

August 25, 2015

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:)	
)	
PACIFIC GAS AND ELECTRIC)	Docket No. 50-275-LR
COMPANY)	Docket No. 50-323-LR
)	
(Diablo Canyon Power Plant, Units 1 and 2))	

PACIFIC GAS AND ELECTRIC COMPANY’S ANSWER
OPPOSING PROPOSED AMENDED CONTENTION C

INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(i)(1), Pacific Gas and Electric Company (“PG&E”) hereby responds to the San Luis Obispo Mothers for Peace (“SLOMFP”) motion to file an amended Contention C challenging PG&E’s analysis of Severe Accident Mitigation Alternatives (“SAMAs”) related to seismic risk.¹ The Licensing Board has issued an order denying admission of the original Contention C.² The amended Contention C adds additional bases that are no more admissible in this license renewal proceeding than the original bases. In addition, the additional bases are untimely. Therefore, for the reasons discussed in the August 6, 2015 Board Order and the reasons discussed below, the Motion should be denied; proposed amended Contention C should not be admitted for hearing.

¹ “San Luis Obispo Mothers for Peace’s Motion to File Amended Contention C (Inadequate Consideration of Seismic Risk in SAMA Analysis as Supplemented by SHU-SAMA Evaluation),” dated July 31, 2015 (“Motion”).

² Memorandum and Order (Denying Motions to File New Contentions), dated August 6, 2015 (“Board Order”).

BACKGROUND

On February 25, 2015, PG&E submitted an update to certain sections of the license renewal Environmental Report (“ER”).³ The revised ER included an updated SAMA evaluation using the Diablo Canyon Probabilistic Risk Assessment (“PRA”) model available at the time, which incorporated probabilistic seismic hazard curves for the Shoreline Fault as well as updated hazard curves for other regional faults that were developed in conjunction with PG&E’s 2011 Shoreline Fault Report.⁴ PG&E committed to provide a further evaluation of the effect on the SAMA evaluation of the seismic hazard curves still being developed at that time to respond to the NRC’s letter under 10 C.F.R. § 50.54(f) requesting information regarding Fukushima Near-Term Task Force Recommendation 2.1.⁵

The Section 50.54(f) seismic evaluation is being conducted under the current operating licenses for the Diablo Canyon units (*i.e.*, not as part of the license renewal process). The Section 50.54(f) Letter specified the methodology to be used to develop revised seismic hazard information, including development of a consensus seismic source characterization through the public Senior Seismic Hazard Analysis Committee (“SSHAC”) process. PG&E submitted its probabilistic seismic hazard evaluation and prioritization screening report on

³ See PG&E Letter DCL-15-027, Enclosure 2, “Update to the Diablo Canyon Power Plant License Renewal Application,” dated February 25, 2015 (ADAMS Accession Nos. ML15056A741 and ML15056A755). The ER is Appendix E to the license renewal application. The updated SAMA analysis is Attachment F to the ER.

⁴ “Report on the Analysis of the Shoreline Fault Zone, Central Coastal California: Report to the U.S. Nuclear Regulatory Commission” (January 2011) (ADAMS Accession No. ML110140431) (“Shoreline Fault Report”).

⁵ NRC Letter 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 for the Fukushima Dai-Ichi Accident,” dated March 12, 2012 (ADAMS Accession No. ML12053A340) (“Section 50.54(f) Letter”).

March 11, 2015.⁶ That report incorporated information developed through PG&E's unprecedented Central Coastal California Seismic Imaging Project, as reported in September 2014.⁷ Then, on July 1, 2015, PG&E submitted its evaluation of the impact of the March 2015 seismic hazard update on the license renewal SAMA evaluation.⁸

To assess the SAMA implications, PG&E incorporated the March 2015 updated seismic hazard into the Diablo Canyon PRA (now identified as the DC03SA model) and re-performed the evaluation. The PRA model changes had a small impact (and changed the cost-benefit conclusion for one fire event SAMA), but did not change the cost-benefit conclusions for the SAMAs considered for seismic event mitigation.⁹

SLOMFP filed the original proposed Contention C on April 15, 2015, asserting that the February 2015 updated SAMA was inadequate because it did not yet incorporate the March 2015 revised seismic hazard (and revised PRA model). In addition, proposed Contention C challenged the adequacy of the March 2015 seismic hazard, based on the opinion of SLOMFP's advisor, Dr. David Jackson, that PG&E's March 2015 Seismic Hazard Report does

⁶ PG&E Letter DCL-15-035, "Response to NRC Request for Information Pursuant to 10 CFR 50.5(f) Regarding the Seismic Aspects of Recommendation 2.1 of the Near-Term Task Force Review of Insights From the Fukushima Dia-Ichi Accident: Seismic Hazard and Screening Report," dated March 11, 2015 (ADAMS Accession No. ML15071A046) ("Seismic Hazard Report"). Because Diablo Canyon "screened in" for additional evaluation, additional information is required by June 2017.

⁷ PG&E Letter DCL-14-081, "Central Coastal California Seismic Imaging Project, Shoreline Fault Commitment," dated September 10, 2014 (ADAMS Accession No. ML14260A106) ("CCCSIP Report").

⁸ PG&E Letter DCL-15-080, "Diablo Canyon Power Plant License Renewal Severe Accident Mitigation Alternatives Evaluation of the 2015 Seismic Hazards Results," dated July 1, 2015 (ADAMS Accession No. ML15182A452) ("SAMA Update").

⁹ SAMA Update, Enclosure at 6-7, and 72, Table 10.

not adequately address the seismic risk for Diablo Canyon. The Licensing Board rejected proposed Contention C for three reasons:

1. “Insofar as Contention C challenges deficiencies in [the Section 50.54(f)] seismic reevaluation per se, this Part 54 license renewal proceeding is not the proper forum for litigation of section 50.54(f) licensing basis issues with no connection to any SAMA.”¹⁰
2. “[A]lthough SLOMFP favors the analytical approach suggested by its expert, Dr. Jackson, it fails to show that the approach taken by PG&E is not plausibly reasonable.” In other words, SLOMFP failed to establish a genuine dispute.¹¹
3. “[M]ost importantly, Contention C never addresses the potential impact of any particular seismic model change [that it would advocate] on the cost-benefit evaluation of the SAMAs that PG&E considered.” The Board cited specific Commission precedent on material disputes with respect to SAMA evaluations.¹²

SLOMFP’s new Motion and amended Contention C are purportedly based on PG&E’s July SAMA Update. SLOMFP bases the timeliness of the amended contention on its assertion that the SAMA Update included new information and the fact that the Motion was filed within 30 days of the SAMA Update.¹³ As discussed below, the additional bases for Contention C are neither admissible nor timely.

¹⁰ Board Order, slip op. at 16.

¹¹ *Id.* at 16-17.

¹² *Id.* at 17.

¹³ Motion at 25

DISCUSSION

A. Amended Contention C Is Not Admissible

To be admissible, any contention must meet the NRC’s admissibility criteria in 10 C.F.R. Part 2. The contention and supporting information must demonstrate that there is a genuine dispute with the application on an issue material to the licensing decision involved.¹⁴ In a license renewal proceeding, the scope of issues is constrained by the scope of technical issues in 10 C.F.R. Part 54 and the license renewal environmental review required under 10 C.F.R. Part 54. In the case of Contention C, the environmental regulations require a SAMA evaluation under Section 51.53(c)(3)(ii)(L). However, the regulations clearly do not encompass review of the Current Licensing Basis (“CLB”) of the plant.¹⁵ The CLB is “effectively addressed and maintained by ongoing agency oversight, review, and enforcement” — in the current operating license term.¹⁶ And, as discussed in the Board Order in connection with Contention C, a license renewal SAMA analysis is part of the NRC’s environmental review under NEPA and therefore is governed by the NEPA “rule of reason.”¹⁷

As stated by the Commission:

The purpose of the SAMA review is to ensure that any plant changes — in hardware, procedures, or training — that have a potential for significantly improving severe accident safety performance are identified and assessed. If the cost of implementing a particular SAMA is greater than its

¹⁴ 10 C.F.R. §§ 2.309(f)(1)(iii), (iv), and (vi).

¹⁵ See Final Rule, “Nuclear Power Plant License Renewal; Revisions,” 60 Fed. Reg. 22461, 22463-64 (May 8, 1995).

¹⁶ *Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4)*, CLI-01-17, 54 NRC 3, 9 (2001); see also *Diablo Canyon*, LBP-15-6, slip op. at 8-9.

¹⁷ Board Order, slip op. at 15-16.

associated benefit, the SAMA would not be considered cost-beneficial. SAMAs, in short, are rooted in a cost-benefit assessment.¹⁸

A SAMA contention therefore must ultimately demonstrate a “dispute that could lead to a different conclusion on potential cost-beneficial SAMAs.”¹⁹ In guidance to a Licensing Board with respect to SAMA contentions, the Commission emphasized that the petitioner must show that “[u]nless it looks genuinely plausible that inclusion of an additional factor or use of other assumptions or models may change the cost-benefit conclusions for SAMA candidates evaluated, no purpose would be served to further refine the SAMA analysis, whose goal is only to determine what safety enhancements are cost-effective to implement.”²⁰ If a proposed contention does not address that issue, it does not raise an issue that could lead to any meaningful relief in the proceeding. Moreover, as the Commission has stated (and the Licensing Board has quoted in the Board Order), “[i]t will always be possible to envision and propose some alternate approach, some additional detail to include, some refinement.” That, without more, is insufficient.²¹

Amended Contention C “reiterates” all of the assertions and bases from the original proposed contention. Those aspects of the contention are fully resolved by the Board Order and need not be addressed here.

¹⁸ *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2); CLI-02-17, 56 NRC 1, 5 (2002).

¹⁹ *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Station), CLI-09-11, 69 NRC 529, 533 (2009).

²⁰ *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 315 (2010) (emphasis added); *see also First Energy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), LBP-11-13, 73 NRC 534, 566 (2011).

²¹ Board Order, slip op. at 16, *citing Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-15, 75 NRC 704, 714 (2012).

Amended Contention C seeks additionally to challenge the SAMA Update because the update allegedly “fails to consider other measures of ground motion that could cause reasonably foreseeable adverse environmental impacts . . . that are more extreme than or different from the impacts of spectral acceleration.”²² Based on Dr. Jackson’s opinion, SLOMFP raises several new issues related to the adequacy of the seismic source characterization for Diablo Canyon and the adequacy of PG&E’s Seismic Hazard Report prepared to respond to the Section 50.54(f) Letter. In doing so, SLOMFP continues to raise issues related to the current seismic CLB that are being addressed in a current Part 50 process. As before, SLOMFP fails to provide any basis for a contention that the SAMA cost-benefit evaluation results should be different. The three reasons applied by the Licensing Board to reject the original proposed Contention all apply to the amended contention.

SLOMFP first asserts that the limited data collected from PG&E’s ocean bottom seismometer (“OBS”) system installed offshore from Diablo Canyon as part of PG&E’s Central Coastal California Seismic Imaging Project is still insufficient to provide data west of the Shoreline Fault to properly locate the Shoreline Fault.²³ However, this is just a different gloss on the issue raised previously, asserting insufficient data west of the Shoreline Fault.²⁴ Moreover, it is still an issue related to the CLB, implicitly addressed in the Section 50.54(f) seismic source characterization and seismic risk evaluation. Further, as before SLOMFP fails to address the issue of plausible impacts on a SAMA cost-benefit.

²² Motion at 4.

²³ *Id.* at 7-8, 10.

²⁴ Compare original Contention C as quoted in the Motion, at 7.

SLOMFP and Dr. Jackson also provide no legitimate basis to challenge the assessments to date regarding the location of the Shoreline Fault; they merely assert the need for more — that is, more data west of the fault. The fact is, however, PG&E has not relied on OBS data to locate the Shoreline Fault.²⁵ A clear consensus exists with respect to the location of the Shoreline Fault, as discussed in the CCCSIP Report and the prior Shoreline Fault Report, based on imaging data and geologic mapping.²⁶ The additional basis for Contention C provides no reason to conclude that further refinement of the SAMA evaluation is necessary to meet a NEPA “rule of reason.”

SLOMFP and Dr. Jackson next attempt to link purported uncertainty related to the location of the Shoreline Fault to the possibility of surface fault rupture, ground velocity, and large ground displacement “directly beneath” the Diablo Canyon plant.²⁷ Again SLOMFP is raising a CLB issue. Further, as before, SLOMFP fails to address the issue of possible impacts on a SAMA cost-benefit. Additionally, with respect to its argument regarding the possibility of earthquakes causing surface rupture at the site, SLOMFP is in effect raising an issue addressed as

²⁵ See, e.g., Section 4.3 of PG&E’s “Report on the Analysis of the Shoreline Fault Zone, Central Coastal California: Report to the U.S. Nuclear Regulatory Commission” (January 2011) (ADAMS Accession No. ML110140431) (“Shoreline Fault Report”); *id.* at 4-7 (“In particular, the absolute locations of geologic structures such as the Shoreline fault zone are determined by other investigations discussed in this report, not by the seismicity.”).

²⁶ The location of the Shoreline Fault is visible and well-defined in the imaging data and the mapping is documented in the Shoreline Fault Report. See *id.* at 4-10 (listing the imagery data used to locate the Shoreline Fault). Postulated alternative locations or geometries of the Shoreline Fault, such as locations further east or directly under the plant as proposed by SLOMFP and Dr. Jackson, were not offered in the SSHAC process and were never considered as part of the consensus process. Alternative locations simply were not credible given the available geologic mapping and imaging data, which provide a very good constraint on the location of the fault.

²⁷ Motion at 8.

part of the initial licensing review. The Diablo Canyon site was extensively studied in connection with the licensing of the plant. The characterization, excavation, and mapping of the site (as required by NRC regulations) were specifically directed to identifying any faults at the site. These studies, by direct observation, determined the absence of faulting beneath Diablo Canyon.²⁸ There is no basis in this aspect of the contention to assert that a fault exists at the site or that some theoretical uncertainty related to location of the Shoreline Fault would actually impact a probabilistic SAMA evaluation.

Finally, amended Contention C (bases d and e) adds a lengthy, theoretical discussion of a supposed need for a probabilistic hazard assessment to consider seismic impacts other than ground accelerations — such as ground displacement, ground velocity, and duration of shaking.²⁹ This aspect of the amended contention seeks not only to challenge PG&E’s SAMA evaluation, but also the Diablo Canyon licensing basis, NRC seismic design requirements, and the methodology adopted by the NRC in the Section 50.54(f) Letter for the seismic reevaluations across the country. Consistent with NRC regulations and guidance, and the Diablo Canyon CLB, the plant’s seismic design and structural evaluations are based on projections of peak ground acceleration. SLOMFP and Dr. Jackson apparently seek to assess seismic design based on different or additional metrics. These metrics are beyond what has been required in the past, beyond what was assessed in the SSHAC, and beyond what is necessary for the Section 50.54(f) Letter risk evaluations. SLOMFP and Dr. Jackson only vaguely refer to reports where such

²⁸ There has also been additional mapping and analysis of the earlier studies in connection with the recent seismic studies, as documented in the Shoreline Fault Report and the CCCSIP Report. In view of the studies completed, the likelihood of a surface fault rupture at the Diablo Canyon site would represent a “remote and speculative” event in the context of a NEPA evaluation.

²⁹ Motion at 13-18.

metrics have been developed, without any assessment of how those approaches could be validated, incorporated into a hazard evaluation, and applied to Diablo Canyon.³⁰ Application of such ideas at (or beyond) the borders of accepted methodologies are not necessary for a SAMA evaluation under NEPA.³¹ As the Licensing Board observed in rejecting original Contention C, “without some plausible demonstration of why a different methodology would materially affect the conclusions of the SAMA analysis,” SLOMFP does not raise an admissible issue.³²

B. Amended Contention C is Not Timely

The Motion should be denied for a second, independent reason. Notwithstanding PG&E’s July SAMA Update, the seismic issues raised in the proposed amended contention are not based on new information in the update and therefore have not been timely raised. SLOMFP offers no reason that the bases added to the amended contention could not have been raised in the first proposed Contention C. The Motion is a proverbial “second bite at an apple” with respect to

³⁰ SLOMFP suggests (Motion at 16) that these considerations “may be important for stability of water reservoirs maintained for reactor cooling,” but Diablo Canyon does not have reservoirs of this type. Further, SLOMFP suggests (*id.*) that “velocity or the ground displacement may be the most effective intensity measure” to address “sloshing” in the spent fuel pool. That issue is addressed in the CLB and is being specifically re-evaluated in response to the Section 50.54(f) Letter.

³¹ *See, e.g., Natural Resources Defense Council v. Hodel*, 865 F.2d 288, 294 (D.C. Cir. 1988) (NEPA “should be construed in the light of reason,” and does not demand infinite study and resources); *Pilgrim*, CLI-10-11, 71 NRC at 315 (explaining that a NEPA document is not “intended to be a ‘research document,’ reflecting the frontiers of scientific methodology, studies, and data”).

³² Board Order, slip op. at 17, *citing Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-12-1, 75 NRC 39, 57-58 (2012) (among other things, the SAMA analysis is not a safety review under the Atomic Energy Act).

Dr. Jackson's complaints regarding the March 2015 Seismic Hazard Report.³³ Nothing in NRC rules of practices allows such an amended contention.

Section 2.309(f)(2) provides that intervenors may file a new or amended environmental contention only if the contention complies with 10 C.F.R. § 2.309(c)(1). Under 10 C.F.R. § 2.309(c)(1), the intervenor must demonstrate that:

- (i) The information upon which a new contention is based was not previously available;
- (ii) The information upon which a new contention is based is materially different from information previously available; and
- (iii) The new contention has been submitted in a timely fashion based on the availability of the subsequent information.

SLOMFP's basis for timeliness is neither factually accurate nor legally defensible. SLOMFP claims that the information was "not previously available, because PG&E did not submit it until recently."³⁴ It is true that the SAMA Update was not available until recently. But the *information upon which the amended contention* is based has been available since at least March 2015. SLOMFP is challenging information in the Seismic Hazard Report, not information in the SAMA Update. Its claim of timeliness must be based on the availability of the Seismic Hazard Report.

SLOMFP next claims that the SAMA Update "contains materially different from submitted previously" because it is the first update based on the results of the Seismic Hazard Report and related SSHAC reports.³⁵ Again, SLOMFP attempts to deflect the focus to the

³³ Because second bites at an apple are not uniformly frowned upon, a better analogy would be that SLOMFP, as in a famous episode of *Seinfeld*, is inappropriately "double dipping." See <https://www.youtube.com/watch?v=RfprRZQxWps>.

³⁴ Motion at 25.

³⁵ *Id.*

SAMA Update as the first analysis to incorporate the updated seismic hazard. But the February 2015 SAMA update also did not incorporate that hazard, and the Seismic Hazard Report was available when the original proposed Contention C was filed.³⁶ Similarly, SLOMFP's claim that the July 1, 2015 SAMA analysis failed to consider seismic impacts other than ground accelerations could have been raised earlier. Neither the original SAMA analysis nor the February 2015 SAMA update incorporated hazards related to ground displacement, ground velocity, or duration of shaking. A new contention alleging an ongoing omission of information in a SAMA evaluation does not become timely each time the applicant updates the SAMA analysis without addressing the original alleged omission. SLOMFP has no justification to amend a contention now to add bases using information available when Contention C was first filed.

In total, the fact that the proposed amended Contention was filed within 30 days of the SAMA Update is insufficient to meet the timeliness standard in the regulations. The new information should have been raised in the previous motion to amend the contention and there is no bases for a second opportunity.

³⁶ New or amended contentions must be based on new facts not previously available. *Entergy Nuclear Generation Co. and Entergy Nuclear (Pilgrim Nuclear Power Station)*, CLI-12-10, 75 NRC 479, 493 n.70 (2012).

CONCLUSION

For the reasons discussed above, the Motion should be denied. The proposed amended Contention C is neither timely nor admissible in this license renewal proceeding.

Respectfully submitted,

/s/ signed electronically by
David A. Repka
Tyson R. Smith
Winston & Strawn LLP
1700 K Street, NW
Washington, DC 20006

Executed in accord with 10 C.F.R. 2.304(d)
Jennifer Post
Pacific Gas and Electric Company
77 Beale St., B30A
San Francisco, CA 94105

COUNSEL FOR THE PACIFIC GAS
AND ELECTRIC COMPANY

Dated at Washington, District of Columbia
this 25th day of August 2015

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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CERTIFICATE OF SERVICE

I hereby certify that copies of “PACIFIC GAS AND ELECTRIC COMPANY’S ANSWER OPPOSING PROPOSED AMENDED CONTENTION C” in the captioned proceeding have been served via the Electronic Information Exchange (“EIE”) this 25th day of August 2015, which to the best of my knowledge resulted in transmittal of the foregoing to those on the EIE Service List for the captioned proceeding.

Respectfully submitted,

/s/ signed electronically by
David A. Repka
Winston & Strawn LLP
1700 K Street, NW
Washington, DC 20006

COUNSEL FOR THE PACIFIC GAS
AND ELECTRIC COMPANY