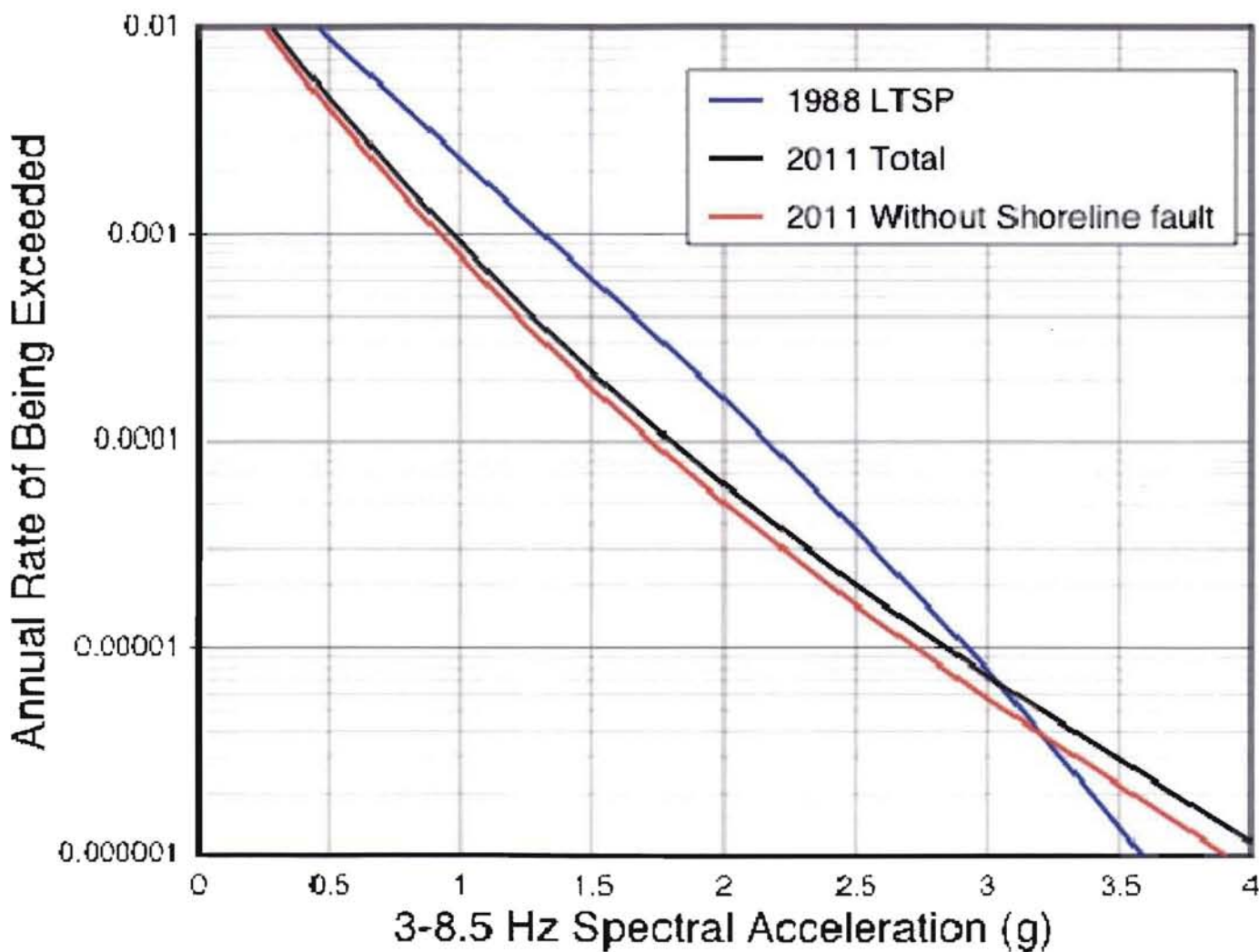
\* License Basis LTSP Seismic Hazard Curve is replaced with Updated Curve  
 \*\* License Basis LTSP Response Spectrum is replaced with Updated Spectrum

# Deterministic Comparison





# Change in Probabilistic Hazard





Please direct any inquiries to Jim Polickoski at 301-415-5430 or [james.polickoski@nrc.gov](mailto:james.polickoski@nrc.gov).

/RA/

Alan B. Wang, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-275 and 50-323

Enclosures:

1. List of Attendees
2. Licensee Provided Background Information

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AKammerer, RES/DE/SGSEB

CSteger, NRR

JWeil, OCA

MSmith, OGC/GCHEA/AGCOR

SUttal, OGC/GCHEA/AGCOR

AVegel, RIV

RDeese, RIV

MPeck, RIV

MWilliams, RIV

CDenissen, RIV

JTrapp, EDO RIV

VDricks, OPA RIV

J. Polickoski, NRR

**ADAMS Accession No.** Meeting Notice ML110120564 Meeting Summary ML110420183

| OFFICE | DORL/LPL4/PM | DORL/LPL4/PM | DORL/LPL4/LA | DORL/LPL4/BC | DORL/LPL4/PM |
|--------|--------------|--------------|--------------|--------------|--------------|
| NAME   | JPolickoski  | AWang        | JBurkhardt   | MMarkley     | AWang        |
| DATE   | 2/10/11      | 2/14/11      | 2/14/11      | 2/18/11      | 2/23/11      |

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