NRR-PMDAPEm Resource

From: Lyon, Fred
Sent: Monday, January 06, 2014 2:11 PM
To: johnsonc20@gmail.com
Cc: washpsr@gmail.com; Banic, Merrilee
Subject: 10 CFR 2.206 Pre-Meeting Call and Requested Letter (G20130776; MF3031)
Attachments: 10-4-13 EN letter to NRC re USACE Dam Analysis.pdf; cgs-seismic 2 206(v3).docx

Mr. Johnson, as you requested, attached is the EN letter to NRC requesting USACE assistance. It is publicly available.

Energy Northwest is requesting that the USACE perform dam failure analyses for all upstream dams listed in FSAR Table 2.4-1. Additionally, Energy Northwest is requesting that the USACE perform dam failure analyses for the following upstream dams, which are not addressed in FSAR Table 2.4-1:

Noxon Rapids
Revelstoke
Post Falls Middle Channel
O' Sullivan
North
Corra Linn

In addition, I spoke with Merrilee regarding additional participants on the pre-meeting call with the Petition Review Board. Petitioners have had other participants on the phoncon, and the POC (that's you) typically coordinates them, e.g., names, sequence, time allotment. The phoncon is limited to 1 hour, with about 45-50 minutes total for the petitioners; the rest for NRC comments.

I'll need to know about how many participants you expect, so that I know the number of telephone lines to reserve. It was good to finally make contact with you.

I've also been informed that I can provide you with the NRC's "Determination of Immediate Safety Concerns," which I've attached, regarding your 10/31/13 letter. It provides the NRC's reasoning for not immediately shutting down Columbia while your petition is considered. The determination was approved by the Deputy Director of the NRC Office of Nuclear Reactor Regulation, Jennifer Uhle, on December 23, 2013.

Thanks, Fred Lyon,
NRR project manager for Columbia Generating Station, et al.

Hearing Identifier: NRR_PMDA
Email Number: 988

Mail Envelope Properties (Fred.Lyon@nrc.gov20140106141100)

Subject: 10 CFR 2.206 Pre-Meeting Call and Requested Letter (G20130776; MF3031)
Sent Date: 1/6/2014 2:11:23 PM
Received Date: 1/6/2014 2:11:00 PM
From: Lyon, Fred

Created By: Fred.Lyon@nrc.gov

Recipients:
"washpsr@gmail.com" <washpsr@gmail.com>
Tracking Status: None
"Banic, Merrilee" <Merrilee.Banic@nrc.gov>
Tracking Status: None
"johnsonc20@gmail.com" <johnsonc20@gmail.com>
Tracking Status: None

Post Office:

Files	Size	Date & Time
MESSAGE	1607	1/6/2014 2:11:00 PM
10-4-13 EN letter to NRC re USACE Dam Analysis.pdf	126333	
cgs-seismic 2 206(v3).docx	115296	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

ENERGY NORTHWEST

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October 4, 2013
GO2-13-141

10 CFR 50.54(f)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Subject: **COLUMBIA GENERATING STATION, DOCKET NO. 50-397
ENERGY NORTHWEST'S REQUEST FOR NRC ASSISTANCE TO OBTAIN INFORMATION FROM THE US ARMY CORPS OF ENGINEERS (USACE) RELATED TO DAM FAILURE ANALYSIS**

References:

1. Letter dated March 12, 2012, from EJ Leeds (NRC) to All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status, "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"
2. NRC Interim Staff Guidance JLD-ISG-2013-01, "Guidance for Assessment of Flooding Hazards Due to Dam Failure," Revision 0, July 29, 2013

Dear Sir or Madam:

In Reference 1, the Nuclear Regulatory Commission (NRC) issued the request for information associated with Near-Term Task Force (NTTF) Recommendation 2.1 for Flooding. In Reference 2, the NRC staff issued guidance for assessing flooding hazards due to dam failure. Section 1.3 of this document provides the framework for estimating dam failure flood hazards, which consists of screening and detailed analyses.

Columbia Generating Station (Columbia) is located on the Hanford Site within Benton County, Washington, approximately 3 miles west of the Columbia River at river mile (RM) 352, 10 miles north of Richland and 45 miles downstream from Grant County PUD Priest Rapids Dam. The site coordinates are approximately 46° 28' North Latitude and 119° 20' West Longitude. The Columbia River is the predominant hydrologic feature of the area and provides principal drainage for the surrounding area. The Columbia River drains an area of approximately 258,000 square miles, lying to the west of the Continental Divide in the northwestern part of the U.S. (85%) and southwestern part of Canada (15%). Major tributaries are the Kootenay, Snake, Pend Oreille, Spokane, Okanogan, Yakima, and Willamette Rivers.

A001
NRR

Section 2.4 of the Columbia Final Safety Analysis Report (FSAR) documents the current flooding hazard licensing basis. The Columbia River is regulated by dams and reservoirs. There are seven dams upstream and four dams downstream of the site on the main stream of the Columbia River within the U.S. These dams are listed in FSAR Table 2.4-1. In order to support initial licensing activities, analyses of floods resulting from potential dam failures were investigated by the USACE for the Columbia River.

The NRC Staff Position in Section 1.5.3 of Reference 2 states: "In the case of dams and levees owned or operated by U.S. Federal agencies, the Federal agency responsible for (owner or operator of) the dam should be involved in any discussions, including possibly reviewing any analysis performed. ...It is critical for the owner or operator of the dam to assist the NRC or its licensees when modifying the assumptions or methods used to develop the inundation maps for a specific area. If a Federally owned dam is identified as critical to the flooding reanalysis, the licensee should contact the NRC promptly. The NRC will act as the interface between these agencies and licensees."

Energy Northwest requests that the NRC interface with the USACE in order to support Energy Northwest's flooding hazard re-evaluation, which is required by Reference 1. Specifically, Energy Northwest requests the USACE perform a dam failure analysis for the Columbia River watershed, including both the screening and detailed analyses, in accordance with Reference 2.

There are no new regulatory commitments as a result of this letter. If you have any questions or require additional information, please contact Ms. L. L. Williams at (509) 377-8148.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the date of this letter.

Respectfully,

D. A. Swank
Assistant Vice President, Engineering

cc: NRC Region IV Administrator
NRC NRR Project Manager
NRC Senior Resident Inspector/988C
AJ Rapacz – BPA/1399

Columbia Generating Station

Seismic Hazard Considerations

Determination of Immediate Safety Concerns

G20130776

Background:

- Seismic designs at US nuclear power plants are developed in terms of seismic ground motion spectra, which are called the Safe Shutdown Earthquake ground motion response spectra (SSE).

- Each nuclear power plant is designed to a ground motion level that is appropriate for the geology and tectonics in the region surrounding the plant location.

- Currently operating nuclear power plants developed their SSEs based on a "deterministic" or "scenario earthquake" that accounts for the largest earthquake expected in the area around the plant.

- The SSE for operating nuclear power plants in the U.S. is based on that earthquake which produces the maximum vibratory ground motion for which key structures, systems, and components are designed to remain functional.

- Due to code requirements and design standards, nuclear power plants are designed and built to have seismic margins generally well beyond the SSE level.

Evaluation:

- The seismic design for the Columbia Generating Station (CGS) plant is represented by the SSE ground motion response spectrum, as shown in Figure 1 below (solid curve).
    - The CGS SSE spectrum is anchored at an acceleration level of 0.25 g, but is much higher (up to 0.6 g) over the important frequency range of 2 to 10 Hz where plant structures and systems are most sensitive to earthquake ground motions.

- Since the CGS operating license was issued in 1984, the licensee has reevaluated the seismic hazards for the plant as part of the Individual Plant Examination of External Events (IPEEE) program in the early-to mid-1990s.
    - Under the IPEEE program, the licensee conducted a full probabilistic seismic hazard analysis for the region around the CGS plant, including an evaluation of earthquake activity in the Columbia Basin (including the Yakima fold belt) and the Cascadia subduction zone.
    - The licensee evaluated the impact on the CGS plant from potential seismic ground motions from several regional seismic sources over a wide range of hazard levels (the 1/10,000 mean hazard levels are shown as circles in Figure 1 below).
    - The licensee evaluated the seismic capacity or ruggedness of the CGS plant and determined that the risk of core damage from a seismic event is very low ($2x10^{-5}$

per year).

- The Department of Energy (DOE) evaluated the seismic hazards for the seismic design of the Waste Treatment and Immobilization Plant (WTP) at the Hanford site in 1995, 2005, and 2007.
    - The most recent WTP seismic design spectra are shown below as the dashed (2005) and dotted (2007) curves.
    - The most recent seismic hazard evaluation for the design of the WTP in 2007 is very similar to the CGS seismic design or SSE.
    - In its letter to the Chairman dated October 31, 2013, the Oregon and Washington Physicians for Social Responsibility (OWPSR) mistakenly compares the 3 to 5 Hz spectral acceleration level of 0.8g for the WTP 2005 seismic design with the CGS SSE 20 Hz and greater spectral acceleration value of 0.25g.

- Under Fukushima Near-Term Task Force Recommendation 2.1 (NTTF R2.1), the licensee (Energy Northwest) is currently reevaluating (along with DOE) the seismic hazards for the region surrounding the Hanford site using the latest data, models and methods, consistent with current NRC regulatory guidance.
    - NTTF R2.1 specifies that the licensee will need to evaluate all of the potential seismic sources (including the Umtanum and Yakima Ridge faults) in the site region.
    - All of the issues raised in the letter from OWPSR are known and are being evaluated as part of the seismic hazard reevaluation being conducted by DOE and Energy Northwest.
    - If the reevaluated hazard is greater than the CGS plant seismic design or SSE, the licensee will perform a complete seismic risk evaluation for the plant as well as important interim actions while the risk evaluation is ongoing.
    - The reevaluated hazard evaluation is due to the NRC in March 2015.

Conclusion:

Based on the information discussed above, the NRC staff concludes that there is no immediate safety concern at CGS; however, the NRC will review the seismic hazard and risk evaluations conducted by Energy Northwest for potential regulatory action as part of its evaluation for NTTF R2.1.

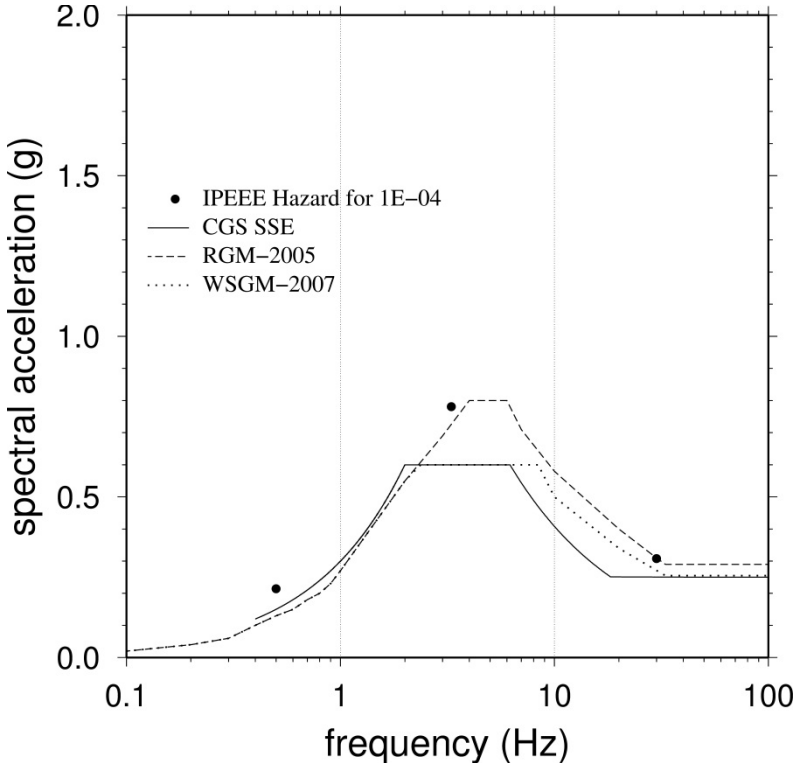

Figure 1: SSE GROUND MOTION RESPONSE SPECTRUM

Principal Contributors: Yong Li, NRR/DE/EMCB
Cliff Munson, NRO/DSEA

Date: December 18, 2013