

From: Richard E. Ayres <ayresr@ayreslawgroup.com>
Sent: Wednesday, September 30, 2015 4:00 PM
To: Lingam, Siva; Lewman, Shelbie
Cc: Jessica Olson Esq.; John Bernetich
Subject: [External_Sender] Electronic Hearing Docket Nos. 50-275 and 50-323
Attachments: 15-09-30 letter to 2.206 panel.pdf; ATT00001.htm

Ms. Lingam —

Attached is a letter to the 2.206 panel that is considering the issues referred by the Commission under Docket Nos. 50-275 & 50-323, regarding the Diablo Canyon Nuclear Power Plant.

Please include this in the record of this matter and distribute to the panel, and inform us of further opportunities to communicate with the panel. My contact information is below in the event that the panel wishes to clarify or explore further the points made in this letter.

Richard Ayres

*Ayres Law Group LLP
1707 L Street, N.W., Suite 850
Washington, D.C. 20036
202-452-9200
AyresR@AyresLawGroup.com*



Ayres Law Group

September 30, 2015

Ms. Siva Lingam
Petition Manager
Executive Director of Operations
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Request pursuant to 10 C.F.R. § 2.206 for suspension of operations and enforcement of Nuclear Regulatory Commission regulations to ensure seismic safety of Diablo Canyon Power Plant

Dear Ms. Lingam:

This letter concerns a currently pending petition filed by Friends of the Earth (Friends) pursuant to 10 C.F.R. § 2.206.¹ The petition relies on significant new information that increases the estimated capability of seismic faults surrounding Diablo Canyon Power Plant (Diablo Canyon). The petition establishes that neither the licensee, Pacific Gas & Electric Co. (PG&E), nor the Nuclear Regulatory Commission (Commission) has demonstrated that Diablo Canyon can continue to operate safely in the face of reasonably foreseeable and known seismic risks. Diablo Canyon has been allowed to continue operating without evaluation to ensure continued safe operation under revised capability estimates.

Friends therefore petitions the Executive Director of Operations (EDO) to enforce agency regulations requiring Diablo Canyon, as a condition of operation, to demonstrate that it is able to safely shutdown following occurrence of the safe shutdown earthquake, defined as the “*maximum* earthquake potential considering the regional and local geology and seismology and specific characteristics of local subsurface material.”² Friends requests that the EDO suspend Diablo Canyon’s operating licenses unless and until PG&E receives a license amendment revising the plant’s seismic design basis.

¹ See CLI-15-14, *Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), 81 NRC __ (May 21, 2015), at *12 (referring portions of a petition to intervene, filed by Friends of the Earth pursuant to 10 C.F.R. § 2.309, to the Executive Director of Operations to be considered as a petition under 10 C.F.R. § 2.206).

² 10 C.F.R. pt. 100, App. A, § III(c) (emphasis added).

Background

On August 26, 2014, Friends filed a Petition to Intervene and Request for Hearing with the Commission pursuant to 10 C.F.R. § 2.309, seeking to intervene in a *de facto* license amendment proceeding expanding the operating authority granted by the licenses for Diablo Canyon.³ In the petition, Friends asserted that the Commission had *de facto* amended the licenses to accommodate new seismic information indicating that nearby faults were more capable than previously thought. Friends sought (1) a hearing on the *de facto* license amendment and (2) suspension of plant operations pending resolution of the issues.

On May 21, 2015, the Commission issued a memorandum and order that (1) referred the request for a hearing on the *de facto* license amendment to a panel of the Atomic Safety and Licensing Board (Board),⁴ (2) denied the request for an adjudicatory hearing regarding the plant's ability to continue to operate safely but "refer[red] the concerns underlying that request, including asserted violations of the plant's licensing basis and asserted lack of demonstrated capability for safe shutdown to the Executive Director of Operations for consideration under 10 C.F.R. § 2.206,"⁵ and (3) denied the request to suspend plant operation but "refer[red] the concerns underlying that request to the Executive Director of Operations, also for consideration under 10 C.F.R. § 2.206."⁶

Discussion

Neither the Commission nor PG&E has demonstrated that the plant is able to continue safely operating following the recent discovery of new seismic information. Prior to the issuance in the last year of two seismic reports,⁷ both the Commission staff and PG&E maintained that the 1977 Hosgri evaluation spectrum provides the plant's outer limits for

³ Petition to Intervene and Request for Hearing by Friends of the Earth, Docket No. 50-275, 50-323 (Aug. 26, 2014) (ML14254A231).

⁴ The parties submitted supplemental briefing to the Board, which heard oral argument on July 9, 2015. The matter is currently pending before the Board.

⁵ CLI-15-14, *Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), 81 NRC __ (May 21, 2015), at *12.

⁶ *Id.* As noted in the Commission's opinion in CLI-15-14, the EDO has already considered and rejected a Differing Professional Opinion (DPO) filed by the Commission's former Resident Inspector for Diablo Canyon. *See* CLI-15-14, at *9; DPO Case File, Document 8, DPO Appeal Decision (Sep. 9, 2014). Both the request for hearing currently pending before the Board and the portions of the petition referred to this body rely on new and substantial information not considered by the EDO in its consideration of the DPO.

⁷ PG&E, Central Coastal California Seismic Imaging Project, <http://www.pge.com/en/safety/systemworks/dcpp/seismicsafety/report.page> (Sep. 10, 2014) (ML14253A490) (notification of issuance letter); PG&E Letter DCL-15-035, Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding the Seismic Aspects of Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident: Seismic Hazard and Screening Report, Encl. 1 (Mar. 11, 2015) (ML15070A607).

seismic hazard and, accordingly, certified the plant's ability to operate under that postulated earthquake. But the two seismic reports showed that the Staff's and licensee's estimations of the maximum ground shaking that could be produced from the Hosgri fault and other faults were erroneous and, in fact, that the faults were much more capable than previously thought.

Despite this discovery, both the Commission and PG&E have maintained that the newly updated Shoreline fault scenario resulting from the new seismic reports is a "lesser included case" under the Hosgri evaluation, thus permitting PG&E to claim to skirt the regulatory requirement that a licensee secure a license amendment before making any change to the plant's seismic design basis.⁸ Meanwhile, Diablo Canyon has continued to operate without any upgrades to its structures, systems, and components to address the new conclusion that nearby faults are more capable than previously thought.

The logic used by PG&E and the Commission to reach the conclusion that the Shoreline fault scenario is a lesser-included case under the Hosgri evaluation is fundamentally faulty. To make a valid comparison requires using the same variables for the analysis of the new fault that were previously used for the analysis of the Hosgri fault. In the alternative, PG&E might have adopted newer analytical methods, so long as the same methods were applied to both the Shoreline and Hosgri analyses. But that is not what PG&E did here.

Rather than use the same ground motion prediction equations (GMPEs) for both faults, PG&E and the Commission utilized new, untested, and less conservative GMPEs to forecast how much ground motion would be transmitted from the Shoreline fault to the plant. The result was then compared with the previous analysis of the Hosgri fault, done with a different set of GMPEs. Not surprisingly, the comparison allowed PG&E to argue that the shaking at the plant predicted by the Shoreline analysis was less than that predicted many years earlier, using different GMPEs, from the Hosgri fault. The GMPEs used to estimate ground shaking resulting from earlier postulated earthquakes, such as the Double Design Earthquake (DDE), were peer-reviewed, scientifically accepted, Commission-approved assumptions that were in the plant's final safety analysis report (FSARU) and part of the seismic design basis. The GMPEs used in the two new seismic reports, however, are entirely untested, not found in either the seismic design basis or elsewhere in the FSARU. Therefore, to compare ground shaking predictions resulting from applying the new GMPEs to the Shoreline fault analysis with earlier analyses using a different set of GMPEs is an apples-to-oranges comparison. On its face, such an analysis is invalid: it cannot defensibly be used to reach the conclusion that the Shoreline fault scenario is a lesser-included case under the Hosgri evaluation.⁹ PG&E has thus failed to make a credible or believable showing that the plant is safe in the face of newly discovered seismic hazard.

⁸ 10 C.F.R. § 50.59(c)(1).

⁹ At the time the earlier Hosgri evaluation was conducted, even the GMPEs used then were deemed by two Commissioners to significantly reduce the safety margin built in to the DDE. *See Opinion of Commissioners Gilinsky and Bradford*, 1982 WL 31523, at 5-6 ("Every advantage was taken of slack in safety margins left in the pre-Hosgri analysis, both in developing the response spectrum and in

Meanwhile, the Commission has failed to enforce its safety-related regulations requiring that, as a condition of operation, a plant be able to withstand the maximum possible earthquake, which in this case exceeds the greatest earthquake thus far evaluated at Diablo Canyon. This technically faulty, dangerous, and unlawful practice, combined with the Commission's failure to enforce its own safety-focused regulations, fails to ensure that Diablo Canyon can safely shutdown following an earthquake that is known to be possible from surrounding faults. Under Commission regulations, therefore, Diablo Canyon cannot continue to operate unless and until it receives a license amendment. The Commission is thus obligated, under its own regulations and the Atomic Energy Act, to suspend further operation of the plant unless and until the Commission provides the process required for a license amendment, and approves the amendment.

The Commission has on a number of occasions in the past ordered a licensee to suspend reactor operations due to a licensee's failure to evaluate adequately seismic risk. In 1977, following discovery of a seismic fault near the General Electric Test Reactor near Pleasanton, California, that was demonstrated to be capable of causing ground motion in excess of the plant's design, the Commission ordered the plant to be placed in a cold shutdown condition and ordered GE to show cause why suspension of activities should not be continued.¹⁰ In 1979, the Commission ordered five reactors to suspend operations after it discovered that faulty inputs had been used to analyze stress levels on piping components at the reactors.¹¹ In 1982, after it became apparent that the now-shuttered San Onofre Nuclear Generating Station might no longer be able to meet its original 0.5 g design basis, the NRC ordered the plant to suspend operations until certain modifications were completed and the NRC approved restart.¹² In accordance with these precedents, the EDO should order suspension of operations at Diablo Canyon until these issues have been adequately addressed.

Accordingly, Friends requests that the petition be granted and that the Commission suspend Diablo Canyon's operating licenses unless and until PG&E receives a license amendment revising the plant's seismic design basis and completes any modifications of

its application.""). This criticism is underscored by further reductions in safety margins taken in the Shoreline fault scenario.

¹⁰ See *General Elec. Co.* (Vallecitos Nuclear Center—General Electric Test Reactor), LBP-82-64, 16 NRC 596, 600-01 (1982).

¹¹ See Information Notice No. 79-06, Stress Analysis of Safety-Related Piping (Mar. 22, 1979), available at <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1979/in79006.html>. The affected reactors were Beaver Valley Unit 1, Maine Yankee, FitzPatrick, and Surry Units 1 and 2. *Id.*

¹² *Southern California Edison Co. and San Diego Gas & Electric Co. (San Onofre Nuclear Generating Station, Unit No. 1); Order Confirming Licensee Commitments on Seismic Upgrading*, 47 Fed. Reg. 36,058, 36,059 (Aug. 18, 1982).

Diablo Canyon's structures, systems, and components required in order to assure safe operation. Thank you for the opportunity to submit our views on this matter.

Sincerely,

/s/Richard Ayres
Ayres Law Group LLP
Counsel for Friends of the Earth

cc: Electronic Hearing Docket Nos. 50-275 and 50-323