UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Ronald M. Spritzer, Chairman
Dr. Gary S. Arnold
Dr. William W. Sager

In the Matter of CALVERT CLIFFS 3 NUCLEAR PROJECT, LLC, and UNISTAR NUCLEAR OPERATING SERVICES, LLC (Combined License Application for Calvert Cliffs Unit 3)	Docket No. 52-016-COL ASLBP No. 09-874-02-COL-BD01 August 30, 2012

ORDER
(Ruling on Joint Intervenors' Proposed New Contention 11)

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LBP-12-18

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The issue now before the Board is whether to admit a new contention, Contention 11, challenging the adequacy of the Final Environmental Impact Statement ("FEIS") for the Calvert Cliffs Unit 3 combined license (COL). Contention 11 maintains that the FEIS violates the National Environmental Policy Act (NEPA)[1] because it fails to address the environmental and safety implications of the findings and recommendations raised by the Nuclear Regulatory Commission's Fukushima Task Force in its report, 'Recommendations for Enhancing Reactor

[1] 42 U.S.C. § 4321 et seq.

Safety in the 21st Century: The Near-Term Task Force Review of Insights From the Fukushima Dai-ichi Accident . . . ('Task Force Report')'" that was issued on July 12, 2011.[2]

Joint Intervenors argue that admission of the new contention is necessary to guarantee that the NRC Staff satisfies its duty under NEPA to consider the new and significant information set forth in the Task Force Report before issuing a license in this COL case.[3] The Board concludes that the new contention was timely filed, but that under controlling Commission precedent it may not admit the proposed new contention.

I. BACKGROUND

This proceeding concerns the application for a COL to construct and operate a U.S. Evolutionary Power Reactor ("U.S. EPR"), designated Unit 3, at the Calvert Cliffs site in Lusby, Calvert County, Maryland.[4] Applicants are Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Services, LLC (collectively, "UniStar" or "Applicant").[5] Both of these entities are domestic subsidiaries of UniStar.[6] As of November 3, 2010, the sole owner of UniStar is Electricite de France, S.A. ("EDF"), a French limited company.[7]

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[2] Motion to Admit New Contention Regarding The Safety and Environmental Implications of the Nuclear Regulatory Commission Task Force Report on The Fukushima Dai-ichi Accident (Aug. 11, 2011) at 1 [hereinafter Motion to Admit New Contention].

[3] See id.

[4] See Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Services, LLC Notice of Hearing and Opportunity to Petition for Leave To Intervene and Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information and Safeguards Information for Contention Preparation on a Combined License for the Calvert Cliffs Nuclear Power Plant, Unit 3, 73 Fed. Reg. 55,876 (Sept. 26, 2008).

[5] Id.

[6] Letter from David A. Repka, Counsel for Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC, to Calvert Cliffs Board (Nov. 3, 2010) at 1 [hereinafter UniStar Letter].

[7] Id.

There are currently two contentions pending before the Board. The first contention, Contention 1, alleges that "contrary to the Atomic Energy Act and NRC Regulations, Calvert Cliffs-3 would be owned, dominated and controlled by foreign interests."[8] The second contention, Contention 10C, concerns the adequacy of one aspect of the alternatives analysis in the Environmental Impact Statement (EIS) for Unit 3.[9] The Board deferred its decision on whether to grant summary disposition on Contention 1 until it issues its Initial Decision on Contention 10C.[10] In January 2012, the Board held an evidentiary hearing on Contention 10C in accordance with the schedule set forth in the Board's Revised Initial Scheduling Order.[11]

The proposed new Contention 11 is based on what Joint Intervenors characterize as "the new and significant environmental implications of the findings and recommendations raised by the NRC's Fukushima Task Force Report."[12] The Near-Term Task Force (Task Force) was "established in response to Commission direction to conduct a systematic and methodical review of [NRC] processes and regulations to determine whether the agency should make additional

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[8] Petition to Intervene in Docket No. 52-016, Calvert Cliffs-3 Nuclear Power Plant Combined Construction and License Application (Nov. 19, 2008) at 5.

[9] Contention 10C, as restated by the Board, alleges:

> The DEIS discussion of a combination of alternatives is inadequate and faulty. By selecting a single alternative that under represents potential contributions of wind and solar power, the combination alternative depends excessively on the natural gas supplement, thus unnecessarily burdening this alternative with excessive environmental impacts.

LBP-10-24, 72 NRC 720, 765 (2010).

[10] See Licensing Board Memorandum and Order (Denying Summary Judgment of Contention 10C, Denying Amended Contention 10C, and Deferring Ruling on Contention 1) (Aug. 26, 2011) at 32 (unpublished) [hereinafter Order Denying Summary Judgment of Contention 10C].

[11] Licensing Board Order (Revising Initial Schedule) (June 24, 2011) at 4 (unpublished).

[12] New Contention Regarding NEPA Requirement to Address Safety and Environmental Implications of the Fukushima Task Force Report (Aug. 11, 2011) at 4 [hereinafter Contention 11].

improvements to its regulatory system and to make recommendations to the Commission for its policy direction, in light of the accident at the Fukushima Dai-ichi Nuclear Power Plant."[13]

"In examining the Fukushima Dai-ichi accident for insights for reactors in the United States, the Task Force addressed protecting against accidents resulting from natural phenomena, mitigating the consequences of such accidents, and ensuring emergency preparedness."[14] The Task Force Report stated:

> The accident in Japan was caused by a natural event (i.e., tsunami) which was far more severe than the design basis for the Fukushima Dai-ichi Nuclear Power Plant. As part of its undertaking, the Task Force studied the manner in which the NRC has historically required protection from natural phenomena and how the NRC has addressed events that exceed the current design for plants in the United States.[15]

The Task Force characterized the current NRC regulatory approach as including "requirements for design-basis events with protection and mitigation features controlled through specific regulations for the general design criteria," "requirements for some 'beyond-design-basis' events through specific regulations (e.g., station blackout, large fires, and explosions)," and "voluntary industry initiatives to address severe accident features, strategies, and guidelines for operating reactors."[16] The result, in the Task Force's words, is a "patchwork of regulatory requirements and other safety initiatives, all important, but not all given equivalent consideration and treatment by licensees or during NRC technical review and inspection."[17]

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[13] Dr. Charles Miller et al., Recommendations for Enhancing Reactor Safety in the 21st Century, The Near-Term Task Force Review of Insights from the Fukushima Dai-Ichi Accident (July 12, 2011) at vii [hereinafter Task Force Report].

[14] Id.

[15] Id.

[16] Id.

[17] Id.

The Task Force Report concluded that "a sequence of events like the Fukushima accident is unlikely to occur in the United States . . . . Therefore, continued operation and continued licensing activities do not pose an imminent risk to public health and safety."[18] But the Task Force also concluded that the application of the Commission's longstanding defense-in-depth philosophy "can be strengthened by including explicit requirements for beyond-design basis events."[19] The Task Force concluded that the Fukushima Dai-Ichi accident, like the September 11, 2001 attacks, "provides new insights regarding low-likelihood, high-consequence events that warrant enhancements to defense-in-depth on the basis of redefining the level of protection that is regarded as adequate."[20]

The Task Force therefore made twelve recommendations that, "taken together are intended to clarify and strengthen the regulatory framework for protection against natural disasters, mitigation, and emergency preparedness, and to improve the effectiveness of the NRC's programs."[21] The Task Force concluded that "these are a reasonable set of actions to enhance U.S. reactor safety in the 21st century."[22] Each of the Task Force's recommendations for enhancing reactor safety is accompanied by an analysis of relevant lessons learned from the Fukushima accident, the gaps in the NRC's existing regulatory program that the lessons learned revealed, and the Task Force's explanation of how the recommendation will close the regulatory gap.

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[18] Id.

[19] Id. at viii.

[20] Id.

[21] Id.

[22] Id. at x.

On or about April 18, 2011, Joint Intervenors and other organizations filed an Emergency Petition to the Commission in this and other proceedings.[23] The Emergency Petition requested that the Commission suspend all decisions regarding the issuance of combined licenses (COLs), as well as various other types of licenses, "pending completion by the NRC's Task Force . . . of its investigation of the near-term and long-term lessons of the Fukushima accident and the issuance of any proposed regulatory decisions and/or environmental analyses of those issues."[24] The Emergency Petition contained a number of additional requests related to the Fukushima accident.

In its September 9, 2011 Memorandum and Order, the Commission denied the request to suspend licensing and rulemaking activities pending completion of the NRC Task Force's evaluation of the implications of the Fukushima accident and issuance of any proposed regulatory decisions and/or environmental analyses.[25] The Commission accepted the Task Force's conclusion that "continued operation and licensing activities do not pose an imminent risk to public health and safety."[26] The Commission therefore found "no imminent risk to public health and safety or to the common defense and security that necessitates" the requested suspensions.[27]

The petitioners, who sought suspension of licensing and rulemaking activities, also requested "that the NRC conduct a separate generic NEPA analysis regarding whether the

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[23] Emergency Petition to Suspend all Pending Reactor Licensing Decisions and Related Rulemaking Decisions Pending Investigation of Lessons Learned from Fukushima Daiichi Nuclear Power Station Accident (corrected version, filed Apr. 19, 2011) [hereinafter Emergency Petition].

[24] Id. at 1–2.

[25] Union Electric Co. d/b/a AmerGen Missouri (Callaway Plant, Unit 2), CLI-11-05, 74 NRC __, __ (slip op. at 41) (Sept. 9, 2011).

[26] Id. at __ (slip op. at 5).

[27] Id. at __ (slip op. at 25).

Fukushima events constitute 'new and significant information' under NEPA that must be analyzed as part of the environmental review for new reactor and license renewal decisions."[28] The Commission determined that this request was premature because while "the [NRC] continues to evaluate the accident and its implications for U.S. Facilities[,] . . . the full picture of what happened at Fukushima is still far from clear. . . . Therefore, any generic NEPA duty—if one were appropriate at all—does not accrue now."[29]

That being said, the Commission did remind the petitioners that "[t]o the extent that the Fukushima events provide the basis for contentions appropriate for litigation in individual proceedings, our procedural rules contain ample provisions through which litigants may seek admission of new or amended contentions . . . ."[30]

II. ANALYSIS

A. Summary of Contention 11

Proposed new Contention 11 alleges:

> The EIS for Calvert Cliffs-3 fails to satisfy the requirements of NEPA because it does not address the new and significant environmental implications of the findings and recommendations raised by the NRC's Fukushima Task Force Report. As required by 10 C.F.R. § 51.92(a)(2) and 40 C.F.R. § 1502.9(c), these implications must be addressed in a supplemental Draft EIS.[31]

According to Joint Intervenors, "[t]he conclusions and recommendations presented in the Task Force Report fully satisfy the two-pronged test under NEPA regulations and case law for 'new and significant information' whose environmental implications must be considered before

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[28] Id. at __ (slip op. at 30).

[29] Id.

[30] Id. at __ (slip op. at 35).

[31] Contention 11 at 4–5.

the NRC may make a decision that approves operation of Calvert Cliffs-3."[32] Joint Intervenors state that the conclusions and recommendations presented in the Task Force Report are "new" because they "stem directly from the Fukushima accident, which occurred only five months ago and for which the special study commissioned by the Commission has only just been issued."[33]

Joint Intervenors provide four arguments to support their contention that the Task Force Report contains information that is not only new but "significant," and which the NRC must therefore consider in order to fulfill its obligations under NEPA.[34] We summarize each of these arguments below.

1. Joint Intervenors argue that, because the FEIS fails to consider Task Force recommendations to improve the mitigation capability of new U.S. reactors, it violates NEPA's requirement to provide a "'reasonably complete discussion of possible mitigation measures.'"[35] Joint Intervenors point out that "[t]he discussion of steps that can be taken to mitigate adverse environmental consequences plays an important role in the environmental analysis under NEPA."[36] Joint Intervenors cite recommendations in the Task Force Report that they contend are steps that could be taken to mitigate potential adverse consequences from a severe accident at Calvert Cliffs Unit 3.

> The Task Force Report makes several significant findings when it comes to increasing and improving mitigation measures at new reactors and recommends a number of specific steps licensees could take in this regard. These recommendations include strengthening [station black out] mitigation capability at all operating and new reactors for design basis and

[32] Id. at 10 (citing 10 C.F.R. § 51.92(a)(2); 40 C.F.R. § 1502.9).

[33] Id.

[34] Id. at 10–15.

[35] Id. at 15 (quoting Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989)).

[36] Id. (quoting Robertson, 490 U.S. at 351).

> beyond-design-basis external events, (Section 4.2.1), requiring reliable hardened vent designs in [boiling water reactor (BWR)] facilities with Mark I and Mark II containments (Section 4.2.2), enhancing spent fuel pool makeup capability and instrumentation for the spent fuel pool (Section 4.2.4) and strengthening and integrating onsite emergency response capabilities such as EOPs, SAMGs, and EDMGs. Section 4.2.5. . . . Accordingly, the [EIS] must be supplemented to consider the use of these additional mitigation measures to reduce the project's environmental impacts. See 40 C.F.R. §§ 1502.14 (f), 1502.16[h].[37]

2. Joint Intervenors also argue that the EIS must take a hard look at the consequences of the Task Force's recommendation to fundamentally change the way in which the NRC evaluates Severe Accident Mitigation Alternatives (SAMAs). Joint Intervenors maintain that "by recommending the incorporation of accidents formerly classified as 'severe' or 'beyond design basis' into the design basis, the Task Force Report effectively recommends a complete overhaul of the NRC's system for mitigating severe accidents through consideration of SAMAs."[38] According to Joint Intervenors, that would be a significant change from current NRC policy, under which, in their view, SAMAs are required only when they are shown to be cost-beneficial, or if they are adopted voluntarily.[39] Instead, "the Task Force recommends that severe accident mitigation measures should be adopted into the design basis, i.e., the set of regulations adopted without regard to their cost as fundamentally required for all NRC standards that set requirements for adequate protection of health and safety."[40] Thus, Joint Intervenors contend that "the values assigned to the cost-benefit analysis for Calvert Cliffs-3 SAMAs, as described in Section 5.11.3 of the EIS, must be re-evaluated in light of the Task Force's conclusion that the value of SAMAs is so

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[37] Id. at 15. Although the quoted text refers to the ER, we will construe it to refer to the EIS, the subject of proposed Contention 11.

[38] Id. at 11 (citing 10 CFR § 51.45(c)).

[39] Id.

[40] Id. at 12 (citing Union of Concerned Scientists v. NRC, 824 F.2d 108, 120 (D.C. Cir. 1987)) (emphasis in original).

high that they should be elected as a matter of course."[41] Joint Intervenors further argue that, if SAMAs were imposed as mandatory measures without regard to cost as the Task Force recommends, the EIS could be changed significantly in that SAMAS now rejected as too costly may be required, thus substantially improving the safety of the plant's operation if it is licensed.[42]

3. Joint Intervenors further allege that the information in the Task Force Report is "'significant' because it raises an extraordinary level of concern regarding the manner in which the proposed operation of Calvert Cliffs-3 'impacts public health and safety.'"[43] Joint Intervenors view the Task Force Report as questioning the sufficiency of the NRC's existing regulatory regime to provide adequate protection of public health and safety. Joint Intervenors state that the NRC must therefore "revisit any conclusions in the Calvert Cliffs-3 EIS based on the assumption that compliance with NRC safety regulations is sufficient to ensure that environmental impacts of accidents are acceptable."[44] Joint Intervenors cite as a specific example of this deficiency the EIS's conclusion that the radiological impacts of a design basis accident would be "SMALL."[45] Joint Intervenors maintain that, given the Task Force's conclusions, this assumption is open to dispute, and that the Agency must accordingly reevaluate its conclusion in light of the Task Force Report.[46]

4. Finally, Joint Intervenors contend that, if additional mitigative measures were to be imposed on Calvert Cliffs 3, this could substantially increase the cost of the new facility. The

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[41] Id.

[42] Id.

[43] Id. at 11.

[44] Id.

[45] Id. (citing EIS Sections 5.11.1.1 and 5.11.4).

[46] Id.

increased costs could alter the cost-benefit balance, making alternatives such as the no-action alternative more attractive. According to Joint Intervenors, "the NRC cannot meet the fundamental purposes of NEPA if it does not include [in the EIS] all of the costs associated with required mitigative measures."[47] Therefore, EIS Section 10.6.2, which evaluates the economic cost of the proposed new facility, should be supplemented to take into account the additional costs that would be incurred if additional mitigative measures are required as a result of the Task Force's recommendations.

B. Contention 11 Was Timely Filed

1. Legal Standard

A new contention must meet the timeliness requirements under either 10 C.F.R. § 2.309(f)(2), which governs admission of timely contentions, or 10 C.F.R. § 2.309(c), which governs admission of untimely contentions.[48]

2. Board Ruling

Under Section 2.309(f)(2), new contentions filed after the initial filing may only be admitted "upon a showing that . . . (i) [t]he information upon which the. . . new contention is based was not previously available; (ii) [t]he information upon which the . . . new contention is based is materially different than information previously available; and (iii) [t]he . . . new contention has been submitted in a timely fashion based on the availability of the subsequent information."[49]

Contention 11 meets all three requirements of Section 2.309(f)(2).[50] First, the new contention is based on conclusions and recommendations in the Task Force Report, which was

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[47] Id. at 13 (citing Sierra Club v. Sigler, 695 F.2d 957, 979 (5th Cir. 1983) ("There can be no 'hard look' at the costs and benefits unless all costs are disclosed.").

[48] See Motion to Admit New Contention at 2.

[49] 10 C.F.R. § 2.309(f)(2).

[50] Motion to Admit New Contention at 2.

not available to the Joint Intervenors until July 12, 2011.[51] Thus, this contention is based upon information that was not previously available to Joint Intervenors.

We also agree with Joint Intervenors that the new information in the Task Force Report upon which the new contention is based is materially different than information previously available. This is the first report requested by the Commission following the Fukushima accident to evaluate the adequacy of the NRC's regulation of both existing and new nuclear reactors in light of the lessons learned from the accident.[52] Joint Intervenors state that the Task Force Report is the first occasion since the 1979 Three Mile Island accident that an internal agency report has fundamentally questioned the adequacy of the current level of safety provided by the NRC's program for nuclear reactor regulation. The Task Force Report makes a number of new recommendations for the improvement of the NRC's regulation of new and existing nuclear reactors. The Task Force Report also provided a new and detailed analysis explaining the justification for those recommendations. The Report's recommendations, if implemented by the NRC, would make significant changes to the agency's regulatory program to improve safety at both existing and new nuclear reactors. It is these new recommendations for improving safety at U.S. reactors that serve as the foundation of Joint Intervenors' claim that the FEIS violates NEPA because it fails to evaluate the recommendations and the consequences of their implementation. Moreover, it is significant that not only are a number of the recommendations new, but that they come from the NRC itself, the federal agency with the exclusive authority to regulate nuclear safety. Thus, the Task Force Report contains information that is materially different from the information previously available to Joint Intervenors.[53]

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[51] See id. at 2–3.

[52] Id.

[53] Id.

Finally, under the Scheduling Order for this case new contentions are timely if submitted within thirty (30) days of the occurrence triggering the event.[54] This motion was filed within thirty days of the publication of the Task Force Report, the triggering event for this contention. Thus, this contention was timely submitted. Neither the Staff nor the Applicants dispute this point. We therefore conclude that Contention 11 satisfies the criteria of 10 C.F.R. § 2.309(f)(2).

Applicants assert, however, that "the Task Force Report does not "directly contradict the conclusions in the Calvert Cliffs COL FEIS or the U.S. EPR design certification ER[,]" and thus, according to UniStar, "it does not provide any new or materially different information on environmental issues."[55]

It is true that the Task Force Report is not a critique of the FEIS. The Report concerns recommendations for improving safety at U.S. reactors, not NEPA compliance. But the Report nevertheless includes new and materially different information on environmental issues because it identifies gaps in the NRC's current regulatory program revealed by the lessons learned as the result of the Fukushima accident and provides a number of new recommendations to close those gaps and improve safety at U.S. reactors, including proposed new reactors such as Calvert Cliffs Unit 3 that are currently undergoing COL reviews. The impact of the proposed action on public safety is an issue that must be considered under NEPA, as well as the Atomic Energy Act.[56]

The Task Force Report thus provides new information that is at least potentially relevant to an environmental issue that the NRC must evaluate in the FEIS. And Contention 11 alleges that the FEIS violates NEPA because it fails to evaluate the new recommendations in the Task Force

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[54] See Licensing Board Order (Establishing Schedule to Govern Further Proceedings) (Apr. 22, 2009) at 4, 6 (unpublished).

[55] UniStar Response to Proposed Contention 11 (Sept. 6, 2011) at 19 [hereinafter UniStar Response].

[56] City of Las Vegas v. FAA, 570 F.3d 1109, 1115 (9th Cir. 2009) (citing Metro. Edison Co. v. People Against Nuclear Energy, 460 U.S. 766, 772, 775 (1983)).

Report. Thus, the new information is material to the specific environmental issue raised by Contention 11.

UniStar also argues that "a contention challenging the discussion of accidents or SAMAs in the U.S. EPR design certification application or in the FEIS, could have been raised at the outset of the proceeding or following issuance of the DEIS/FEIS."[57] Although this is true, the argument is irrelevant because Contention 11 raises the more specific claim that the FEIS is inadequate based on the conclusions and recommendations in the Task Force Report, and the Report was not publicly available until after the DEIS and FEIS were issued. And Joint Intervenors filed Contention 11 promptly upon issuance of the Report.

UniStar maintains that we must also determine whether the new contention may be admitted under the balancing test in 10 C.F.R. § 2.309(c), which applies to nontimely contentions. A number of licensing boards have disagreed with this argument.[58] Simply put, "[i]f a contention satisfies the timeliness requirement of 10 C.F.R. § 2.309(f)(2)(iii), then, by definition, it is not subject to 10 C.F.R. § 2.309(c) which specifically applies to 'nontimely filings.'"[59]

Contention 11 was therefore timely filed based on the Task Force Report.

C. Under the Commission's Ruling in CLI-12-07, Contention 11 Is Inadmissible

In CLI-12-07, the Commission denied a petition for review of a licensing board memorandum and order that declined to admit a contention filed similar to the one offered in this

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[57] UniStar Reponse at 19.

[58] See Virginia Elec. & Power Co. (North Anna Unit 3), LBP-09-27, 70 NRC 992, 998–99 (2009); see also Shaw AREVA MOX Servs. (Mixed Oxide Fuel Fabrication Facility),LBP- 07-14, 66 NRC 169, 210 n.95 (2007); AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), LBP-06-11, 63 NRC 391, 396 n.3 (2006); Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), LBP-06-14, 63 NRC 568, 573-74 (2006); Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station), LBP-05-32, 62 NRC 813, 821 n.21 (2005).

[59] Vermont Yankee, LBP-06-14, 63 NRC at 573 n.14 (emphasis in original).

proceeding.[60] The Commission held that "reference to the Task Force Report recommendations alone, without facts or expert opinion that explain their significance for the unique characteristics of the sites or reactors that are the subject of the petitions, does not provide sufficient support for the common contention."[61] Accordingly, because the petitioners "did not relate their contention to any unique characteristics of the particular site at issue," the Commission agreed with the licensing board that the contention was not adequately supported by alleged facts or expert opinions and did not raise issues material to the NRC's reviews of the pending license applications.[62] The Commission did not say that no contention based on the Fukushima accident could be admissible: "[a]s tangible Fukushima lessons emerge—whether from inside or outside the NRC—Fukushima-related contentions in individual adjudications may become more plausible, except insofar as the NRC is taking generic steps to address them."[63]

The Commission's ruling in CLI-12-07 precludes admission of Contention 11. The Joint Intervenors' proposed contention raises the same issue as the common contention that was rejected by the Commission—the NRC's failure to comply with NEPA by failing to supplement the FEIS in response to the Task Force's conclusions and recommendations. Like the petitioners in those proceedings, the Joint Intervenors have not offered any information that ties the recommendations of the Task Force Report to specific circumstances that are unique to the Calvert Cliffs site or to the proposed new reactor UniStar proposes to build – the U.S. EPR. Moreover, although the Joint Intervenors demand that "the NRC must revisit any conclusions in the Calvert Cliffs-3 FEIS based on the assumption that compliance with NRC safety regulations is

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[60] See Luminant Generation Co. LLC (Comanche Peak Nuclear Power Plant, Units 3 and 4), CLI-12-07, 75 NRC __ (slip op.) (Mar. 16, 2012).

[61] Id. at __ (slip op. at 13).

[62] Id. at __ (slip op. at 9); see also id. at __, __ (slip op. at 11, 13).

[63] Id. at __ (slip op. at 11) (emphasis added).

sufficient to ensure that environmental impacts of accidents are acceptable," they do not identify any such conclusions in the FEIS, much less connect their argument to any unique features of the Calvert Cliffs site or the proposed new reactor.[64] And the supporting declaration of Joint Intervenors' expert, Dr. Arjun Makhijani, makes no mention of Calvert Cliffs Unit 3.

[64] Contention 11 at 11.

Because the Joint Intervenors have not connected the Task Force recommendations to unique characteristics of the Calvert Cliffs site or the proposed new reactor, they have, under CLI 12-07, failed to present sufficient information to show a genuine dispute of material fact or law with the FEIS. Therefore, the Board may not admit Contention 11.

III. CONCLUSION

For the foregoing reasons, the Board declines to admit Contention11.

It is so ORDERED.

THE ATOMIC SAFETY
AND LICENSING BOARD

/RA/

Ronald M. Spritzer, Chairman
ADMINISTRATIVE JUDGE

/RA/

Dr. Gary S. Arnold
ADMINISTRATIVE JUDGE

/RA/

Dr. William W. Sager
ADMINISTRATIVE JUDGE

Rockville, Maryland
August 30, 2012

Concurring Opinion of Administrative Judge Arnold

Although I agree with the Board that Contention 11 is inadmissible, I do not agree with the reasoning provided in our Order. The Board's Order leaves the impression that the reason Contention 11 must be denied admission is because CLI-12-07 precludes its admission. The Concurring Opinion of Judge Spritzer further suggests that, if not for CLI-12-07, at least part of Contention 11 would be admissible. I disagree.

Contention 11, as submitted by Joint Intervenors, challenges the adequacy of the FEIS. It asserts that the expert opinions expressed in the Task Force Report would lead to changes in the regulations, and that accommodating those changes would necessarily change the environmental impacts of the plant. It then claims that those changes must be accounted for in a revision to the FEIS.

The Board's Order provides the following reasoning to find Contention 11 inadmissible. The Commission recently evaluated the appeal of a Board rejection of a site-specific Fukushima contention. The Commission found the Board's rejection correct because the "Board found that Petitioners did not relate their contention to any unique characteristics of the particular site at issue, and therefore, the contention was akin to the generic type of NEPA review that [the Commission] declared premature in CLI-11-5."[65] In the current case, Joint Intervenors' Contention 11 did not cite to any site-specific circumstances unique to Calvert Cliffs-3. Thus, Contention 11 similarly cannot be admissible in the case at hand.

While I agree that this reasoning provides sufficient grounds for rejecting Contention 11, I believe that, even in the absence of CLI-12-07, Contention 11 would be inadmissible.

Joint Intervenors claim that because environmental impacts of the proposed project may be affected by the expert opinions expressed by the Task Force Report, the FEIS must be

[65] See Luminant Generation Co. LLC (Comanche Peak Nuclear Power Plant, Units 3 and 4), CLI-12-07, 75 NRC __, __ (slip op. at 9) (Mar. 16, 2012).

supplemented to reflect those changed impacts. But the Commission, long before the events at Fukushima, clarified when an EIS must be updated to accommodate new information:

> A Supplemental Environmental Impact Statement is not necessary ''every time new information comes to light after the EIS is finalized.'' As a general matter, the agency must consider whether the new information is significant enough to require preparation of a supplement. The new information must present ''a seriously different picture of the environmental impact of the proposed project from what was previously envisioned.''[66]

Although Joint Intervenors claim that some environmental impacts may change, at no point in Contention 11 do they argue that these changes would be so significant as to satisfy the Commission's criterion. And concerning this question, the Commission has explicitly stated that "[t]his is not the case."[67]

An assessment of environmental impacts need not be exact, and may be performed to bound those impacts. That is, it is common practice in an EIS to use bounding evaluations when more exact calculations cannot be performed or are not necessary.[68] For argument, we assume that the Calvert Cliffs FEIS provides an adequate assessment of the environmental effects of

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[66] Hydro Res., Inc. (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 14 (1999) (citing Marsh v. Oregon Natural Res. Council, 490 U.S. 360, 373 (1989); Sierra Club v. Froehlke, 816 F.2d 205, 210 (5th Cir. 1987)).

[67] Union Electric Company d/b/a Ameren Missouri (Callaway Plant , Unit 2), CLI-11-05, 74 NRC __, __ (slip op. at 31) (Sept. 9, 2011).

[68] See Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 316 (2010) ("Because the GEIS provides a severe accident impacts analysis that envelopes the potential impacts at all existing plants, the environmental impacts of severe accidents during the license renewal term already have been addressed generically in bounding fashion."). In Louisiana Energy Services, the Commission further stated that:

> NEPA also does not call for certainty or precision, but an estimate of anticipated (not unduly speculative) impacts. An assessment of the estimated impacts at one or more representative or reference sites can be sufficient. In this type of analysis, the impacts for a range of potential facilities or locations having common site or design features can be bounded.

La. Energy Servs, L.P. (National Enrichment Facility), CLI-05-20, 62 NRC 523, 536 (2005).

Calvert Cliffs 3. If some event occurs resulting in modification of the actual environmental impacts in such a way that they remain bounded by the description in the EIS, then the EIS remains an adequate assessment of the environmental effects of Calvert Cliffs 3.

Joint Intervenors have not provided any logic for believing that the twelve recommendations from the Task Force Report will lead to more adverse environmental impacts. Joint Intervenors have not even made such an allegation. They only claim that the environmental impacts will be different from those currently addressed in the FEIS. Thus they have not challenged the current contents of the FEIS.

In fact, all of the Task Force Report recommendations are aimed at improving the safety of current and future nuclear power plants. A reactor that has improved safety would decrease the probability or effect of a severe accident and thus should result in less of an adverse environmental impact. That being the case, implementation of the recommendations would be expected to lead to environmental impacts that are still bounded by those described in the FEIS. This may or may not be true, but the important point is that Joint Intervenors have not claimed otherwise. Thus, Joint Intervenors have not established that this issue is material.

Contention 11 does not directly challenge the contents of the current FEIS and does not raise a genuine dispute on a material issue of law or fact. Thus, Contention 11 does not satisfy the criterion of 10 CFR § 2.309(f)(1)(vi) and is inadmissible.

/RA/

Dr. Gary S. Arnold
ADMINISTRATIVE JUDGE

Concurring Opinion of Administrative Judge Ronald Spritzer

I agree that CLI-12-07 compels the Board to reject Contention 11. The Commission has ruled that, to be admissible, any new contention based on the Task Force Report must allege unique characteristics of the site or the proposed new reactor and show that they are significant with respect to the Task Force's recommendations. Contention 11 fails to allege any such unique characteristics and is therefore inadmissible under the Commission's ruling. I therefore conclude that the Commission's decision is controlling.

Nevertheless, I believe that the first part of Contention 11 summarized in the Board's Order[69] is admissible under our contention admissibility regulation, 10 C.F.R. § 2.309(f)(1). That part, which I shall refer to as Contention 11A, alleges a violation of the obligation imposed by NEPA and its implementing regulations to consider mitigation in an EIS.[70] Factually, Contention 11A is premised upon the Task Force recommendations for enhanced accident mitigation capabilities at U.S. reactors. As explained below, those include recommendations 4, 7, and 8. The Task Force stated those recommendations should apply to proposed new reactors currently undergoing COL review, one of which is Calvert Cliffs Unit 3. Contention 11A maintains that the NRC failed to fulfill its NEPA obligation to evaluate accident mitigation measures because the FEIS fails to evaluate those recommendations. Intervenors argue that the FEIS must be supplemented to address those recommendations.

Under its own regulations, the NRC's obligation to evaluate these new recommendations for enhanced accident mitigation does not depend upon whether Intervenors have identified unique characteristics of the site or the proposed new reactor.[71] It is therefore sufficient to state

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[69] See supra pp. 8-9.

[70] Id.

[71] See 10 C.F.R. § 51.71(d); see also 40 C.F.R. § 1502.14(f).

a litigable issue under NEPA and its implementing regulations that the Task Force Report, a team of the agency's own experts, recommends new accident mitigation measures applicable to Calvert Cliffs Unit 3 (as well as other new reactors) that have not been evaluated in the FEIS. Thus, but for the Commission's holding in CLI-12-07, it seems apparent that the agency has a legal obligation under NEPA to take a hard look at the new accident mitigation measures.

Although the Board must follow CLI-12-07 and dismiss Contention 11 in its entirety, I respectfully submit that the Commission should consider whether the narrowed version of Contention 11 that I have designated Contention 11A should be admitted in this proceeding. I recognize that Contention 11 alleges the same types of NEPA deficiencies as did the contentions that were at issue in CLI-12-07.[72] But, in its ruling, the Commission did not directly address the question whether a narrowed version of the contentions might be admissible. It had no need to do so, because the licensing board decision the Commission was reviewing (LBP-11-27) did not consider that question. The Commission did state, however, that "[a]s tangible Fukushima lessons emerge—whether from inside or outside the NRC—Fukushima-related contentions in individual adjudications may become more plausible, except insofar as the NRC is taking generic steps to address them." [73]

I believe that it is appropriate for the Commission to revisit that issue now, because there has been a significant new development since the licensing board issued LBP-11-27, in which it held that the contentions based on the Task Force Report were premature. On March 19, 2012, the NRC issued two immediately effective orders imposing requirements derived from Task Force recommendations 4 and 7 on current nuclear power reactor licensees and on holders of

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[72] See Contention 11, at 3 ("Joint Intervenors point out that this contention is substantially similar to contentions and comments that are being filed this week in other pending reactor licensing and re-licensing cases and standardized design certification proceedings.")

[73] CLI-12-07 at 11.

construction permits for new reactors (CP holders).[74] The FEIS, however, says nothing about whether or how those Task Force recommendations, or recommendation 8, will be applied to Calvert Cliffs Unit 3. In my view, the Commission's March 19, 2012 orders foreclose any further argument that Contention 11A is premature.[75] I therefore conclude that Contention 11A is now appropriate for adjudication.

Below I explain my analysis of the admissibility of Contention 11A under 10 C.F.R. § 2.309(f)(1). Initially, I will restate Contention 11A to focus upon the Task Force recommendations for enhanced mitigation that are relevant to Calvert Cliffs Unit 3.[76] After reviewing the Task Force's justification for those recommendations, I explain my reasons for concluding that Contention 11A is admissible, and that the contrary result apparently compelled by CLI-12-07 is inconsistent with the obligations that NEPA imposes upon the agency. Finally, even under my understanding of NEPA's requirements, the remaining parts of Contention 11, which I refer to as Contentions 11B, 11C and 11D, would still be inadmissible. Thus, if the Board's ruling was not constrained by CLI-12-07, the Board should have admitted Contention 11A but declined to admit the remainder of Contention 11.

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[74] Nuclear Regulatory Commission, "In the Matter of All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status: Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Effective Immediately)," 77 Fed. Reg. 16,082 (Mar. 19, 2012); Nuclear Regulatory Commission, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Effective Immediately)," 77 Fed. Reg. 16,091 (Mar. 19, 2012).

[75] See infra p. 72.

[76] Boards may reformulate contentions to "eliminate extraneous issues or to consolidate issues for a more efficient proceeding." Crow Butte (North Trench Expansion Project), CLI-09-12, 69 NRC 535, 552 (2009) (quoting Shaw Areva MOX Services (Mixed Oxide Fuel Fabrication Facility), LBP-08-11, 67 NRC 460, 482 (2008) (emphasis omitted)); Pennsylvania Power & Light Co. (Susquehanna Steam Electric Station, Units 1 and 2), LBP-79-6, 9 NRC 291, 295-96 (1979).

I. Contention 11A is Admissible

A. Contention 11A

I have restated Contention 11A to focus solely upon Task Force Recommendations 4, 7, and 8, the recommendations referred to in Contention 11 that apply to new pressurized water reactors such as the U.S. EPR proposed for construction as Calvert Cliffs Unit 3.[77] Contention 11A alleges:

> The FEIS fails to evaluate the Task Force's recommendations to improve the mitigation capability of new U.S. reactors, including strengthening station black out mitigation capability for design basis and beyond-design-basis external events (Recommendation 4) ; enhancing spent fuel pool makeup capability and instrumentation for the spent fuel pool (Recommendation 7); and strengthening and integrating onsite emergency response capabilities such as emergency operating procedures (EOPs), severe accident management guidelines (SAMGs), and extensive damage mitigation guidelines (EDMGs) (Recommendation 8) . The FEIS therefore violates NEPA's requirement to provide a "'reasonably complete discussion of possible mitigation measures.'" Accordingly, the FEIS must be supplemented to consider the use of these additional mitigation measures to reduce the project's environmental impact in the event of design basis or beyond-design-basis external events.

B. The Basis of Contention 11A: Task Force Recommendations 4, 7, and 8

Task Force Recommendations 4, 7, and 8 concern enhancing accident mitigation, "[t]he second level of defense-in-depth."[78] Those recommendations, among others, are discussed in Section 4.2 of the Task Force Report, which begins by explaining:

> The Great East Japan Earthquake of 2011 and the ensuing tsunami resulted in many mitigation systems at the Fukushima Dai-ichi Nuclear Power Plant being unable to operate. The subsequent challenges faced by the operators at Fukushima Dai-ichi were beyond any faced previously at a commercial nuclear reactor. The Task Force examined the U.S. regulations, guidance, and practices for mitigating the consequences of accidents similar to those that occurred at

[77] Contention 11 also refers to the recommendation to require hardened vent designs in boiling water reactor facilities with Mark I and Mark II containments. Contention 11, at 15. That recommendation is not applicable to the new pressurized water reactor proposed for construction at the Calvert Cliffs site. I have therefore eliminated that recommendation from Contention 11A.

[78] Task Force Report at 32.

> Fukushima Dai-ichi. The following sections discuss the Task Force evaluation of insights from Fukushima and provide recommendations for enhancing the mitigation capability of U.S. reactors with regard to prolonged loss of [alternating current] power, . . . spent fuel pool safety, and onsite emergency actions.[79]

1. Recommendation 4: Mitigating Prolonged Loss of Alternating Current Power

The first mitigation enhancement discussed in the Task Force Report is directed at coping with the prolonged loss of alternating current power.

The Report explains that "[a]lternating current [ac] electrical power is critically important to the safety of nuclear power plants. Many of the SSC's intended to cool the nuclear fuel in the reactor and in the spent fuel pools, to maintain radioactive containment systems, and to provide ventilation systems to minimize release of radioactive materials rely on ac power."[80] Therefore, "the loss of all ac power both onsite and offsite, as occurred at Fukushima, is highly significant."[81] The Task Force noted that "the earthquake at Fukushima Dai-ichi on March 11, 2011, caused a loss of all offsite sources of power to the six units, and the ensuing tsunami caused failure of the emergency diesel generators for Units 1 through 4."[82] Because of the damage to the offsite power infrastructure from the earthquake and the damage at the site from the tsunami, Units 1 through 4 were without ac power for "many days."[83]

In its Recommendation 4, "[t]he Task Force recommends that the NRC strengthen [station blackout] mitigation capability for all operating and new reactors for design-basis and

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[79] Id.

[80] Id.

[81] Id. at 32-33.

[82] Id. at 34.

[83] Id. at 35.

beyond-design-basis external events."[84] The Task Force concluded that "revising 10 C.F.R. § 50.63 to expand the coping capability to include cooling the spent fuel, preventing a loss-of-coolant accident, and preventing containment failure would be a significant benefit."[85] The Task Force recommended a three-part revision to require NRC licensees to provide these functions during a prolonged loss of ac power, such as occurred at Fukushima.

> [1] Licensees should be required to establish the coping capability to maintain these functions for at least 8 hours at each unit during a loss of all ac power.[86]
>
> [2] Licensees should be required to "establish the equipment, procedures, and training necessary to implement an 'extended loss of all ac' coping time of 72 hours for core and spent fuel cooling and for reactor coolant system and containment integrity as needed."[87]
>
> [3] Licensees should be required to "preplan and prestage offsite resources to support uninterrupted core and spent fuel pool cooling, and reactor coolant system and containment integrity as needed, including the ability to deliver the equipment to the site in the time period allowed for extended coping, under conditions involving significant degradation of offsite transportation infrastructure associated with significant natural disasters."[88]

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[84] Id. at 37.

[85] Id. at 35.

[86] Id. at 38.

[87] Id.

[88] Id.

2. Recommendation 7: Enhancing Spent Fuel Pool Safety

In Recommendation 7, "[t]he Task Force recommends enhancing spent fuel pool makeup capability and instrumentation for the spent fuel pool."[89]

The Report explains that, during the protracted station blackout condition at Fukushima reactors 1-4, no ac power was available to operate equipment, and the plant's batteries were depleted.

> This resulted in having no onsite capability to provide water inventory or cooling to the spent fuel pools, and the operators were significantly challenged in understanding the condition of the spent fuel pools because of the lack of instrumentation or because of instrumentation that was not functioning properly. Eventually, spent fuel cooling was provided by pumper trucks employing high booms to spray water from a distance into the spent fuel pools.[90]

The Task Force concluded that

> Substantial additional defense-in-depth would be provided, and cooling the spent fuel in a prolonged SBO would have been substantially simplified, with an installed seismically qualified means to spray water into the spent fuel pools, including an easily accessible connection to supply the water (e.g., using a portable pump or pumper truck) at grade outside the building.[91]

The Task Force also determined that "[t]he lack of information on the conditions of the fuel in the Fukushima spent fuel pools was a significant problem,"and that "reliable information on the conditions in the spent fuel pool is essential to any effective response to a prolonged SBO or other similarly challenging accident."[92]

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[89] Id. at 46.

[90] Id. at 45.

[91] Id.

[92] Id.

The current fleet of U.S. reactors lacks the level of defense-in-depth that the Task Force considered essential.[93] To close this regulatory gap, the Task Force recommended that the Commission direct the NRC Staff to take the following actions:

> [1] Order licensees to provide sufficient safety related instrumentation, able to withstand design basis natural phenomena, to monitor key spent fuel pool parameters (i.e., water level, temperature, and area radiation levels) from the control room.
>
> [2] Order licensees to provide safety related ac electrical power for the spent fuel pool makeup system.
>
> [3] Order licensees to revise their technical specifications to address requirements to have one train of onsite emergency electrical power operable for spent fuel pool makeup and spent fuel pool instrumentation when there is irradiated fuel in the spent fuel pool, regardless of the operational mode of the reactor.
>
> [4] Order licensees to have an installed seismically qualified means to spray water into the spent fuel pools, including an easily accessible connection to supply the water (e.g., using a portable pump or pumper truck) at grade outside the building.
>
> [5] Initiate rulemaking or licensing activities, or both, to require the actions related to the spent fuel pool described in detailed recommendations 7.1–7.4.[94]

3. Recommendation 8: Strengthening and Integrating Onsite Emergency Response Capabilities

Task Force recommendation 8 calls for strengthening and integrating the NRC's requirements for onsite emergency action programs at nuclear power plants.

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[93] Id. at 44.

[94] Id. at 46.

At U.S. reactors, a number of guidelines and procedures guide the actions of reactor operators during an emergency. Design basis events such as the loss of offsite power are typically addressed by abnormal operating procedures, alarm response procedures, and emergency operating procedures (EOPs). "These procedures instruct the plant operators on the steps necessary to take the plant from full-power operation to a safe shutdown condition."[95] EOPs have long been part of the NRC's safety requirements.[96]

An SBO is a beyond-design-basis event, however, and therefore the regulations requiring EOPs do not apply. "In the case of an SBO, the operators would follow a set of procedures . . . required by 10 C.F.R. § 50.63(c)(ii) and (iii). These procedures would instruct the operators in maintaining safety functions using the alternate ac power source or through coping strategies."[97]

In addition, the U.S. nuclear industry has developed severe accident management guidelines (SAMGs). The SAMGs "are meant to enhance the ability of operators to manage accident sequences that progress beyond the point where EOPs and other plant procedures are applicable and useful."[98] Because the SAMGs are voluntary and targeted to technical support staff, however, "the formal training and licensing of plant operators does not address them." [99]

Extensive damage mitigation guidelines (EDMGs) are also intended to guide onsite emergency actions. They include "guidance and strategies intended to maintain or restore core cooling and containment and spent fuel pool cooling capabilities under the circumstances

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[95] Id. at 46.

[96] Id.

[97] Id. at 47.

[98] Id.

[99] Id.

associated with the loss of large areas of the plant due to fire or explosion."[100] The guidelines and strategies are required by an NRC regulation, 10 C.F.R. § 50.54(hh), issued in response to the terrorist events of September 11, 2001.[101]

Thus, as the Task Force Report observed, each of the onsite emergency action programs (the abnormal operating procedures, EOPs, SAMGs, and EDMGs) "was developed at a different time to serve a different purpose, and each of these programs is treated differently in the NRC's regulations, inspection program, and licensing process, as well as in the licensee programs and organizations."[102] The Task Force concluded that "the overall effectiveness of those programs could be substantially enhanced through further integration, including clarification of transition points, command and control, decisionmaking, and through rigorous training that includes conditions that are as close to real accident conditions as feasible."[103] The Report further states that "[s]ince the current requirements in this area apply only to normal operation and emergencies within the plant's design basis, they appear outdated and inconsistent with Commission decisions in policy statements and rulemakings to regulate accident mitigation in other areas beyond the plant's design basis."[104] The Task Force concluded "that an expansion of the regulatory requirements to include procedures for beyond-design-basis events is warranted." [105]

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[100] Id.

[101] Id.

[102] Id. at 48.

[103] Id. at 48-49.

[104] Id. at 49.

[105] Id.

4. The Task Force's Implementation Strategy for Applying Recommendations 4, 7, and 8 to New Reactors

Intervenors correctly point out that "[t]he Task Force urge[d] that some of its recommendations be considered before certain licensing decisions are made."[106] Intervenors particularly emphasize that the Task Force intended that recommendations 4 and 7 be evaluated before licensing if the recommended requirements are not addressed in the referenced certified design.[107]

As to recommendations 4 and 7, the Task Force explained:

> Recommendation 4, with new requirements for prolonged SBO mitigation, and Recommendation 7, about spent fuel pool makeup capability and instrumentation, should apply to all design certifications or to COL applicants if the recommended requirements are not addressed in the referenced certified design. The Task Force recommends that design certifications and COLs under active staff review address this recommendation before licensing.[108]

The Task Force reached a similar conclusion concerning Recommendation 8:

> Recommendation 8 for the integration of EOPs, SAMGs, and EDMGs and for controlling accident decisionmaking under technical specifications would be applicable to COLs. For near-term COLs (i.e., those expected to be licensed before the NRC completes the proposed rulemakings), the Task Force recommends that the agency impose those requirements through inspections, tests, analyses, and acceptance criteria (ITAAC).[109]

The Task Force recommended that the requirements of Recommendation 8 be imposed through ITAAC because "this would be one of those areas in which it is not practical to resolve the issue before COL issuance, in that the integration of EOPs, SAMGs, and EDMGs could require a few

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[106] Contention 11, at 16.

[107] Id.

[108] Task Force Report at 71 (emphasis added).

[109] Id.

years of effort by licensees, the industry, and the NRC staff."[110] The Task Force noted, however, that the strategy of imposing the requirements through ITAAC "would ensure implementation and NRC oversight before plant operation."[111]

The NRC generally reviews severe accident mitigation alternatives (SAMAs) using a cost-benefit analysis; SAMAs that are not cost-beneficial need not be implemented by the licensee.[112] But the Task Force took the position that recommendations 4, 7, and 8 should be mandatory without regard to such a test. The Task Force concluded that applying those recommendations to both new and existing reactors is necessary to provide defense-in-depth, and thus to fulfill the NRC's statutory responsibility to ensure adequate protection of public health and safety. Explaining the purpose of its recommendations, the Task Force stated that, just as the Commission established new security requirements on the basis of adequate protection after the September 11, 2001 attacks, "the Fukushima Dai-ichi accident similarly provides new insights regarding low-likelihood, high-consequence events that warrant enhancements to defense-in-depth on the basis of redefining the level of protection that is regarded as adequate."[113] Each of the Task Force's recommendations, including those that are the subject of Contention 11A, are a part of that effort to redefine the level of protection that is regarded as adequate. For example, concerning recommendation 4, the Task Force stated that "[t]hese recommendations for revision to 10 C.F.R. § 50.63 would provide additional safety margins for a prolonged SBO as a part of the overall risk-informed, defense-in-depth regulatory framework

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[110] Id.

[111] Id. (emphasis added).

[112] See Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Generating Station, Units 1 and 2), CLI-02-17, 56 NRC 1, 2 (2003).

[113] Task Force Report at viii.

providing adequate protection of public health and safety."[114] Similarly, with respect to recommendation 7, the Task Force concluded that "clear and coherent requirements to ensure that the plant staff can understand the condition of the spent fuel pool and its water inventory and coolability and to provide reliable, diverse, and simple means to cool the spent fuel pool under various circumstances are essential to maintaining defense-in-depth."[115] As to recommendation 8, the Task force stated that "[t]he NRC could strengthen the current system substantially by requiring more formal, rigorous, and frequent training of reactor operators and other onsite emergency response staff on realistic accident scenarios with realistic conditions."[116]

Thus, the Task Force intended that recommendations 4, 7, and 8 be applied to U.S. reactors on the basis of the NRC's statutory obligation to provide adequate protection of public health and safety, making cost-benefit analysis unnecessary.

5. The Commission's Orders Implementing Recommendations 4 and 7 for Licensed Reactors

On March 19, 2012, the NRC issued two immediately effective orders imposing requirements derived from Task Force recommendations 4 and 7 on current nuclear power reactor licensees and on CP holders.[117] The orders thus apply to the existing power reactors at the Calvert Cliffs Site (Units 1 and 2), as well as to all other currently licensed power reactors, but not to Unit 3 because the COL for that proposed new reactor has not yet been issued.

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[114] Id. at 37.

[115] Id. at 45.

[116] Id. at 49.

[117] Nuclear Regulatory Commission, "In the Matter of All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status: Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation (Effective Immediately)," 77 Fed. Reg. 16,082 (Mar. 19, 2012); Nuclear Regulatory Commission, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Effective Immediately)," 77 Fed. Reg. 16,091 (Mar. 19, 2012).

Both orders were intended to ensure attainment of "fundamental NRC regulatory objectives": reasonable assurance of adequate protection of public health and safety and assurance of the common defense and security.[118] The Commission noted that

> [w]hile compliance with NRC requirements presumptively ensures adequate protection, new information may reveal that additional requirements are warranted. In such situations, the Commission may act in accordance with its statutory authority under Section 161 of the Atomic Energy Act of 1954, as amended, to require Licensees and CP holders to take action in order to protect health and safety and common defense and security.[119]

In both orders, the Commission concluded on the basis of the Task Force Report that new requirements should be imposed on all licensed U.S. reactors to ensure that those "fundamental NRC regulatory objectives" are met. The first order, which requires immediate implementation of measures to ensure reliable spent fuel instrumentation, explains that "Fukushima demonstrated the confusion and misapplication of resources that can result from beyond-design-basis external events when adequate instrumentation is not available."[120] It observed that "[t]he spent fuel pool level instrumentation at U.S. nuclear power plants is typically narrow range and, therefore, only capable of monitoring normal and slightly off-normal conditions."[121] The Order states that the likelihood of a catastrophic event affecting nuclear power plants and the associated spent fuel pools in the United States remains very low, but it also acknowledges that "beyond-design-basis external events could challenge the ability of existing instrumentation to provide emergency responders with reliable information on the condition of spent fuel pools.

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[118] Id. at 16,083; id. at 16,092.

[119] Id.

[120] Id. at 16,084.

[121] Id.

Reliable and available indication is essential to ensure plant personnel can effectively prioritize emergency actions."[122] The Commission therefore concluded that "the spent fuel pool instrumentation required by this Order represents a significant enhancement to the protection of public health and safety and is an appropriate response to the insights from the Fukushima Dai-ichi accident."[123] The Commission also decided that the new requirements should be imposed as an administrative exception to the agency's Backfit Rule, which otherwise would have required a balancing of the public health and safety benefits of the new requirements against their costs.[124] The Commission described this as a "highly exceptional action limited to the insights associated with the extraordinary underlying circumstances of the Fukushima Dai-ichi accident and the NRC's lessons learned." The Commission further determined that "immediate action to commence implementation the spent fuel monitoring requirements is warranted at this time."[125]

Similarly, in its Order requiring immediate implementation of mitigation strategies for beyond-design-basis external events, the Commission stated that "[t]he events at Fukushima . . . highlight the possibility that extreme natural phenomena could challenge the prevention,

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[122] Id.

[123] Id.

[124] Id. at 16,083. In general, the "Backfit Rule" allows the NRC to impose new requirements defined as "backfitting" on previously licensed power reactors only if the agency finds "that there is a substantial increase in the overall protection of the public health and safety or the common defense and security to be derived from the backfit and that the direct and indirect costs of implementation for that facility are justified in view of this increased protection." 10 C.F.R. § 50.109(a)(3). Section 50.109(a)(4) provides several exceptions to the Rule. The Commission, however, chose to rely on an administrative exception rather than any of the exceptions listed in Section 50.109(a)(4).

[125] 77 Fed. Reg. at 16,083.

mitigation, and emergency preparedness defense-in-depth layers."[126] To address "the uncertainties associated with beyond-design-basis external events," the Commission decided to require "additional defense-in-depth measures at licensed nuclear power reactors so that the NRC can continue to have reasonable assurance of adequate protection of public health and safety in mitigating the consequences of a beyond-design-basis external event."[127] The Commission determined that

> ensuring adequate protection of public health and safety requires that power reactor Licensees and CP holders develop, implement and maintain guidance and strategies to restore or maintain core cooling, containment, and SFP cooling capabilities in the event of a beyond-design-basis external event. These new requirements provide a greater mitigation capability consistent with the overall defense-in-depth philosophy, and, therefore, greater assurance that the challenges posed by beyond-design-basis external events to power reactors do not pose an undue risk to public health and safety.[128]

As with the first order, the Commission concluded that "the public health, safety and interest require that this Order be made immediately effective."[129] In addition, the Commission relied on the exception to the Backfit Rule that applies when "regulatory action is necessary to ensure that the facility provides adequate protection to the health and safety of the public and is in accord with the common defense and security."[130] Because the Commission concluded that the new measures satisfied that test, it did not need to conduct the balancing of public health and safety benefits against costs that otherwise would be required by the Backfit Rule.[131]

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[126] Id. at 16,092.

[127] Id.

[128] Id.

[129] Id.

[130] 10 C.F.R. § 50.109(a)(4)(ii).

[131] 77 Fed. Reg. at 16,092.

C. Contention 11 A is Admissible Under 10 C.F.R. § 2.309(f)(1)

As the Board correctly determined, Contention 11 was timely filed. Contention 11A, which is a part of Contention 11, is therefore also timely. That leaves the question whether Contention 11A satisfies the admissibility criteria of 10 C.F.R. § 2.309(f)(1). In the absence of the Commission's decision in CLI-12-07, I would conclude that it does.

1. Legal Standard

Under Section 2.309(f)(1), an admissible contention must: (i) provide a specific statement of the legal or factual issue sought to be raised; (ii) provide a brief explanation of the basis for the contention; (iii) demonstrate that the issue raised is within the scope of the proceeding; (iv) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (v) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents, that support the petitioner's position and upon which the petitioner intends to rely at the hearing; and (vi) provide sufficient information to show that a genuine dispute exists in regard to a material issue of law or fact, including references to specific portions of the application that the petitioner disputes, or, in the case when the application is alleged to be deficient, the identification of such deficiencies and supporting reasons for this belief.[132]

2. Contention 11A is Admissible

(a) Contention 11A Contains a Sufficient Statement of the Issue

Contention 11A provides a specific statement of the issue sought to be raised: the NRC has violated its obligations under NEPA and 10 C.F.R. Part 51 by failing to evaluate Task Recommendations 4, 7, and 8 in the FEIS, and the FEIS must be supplemented to remedy that deficiency.

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[132] See 10 C.F.R. § 2.309(f)(1).

(b) Contention 11A Contains a Brief Explanation of the Basis for the Contention

Intervenors have also satisfied the requirement to provide a brief explanation of the basis for the new contention."[133]

Intervenors rely on the NRC's obligation under NEPA and Part 51 to evaluate accident mitigation measures in the FEIS. Intervenors emphasize that under NEPA this issue cannot be deferred until after this licensing proceeding.[134] Intervenors have identified three specific task force recommendations that they contend would improve the mitigation capability of Calvert Cliffs Unit 3 and must accordingly be evaluated in the FEIS. The Task Force Report was issued after the FEIS, but Intervenors emphasize that NEPA imposes a non-discretionary duty on the NRC to amend an EIS if new and significant information, such as the new recommendations for improved mitigation in the Task Force Report, comes to light.[135] This is true, they assert, even if the new and significant information first becomes available after the proposed EIS has received approval.[136] Intervenors stress that, in addition to NEPA, NRC's own regulations "require supplementation of an EIS where '[t]here are new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.'"[137] Furthermore, Intervenors argue that the admission of this contention is the only way that "the

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[133] 10 C.F.R. § 2.309(f)(1)(ii).

[134] Contention 11, at 3.

[135] Id. at 4 (citing Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041, 1049 (1983)).

[136] Id. at 10.

[137] Id. (citing 10.C.F.R. § 51.92 (a)(2)).

environmental implications of the Task Force recommendations [will be] taken into account in the licensing decision for Calvert Cliffs-3."[138]

In sum, the basis for proposed Contention 11A is that Task Force recommendations 4, 7, and 8 constitute new and significant information relevant to environmental concerns and bearing on the licensing of Calvert Cliffs Unit 3 or its impacts, and that the FEIS must therefore be supplemented to evaluate those potential accident mitigation measures. Intervenors have thus adequately described the basis of the new contention.

(c) Contention 11A is Within the Scope of the Proceeding

Contention 11A is within the scope of this proceeding, as required by Section 2.309(f)(1)(iii).

The scope of the proceeding is defined by the Commission in its initial hearing notice and order referring the proceeding to the Licensing Board.[139] Any contention that falls outside the specified scope of the proceeding is inadmissible.[140] The Notice of Hearing and Opportunity to Petition for Leave to Intervene for this proceeding explained that the Licensing Board would consider the Application under Part 52 for a COL for Calvert Cliffs Unit 3.[141] Contention 11A challenges the adequacy of the NEPA analysis that the NRC must complete in order to issue the COL. Because Contention 11A challenges the legal sufficiency of the FEIS for the COL, it is within the scope of the proceeding.[142]

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[138] Id.

[139] Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790-91 (1985).

[140] See Portland Gen. Elec. Co. (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289-90 n.6 (1979).

[141] 73 Fed. Reg. 55,876 (Sept. 26, 2008).

[142] See 10 C.F.R. § 2.309(f)(1)(iii); see also Pa'ina Hawaii, LLC, LBP-06-12, 63 NRC 403, 414 (2006).

The Staff correctly states that "[t]o the extent the Proposed Contention is intended to challenge existing NRC safety regulations, it is barred from consideration in adjudicatory proceedings by 10 C.F.R. § 2.335(a)."[143] The Staff does not specifically argue, however, that the aspect of Contention 11 that I have identified as Contention 11A is a direct challenge to any NRC regulation. On the contrary, Contention 11A, far from seeking to invalidate or compel a change in any agency regulation, seeks to enforce the agency's NEPA regulation directing that the FEIS must evaluate available accident mitigation alternatives. The contention thus challenges the FEIS, not an NRC regulation.

Assuming that Contention 11A were to succeed on the merits, the agency might have to supplement the FEIS to consider those three recommendations for improved mitigation. The Commission would remain free, however, to reject or accept the recommendations. This is because NEPA does not require agencies to "elevate environmental concerns over other appropriate considerations."[144] "[I]t is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process . . . . If the adverse environmental impacts of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs."[145] Thus, once an agency has complied with NEPA's procedural obligations, it is free to follow any policy within the bounds of its statutory authority. Contention 11A therefore neither challenges

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[143] NRC Staff Answer to Joint Intervenors' Motion to Admit New Contention Regarding the Safety and Environmental Implications of the NRC Task Force Report on the Fukushima Dai-ichi Accident (Sept. 6, 2011) at 8 [hereinafter Staff Response].

[144] Strycker's Bay Neighborhood Council, Inc. v. Karlen, 444 U.S. 223, 227 (1980).

[145] See Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989) (citations omitted).

any agency regulation nor seeks to require the NRC to take any action beyond the requirements of its present regulations.

Because Contention 11A is a procedural challenge to the FEIS, rather than a direct attack upon any agency regulation, it is within the scope of the proceeding.

(d) Contention 11A is Material to the Licensing Decision

To satisfy Section 2.309(f)(1)(iv), the petitioner must demonstrate that a contention asserts an issue of law or fact that is "material to the findings the NRC must make to support the action that is involved in the proceeding."[146] That is, the subject matter of the contention must impact the grant or denial of a pending license application.[147]

Contention 11A satisfies the materiality requirement by alleging that the FEIS violates NEPA. "The centerpiece of environmental regulation in the United States, NEPA requires federal agencies to pause before committing resources to a project and consider the likely environmental impacts of the preferred course of action as well as reasonable alternatives."[148] When, as in this case, an agency proposes a "major Federal action[] significantly affecting the quality of the human environment," NEPA requires the preparation of an EIS concerning the proposed action.[149] The requirement to prepare an EIS is a procedural mechanism designed to assure that agencies give proper consideration to the environmental consequences of their

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[146] 10 C.F.R. § 2.309(f)(1)(iv).

[147] Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), LBP-98-07, 47 NRC 142, 179-80 (1998), aff'd as to other matters, CLI-98-13, 48 NRC 26 (1998).

[148] New Mexico ex rel. Richardson v. Bureau of Land Mgmt., 565 F.3d 683, 703 (10th Cir. 2009) (citing 42 U.S.C. § 4331(b) (congressional declaration of national environmental policy); U.S. Dep't of Transp. v. Pub. Citizen, 541 U.S. 752, 756–57 (2004); Marsh v. Or. Natural Res. Council, 490 U.S. 360, 371 (1989); Forest Guardians v. U.S. Forest Serv., 495 F.3d 1162, 1172 (10th Cir. 2007)).

[149] 42 U.S.C. § 4332.

actions.[150] Although NEPA's requirements are procedural, the NRC, like other federal agencies, is held to a "strict standard of compliance" with the Act's requirements.[151]

Contention 11A alleges that the FEIS violates two NEPA requirements. The first is that an EIS must include a "reasonably complete discussion of possible mitigation measures."[152] "[M]itigation [must] be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated."[153] In addition, Contention 11A alleges that the FEIS must be supplemented because NEPA imposes on agencies a continuing obligation to gather and evaluate new information relevant to the environmental impact of its actions.[154]

(i) The FEIS Must Provide a Reasonably Complete Discussion of Severe Accident Mitigation Measures

"Although NEPA does not mention mitigation, by administrative practice and regulation mitigation . . . plays an important role in the discharge by federal agencies of their procedural duty under NEPA to prepare an EIS."[155] NEPA does not mandate implementation of a mitigation plan,

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[150] See Vt. Yankee Nuclear Power v. Natural Res. Def. Council, 435 U.S. 519, 558 (1978).

[151] Calvert Cliff's Coordinating Commission v. AEC, 449 F.2d 1109, 1112 (D.C. Cir. 1971).

[152] Contention 11 at 15 (quoting Robertson, 490 U.S. at 352); see also Miss. River Basin Alliance v. Westphal, 230 F.3d 170, 177 (5th Cir. 2000) (An EIS must include "a serious and thorough evaluation of environmental mitigation options.")

[153] Miss. River Basin Alliance v. Westphal, 230 F.3d at 176-77 (quoting Robertson, 490 U.S. at 352).

[154] See Contention 11 at 9-10, 15 (citing Warm Springs Dam Task Force v. Gribble, 621 F.2d 1017, 1023-24 (9th Cir. 1980); Essex County Preservation Ass'n v. Campbell, 536 F.2d 956, 960-61 (1st Cir. 1976); Society for Animal Rights, Inc. v. Schlesinger, 512 F.2d 915, 917-18 (D.C. Cir. 1975)).

[155] Thomas J. Schoenbaum and Richard B. Stewart, The Role of Mitigation and Conservation Measures in Achieving Compliance with Environmental Regulatory Statutes: Lessons from Section 316 of the Clean Water Act, 8 NYU Envtl. L.J. 237, 276 (2000).

but the Supreme Court has interpreted the statute, as well as the regulations issued by Council on Environmental Quality (CEQ), to require that an EIS include

> discussion of steps that can be taken to mitigate adverse environmental consequences. The requirement that an EIS contain a detailed discussion of possible mitigation measures flows both from the language of the Act and, more expressly, from CEQ's implementing regulations. Implicit in NEPA's demand that an agency prepare a detailed statement on "any adverse environmental effects which cannot be avoided should the proposal be implemented," 42 U.S.C. § 4332(C)(ii), is an understanding that the EIS will discuss the extent to which adverse effects can be avoided. . . . More generally, omission of a reasonably complete discussion of possible mitigation measures would undermine the "action-forcing" function of NEPA. . . . Recognizing the importance of such a discussion in guaranteeing that the agency has taken a "hard look" at the environmental consequences of proposed federal action, CEQ regulations require that the agency discuss possible mitigation measures in defining the scope of the EIS, 40 CFR § 1508.25(b) (1987), in discussing alternatives to the proposed action, § 1502.14(f), and consequences of that action, § 1502.16(h), and in explaining its ultimate decision, § 1505.2(c).[156]

The NRC's NEPA regulations impose the same requirement. The draft EIS must "include a preliminary analysis that considers and weighs . . . alternatives available for reducing or avoiding adverse environmental effects . . . ."[157] And the NRC's regulation governing preparation of an FEIS directs that the NRC Staff "prepare a final environmental impact statement in accordance with the requirements of . . . [10 C.F.R. § 51.71] for a draft environmental impact statement."[158]

The proposed action's effect on public health and safety is an environmental issue that must be evaluated under NEPA. Adverse environmental effects under NEPA include the impact of the proposed action on public health and safety.

> Although NEPA is primarily concerned about the environment, the regulations state that, in determining whether a federal action would 'significantly' affect the

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[156] Robertson, 490 U.S. at 352 (footnotes omitted).

[157] 10 C.F.R. § 51.71(d) (emphasis added).

[158] 10 C.F.R. § 51.90.

> environment, the agency should consider '[t]he degree to which the proposed action affects public health and safety.' 40 C.F.R. § 1508.27. The agency is therefore responsible for taking a 'hard look' at the project's effect on safety.[159]

Thus, the NRC's obligation to evaluate mitigation in an EIS for a new nuclear reactor license includes evaluating measures to mitigate the impact of severe accidents on public health and safety.[160]

In a COL proceeding such as this, the Commission may require implementation of mitigation measures it deems necessary and appropriate by imposing conditions in the license.[161] In addition, the NRC's record of decision for the license must" [s]tate whether the Commission has taken all practicable measures within its jurisdiction to avoid or minimize environmental harm from the alternative selected, and if not, to explain why those measures were not adopted."[162] The record of decision must also "[s]ummarize any license conditions and monitoring programs adopted in connection with mitigation measures."[163] It is therefore essential that the FEIS provide the Commission with a thorough evaluation of environmental mitigation options.

(ii) The NRC Must Take a Hard Look at Potentially Significant New Information

Because the Task Force Report was published after the FEIS for Calvert Cliffs Unit 3 was issued, Intervenors allege that the NRC Staff must supplement the FEIS to evaluate Recommendations 4, 7, and 8. According to Intervenors, the recommendations, and the gaps in the agency's regulations on which they are based, constitute significant new information relevant

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[159] City of Las Vegas v. FAA, 570 F.3d 1109, 1115 (9th Cir. 2009) (citing Metro. Edison Co. v. People Against Nuclear Energy, 460 U.S. 766, 772, 775 (1983)).

[160] Limerick Ecology Action v. NRC, 869 F.2d 719, 739-41 (3d Cir. 1989); see also CLI-11-05, 74 NRC __, __ (slip op. at 30) (Sept. 9, 2011).

[161] See 10 C.F.R. §§ 51.107(a)(3), 52.97(c).

[162] Id. § 51.103(a)(4).

[163] Id.

to the environmental consequences of the proposed action that must be evaluated in a supplement to the FEIS.

As the Supreme Court explained in Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 370 (1989), "[t]he subject of postdecision supplemental environmental impact statements is not expressly addressed in NEPA." The CEQ regulations implementing NEPA, however, require the preparation of a supplement to a draft or final EIS if, inter alia, "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts" arise.[164] Thus, if after the preparation of the EIS, the agency is presented with new information or changed circumstances and "there remains 'major federal action' to occur, and if the new information is sufficient to show that the remaining action will 'affec[t] the quality of the human environment' in a significant manner or to a significant extent not already considered, a supplemental EIS must be prepared."[165] However, "an agency need not supplement an EIS every time new information comes to light after the EIS is finalized. To require otherwise would render agency decision making intractable."[166]

On this issue, like the duty to consider mitigation in an EIS, the NRC's NEPA regulations parallel those of the CEQ. The Commission explained in its ruling denying the Emergency Petition that "[i]f . . . new and significant information comes to light that requires consideration as part of the ongoing preparation of application-specific NEPA documents, the agency will assess the significance of that information, as appropriate."[167] The NRC's regulations direct the Staff to prepare supplemental environmental review documents when:

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[164] See 40 C.F.R. § 1502.9(c)(1)(ii).

[165] Marsh, 490 U.S. at 374.

[166] Id. at 373 (footnote omitted).

[167] CLI-11-05, 74 NRC at __(slip op. at 30-31).

> (1) There are substantial changes in the proposed action that are relevant to environmental concerns; or
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> (2) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.[168]

The Commission stated that "[t]o merit this additional review, information must be both 'new' and 'significant,' and it must bear on the proposed action or its impacts. As we have explained, '[t]he new information must present 'a seriously different picture of the environmental impact of the proposed project from what was previously envisioned.'"[169]

Contention 11A thus alleges that the FEIS violates two NEPA requirements. If Intervenors prevail on those allegations, the license cannot be lawfully issued until the violation is corrected. Contention 11A is therefore material to the licensing decision.

(e) Contention 11A Includes a Concise Statement of the Alleged Facts or Expert Opinions that Support the Contention

Section 2.309(f)(1)(v) requires the Intervenors to provide a concise statement of the facts or expert opinions that support their position and upon which they intend to rely at the hearing.

To satisfy this requirement, Intervenors state that they "rely on facts and opinions of the Task Force members as set forth in their Task Force Report and as summarized [in Section B of Contention 11]. The high level of technical qualifications of the Task Force members has been recognized by the Commission."[170] Thus, the expert opinions on which the Intervenors rely are those of the NRC experts who prepared the Task Force Report. An agency violates NEPA when its EIS fails to adequately respond to the critical opinions of its own experts.[171] Thus, Intervenors

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[168] 10 C.F.R. § 51.92(a).

[169] CLI-11-05, 74 NRC at __ (slip op. at 31) (quoting Hydro Resources, Inc. (2929 Coors Road, Suite 101, Albuquerque, NM 87120), CLI-99-22, 50 NRC 3, 14 (1999)).

[170] Contention 11, at 18 (quoting May 12, 2011 Commission briefing transcript, at 5).

[171] See W. Watersheds Project v. Kraayenbrink, 632 F.3d 472, 492-93 (9th Cir. 2011).

may properly rely upon the opinions expressed in the Task Force Report as the basis of their proposed new contention. And Intervenors have provided the required "concise statement" of the expert opinions that support their position and upon which they intend to rely by summarizing Recommendations 4, 7, and 8, and citing the sections of the Task Force Report in which those recommendations appear.[172]

Intervenors have thus satisfied Section 2.309(f)(1)(v).

(f) Contention 11A Provides Sufficient Information to Show that a Genuine Dispute Exists in Regard to Material Issues of Law or Fact

The final admissibility criterion requires that Contention 11A reflect a genuine dispute with the FEIS on a material issue of law or fact.[173]

To satisfy Section 2.309(f)(1)(vi), Intervenors need not prove their case on the merits. They need only allege some facts or expert opinion that support their position and demonstrate a genuine dispute with the license application (or, in this instance, with the sufficiency of the FEIS). Explaining the level of support necessary for an admissible contention, the Commission observed:

> Although [the contention admissibility rule] imposes on a petitioner the burden of going forward with a sufficient factual basis, it does not shift the ultimate burden of proof from the applicant to the petitioner. . . . Nor does [the rule] require a petitioner to prove its case at the contention stage. For factual disputes, a petitioner need not proffer facts in "formal affidavit or evidentiary form," [sic] sufficient "to withstand a summary disposition motion." . . . On the other hand, a petitioner "must present sufficient information to show a genuine dispute" and reasonably "indicating that a further inquiry is appropriate."[174]

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[172] Contention 11, at 15. The Task Force Report sections cited by Intervenors describe in detail the basis of recommendations 4, 7, and 8. Those sections of the Task Force Report are summarized supra pp. 24-36.

[173] 10 C.F.R. § 2.309(f)(1)(vi).

[174] Yankee Atomic Elec. Co. (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 249 (1996) (citations omitted) (quoting Georgia Institute of Technology (Georgia Tech. Research Reactor), CLI-95-12, 42 N.R.C. 111, 118 (1995) (quotation errors in original); see also Gulf States Utilities Co. (River Bend Station, Unit 1), CLI-94-10, 40 NRC 43, 51 (1994).

Intervenors, by citing and relying on the Task Force Report, have presented sufficient information to show a genuine dispute and that "a further inquiry is appropriate."[175]

(i) Contention 11A Provides Sufficient Information to Show a Genuine Dispute Whether the FEIS Adequately Considers Severe Accident Mitigation Measures

A licensing board must admit an adequately supported contention alleging that the agency's NEPA analysis of severe accident mitigation alternatives is deficient.[176] Contention 11A alleges such a deficiency. It maintains that the FEIS's evaluation of accident mitigation alternatives fails to comply with NEPA and Part 51 because it fails to evaluate Task Force recommendations 4, 7, and 8. The Task Force Report, which constitutes the expert opinion supporting Contention 11A, contains sufficient information to demonstrate a genuine dispute with the sufficiency of the FEIS. By identifying new accident mitigation measures that are not evaluated in the FEIS, recommending that those measures be considered in pending COL reviews, and explaining why those measures are necessary for the protection of public health and safety, the Task Force Report provides sufficient support for Intervenors' argument that the FEIS fails to include a sufficient "discussion of steps that can be taken to mitigate adverse environmental consequences."[177]

Of course, although "it will always be possible to come up with some type of mitigation alternative that has not been addressed by the [FEIS]," every conceivable mitigation alternative does not require a detailed analysis.[178] But the Task Force's recommendations are significant because they come from the agency's own experts, following their detailed evaluation of one of

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[175] Yankee Nuclear Power Station, CLI-96-7, 43 NRC at 249.

[176] See McGuire Nuclear Station, CLI-02-17, 56 NRC at 9-10.

[177] Robertson, 490 U.S. at 352 (footnotes omitted).

[178] McGuire Nuclear Station, CLI-02-17, 56 NRC at 11.

the worst accidents in the history of the nuclear power industry. The agency's NEPA documents must address significant concerns raised by its own experts that are relevant to the proposed action.[179] Contention 11A alleges that the NRC has failed to comply with that obligation by failing to evaluate the Task Force's recommendations for enhancing accident mitigation capabilities at U.S. reactors. Contention 11A does not insist that the FEIS evaluate every conceivable mitigation alternative; it contends only that the NRC must fulfill its obligation under NEPA to take a hard look at mitigation alternatives recommended by its own experts.[180]

To be sure, the Intervenors have not yet proven that all of the Task Force's recommendations are necessary and appropriate for Unit 3. It is possible, for example, that the substance of recommendations 4 and 7 will be addressed in the certified design rulemaking for the EPR. The Task Force Report acknowledged this possibility.[181] But this does not preclude admission of the contention. The petitioner or intervenor need not prove that the analysis of mitigation is deficient; it is sufficient if the board finds "that a sufficient genuine dispute existed" concerning the alleged deficiency.[182] In McGuire Nuclear Station, the Commission affirmed the licensing board's decision admitting a contention challenging the adequacy of the licensee's severe accident mitigation alternatives (SAMA) analysis based on a report from Sandia National Laboratories. The Commission stated that "[w]hile the contention might have been more detailed or otherwise better supported, the Petitioners have done enough to raise a question

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[179] Western Watersheds Project v. Kraayenbrink, 632 F.3d 472, 492 (9th Cir. 2011) (Agency violated NEPA when it "failed to address concerns raised by its own experts, [the United States Fish and Wildlife Service], the [Environmental Protection Agency], and state agencies.").

[180] See id. at 493.

[181] Task Force Report at 71 (Stating that recommendations 4 and 7 "should apply to all design certifications or to COL applicants if the recommended requirements are not addressed in the referenced certified design.").

[182] McGuire Nuclear Station, CLI-02-17, 56 NRC at 9-10.

about the adequacy of the probability figures used in Duke's SAMA analysis, namely, whether they should have incorporated or otherwise acknowledged information from the Sandia study."[183] Although Duke contended that its own data were most appropriate for the SAMA analysis, and the Board acknowledged that Duke might be correct, the Commission agreed that "[w]hether the SAMA analysis in fact should have addressed the study was a question for the merits."[184]

In this case, Intervenors have done enough to justify admitting their contention by citing mitigation alternatives that the Task Force concluded should be considered in pending COL reviews. By citing relevant portions of the Task Force Report, Intervenors have made a "showing sufficient to require reasonable minds to inquire further," which is all that our case law requires of them for a NEPA contention.[185] Whether the FEIS must be supplemented to address those new recommendations is the question to be decided on the merits. Potential defenses, such as the claim that some aspects of the recommendations have been or will be addressed in the certified design rulemaking, do not preclude admission of Contention 11A. As the Commission has acknowledged, "the primary obligation of satisfying the requirements of NEPA rests on the agency."[186] Thus, the NRC Staff, not the Intervenors, has the duty under NEPA to evaluate the suitability of the accident mitigation alternatives recommended in the Task Force Report. "'Compliance with NEPA is a primary duty of every federal agency; fulfillment of this vital

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[183] Id. at 7.

[184] Id. at 9.

[185] Union Elec. Co. (Callaway Plant, Units 1 and 2), ALAB-348, 4 NRC 225, 229 (1976) (quoting Indiana & Michigan Elec. Co. v. FPC, 502 F.2d 336, 339 (D.C. Cir. 1974)).

[186] Pa'ina Hawaii, LLC, CLI-10-18, 72 NRC 56, 82 (2010).

responsibility should not depend on the vigilance and limited resources of environmental plaintiffs.'"[187]

(ii) Contention 11A Provides Sufficient Information to Show a Genuine Dispute Whether the NRC must Supplement the FEIS in Light of Significant New Information

Had the Task Force Report been published before the FEIS was issued, my analysis would be complete at this point. But, because the Report was issued after the FEIS, I must also determine whether Intervenors have raised a genuine dispute on the second NEPA issue: whether the NRC has violated its duty to supplement the FEIS in response to new and significant information.

"An agency that has prepared an EIS cannot simply rest on the original document. The agency must be alert to new information that may alter the results of its original environmental analysis, and continue to take a 'hard look' at the environmental effects of [its] planned action, even after a proposal has received initial approval."[188] Contention 11A alleges that the NRC has violated that duty by failing to supplement the FEIS in response to the new and significant Task Force recommendations for enhanced accident mitigation capability at U.S. reactors. The NRC must supplement the FEIS if it learns of "new and significant circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."[189]

The question at the contention admissibility stage, however, is not whether the regulatory standard for supplementing the FEIS is met. That is the issue to be decided on the merits, and, as the Commission has instructed us, we are not to decide the merits at the contention

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[187] Friends of Clearwater v. Dombeck, 222 F.3d 552, 559 (9th Cir. 2000) (quoting City of Davis v. Coleman, 521 F.2d 661, 667 (9th Cir. 1975)).

[188] Id. at 557-58 (quoting Marsh, 490 U.S. at 373-74).

[189] 10 C.F.R. § 51.92(a)(2).

admissibility stage.[190] At this point, the Board need only decide whether Intervenors have "present[ed] sufficient information to show a genuine dispute" concerning the NRC's duty to supplement the FEIS, and reasonably indicating that further inquiry concerning that issue is appropriate.[191]

The Task Force Report is certainly new information; it was published several months after the FEIS was issued. Recommendations 4, 7, and 8 are intended to improve the accident mitigation capability of U.S. reactors and thereby enhance the protection of public health and safety, and the proposed action's impact on public health and safety is an environmental concern that the NRC must address in the FEIS. Thus, the new information in the Task Force Report is "relevant to environmental concerns."[192] The Task Force intended that recommendations 4, 7, and 8 be considered in all pending COL reviews. Calvert Cliffs Unit 3 is currently the subject of such a review, and thus the recommendations that are the basis of Contention 11A "have a bearing on the proposed action or its impacts."[193]

The remaining question is whether the new information is "significant" to evaluating the environmental consequences of the proposed action. The Commission has stated that, to be significant, "[t]he new information must present 'a seriously different picture of the environmental impact of the proposed project from what was previously envisioned.'"[194] Here, the environmental impact of concern is the proposed action's impact upon public health and safety in

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[190] Yankee Nuclear Power Station, CLI-96-7, 43 NRC at 249.

[191] Id.

[192] 10 C.F.R. § 51.92(a)(2).

[193] Id.

[194] CLI-11-05, 74 NRC at __(slip op. at 31) (quoting Hydro Resources, CLI-99-22, 50 NRC at 14).

the unlikely event of a severe accident. The accident mitigation capability of Calvert Cliffs Unit 3 is a significant factor in assessing that impact: the greater the mitigation capability, the lower the expected impact would be. Therefore, to determine whether the new information in the Task Force Report is potentially significant, and therefore justifies admitting Contention 11A, the Board should compare the analysis of severe accident mitigation in the FEIS with the new information on that subject in the Task Force Report.

The FEIS paints a reassuring picture of the accident mitigation capability of Calvert Cliffs Unit 3 and its ability to provide defense-in-depth in the event of a severe accident. Concerning U.S. reactors generally, the FEIS states:

> Numerous features combine to reduce the risk associated with accidents at nuclear power plants. Safety features in the design, construction, and operation of the plants, which compose the first line of defense, are intended to prevent the release of radioactive materials from the plant. The design objectives and the measures for keeping levels of radioactive materials in effluents to unrestricted areas ALARA are specified in 10 CFR Part 50, Appendix I. Additional measures are designed to mitigate the consequences of failures in the first line of defense. These measures include the NRC's reactor site criteria in 10 CFR Part 100, which require the site to have certain characteristics that reduce the risk to the public and the potential impacts of an accident, and emergency preparedness plans and protective action measures for the site and environs . . . . All of these safety features, measures, and plans make up the defense-in-depth philosophy to protect the health and safety of the public and the environment.[195]

The FEIS also evaluated Severe Accident Mitigation Alternatives (SAMAs) in order "to determine whether there are severe accident mitigation design alternatives (SAMDAs) or procedural modifications or training activities to further reduce the risks of severe accidents."[196] The Staff accepted Unistar's conclusions that none of the 167 design alternatives (SAMDAs) evaluated in its Environmental Report could be justified on the

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[195] FEIS at 5-75 to 5-76.

[196] Id. at 5-88 (citation omitted).

basis of a cost-benefit analysis.[197] According to the FEIS, "Unistar determined that the maximum averted cost risk for a single U.S. EPR at the Calvert Cliffs site is so low that none of the SAMDAs is cost beneficial."[198] Similarly, the FEIS concludes that "because the maximum attainable benefit is so low, a SAMA based on procedures or training would have to reduce the [core damage frequency] or risk to near zero to become cost beneficial. Based on its evaluation, the staff concludes that it is unlikely that any of the SAMAs based on procedures or training would reduce the [core damage frequency] or risk that much."[199]

Thus, the overall picture presented in the FEIS is that Calvert Cliffs Unit 3 will have numerous features to reduce the risk associated with accidents, that these features will assure adequate protection of public health and the environment in the unlikely event of a severe accident, and that any residual risk is so small that the NRC need not require additional accident mitigation measures.

In contrast, the Task Force Report raises significant concerns about the accident mitigation capability of U.S. reactors based on lessons learned from the Fukushima accident, and concludes that significant benefits to public health and safety could be obtained by enhancing the accident mitigation capability of U.S. reactors. For example, concerning Recommendation 4 for enhanced SBO mitigation capability, the Report identifies potential problems that the NRC's current regulations fail to address and recommends regulatory changes that would significantly reduce the impact of a SBO. The NRC's current SBO regulation, 10 C.F.R. § 50.63, requires that each nuclear power plant be able to cool the reactor core and maintain containment integrity in the event of a SBO of a specified duration. NRC Regulatory Guide 1.155 provides a method of

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[197] Id. at 5-89.

[198] Id.

[199] Id.

calculating the required duration for withstanding an SB0 based on the four factors identified in the regulation. "The result for all operating plants was a coping duration of 4 to 8 hours."[200] Thus, "[t]he Commission's SBO requirements provide assurance that each nuclear power plant can maintain adequate core cooling and maintain containment integrity for its approved coping period [typically 4 or 8 hours] following an SBO."[201] But this will not necessarily be sufficient, for reasons the Report explains:

> [t]he implementing guidance for SBO focuses on high winds and heavy snowfalls in assessing potential external causes of loss of offsite power, but does not consider the likelihood of loss of offsite power from other causes such as earthquakes and flooding. Also, the SBO rule does not require the ability to maintain reactor coolant system integrity (i.e., PWR reactor coolant pump seal integrity) or to cool spent fuel. Further, the SBO rule focuses on preventing fuel damage and therefore does not consider the potential for the buildup of hydrogen gas inside containment during a prolonged SBO condition and the potential need to power hydrogen igniters in certain containment designs to mitigate the buildup of hydrogen. Nor does it consider containment overpressure considerations and the need to vent the containment in certain designs. Finally, the SBO rule does not require consideration of the impact on the station, and particularly on the onsite ac generation and distribution, of the natural event that caused the loss of offsite ac electrical power.[202]

The Task Force concluded that "revising 10 C.F.R. § 50.63 to expand the coping capability to include cooling the spent fuel, preventing a loss-of-coolant accident, and preventing containment failure would be a significant benefit."[203] Revising the regulation to incorporate these changes would "further enhance the ability of nuclear power plants to deal with the effects of prolonged SBO conditions at single and multiunit sites without damage to the nuclear fuel in the

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[200] Task Force Report at 33.

[201] Id. at 35.

[202] Id. The Task Force's concerns with the buildup of hydrogen gas inside containment during a prolonged SBO condition, the potential need to power hydrogen igniters, and containment overpressure and the need to vent the containment appear to be directed at BWRs. However, the Task Force's other concerns are also relevant to PWRs.

[203] Id. at 35.

reactor or spent fuel pool and without the loss of reactor coolant system or primary containment integrity."[204] Moreover, as previously explained, the Task Force stated that this recommendation (among others) should be applied in all pending COL reviews, thereby making it applicable to Calvert Cliffs Unit 3. Thus, the Task Force effectively recommends what the FEIS rejects: requiring enhanced accident mitigation capability at Calvert Cliffs Unit 3.

Task Force recommendation 7 paints a similar picture of the need for enhanced accident mitigation capability at U.S. reactors to address another lesson learned from the Fukushima accident. The Report states that "clear and coherent requirements to ensure that the plant staff can understand the condition of the spent fuel pool and its water inventory and coolability and to provide reliable, diverse, and simple means to cool the spent fuel pool under various circumstances are essential to maintaining defense-in-depth."[205] But the Report concludes that the current fleet of U.S. reactors lacks such defense-in-depth:

> [c]urrent spent fuel pool instrumentation provides limited indication and typically depends on the availability of dc electrical power at the facility. That power is provided either through inverters powered by ac electrical power or by the station's safety-grade redundant battery banks. Direct spent fuel pool level indication is rarely provided in the control room for the current nuclear fleet. Typically, level is measured using a level switch in the skimmer surge tank. During a prolonged SBO, ac power would not be available and the battery banks would be depleted, resulting in functional failure of nearly all instrumentation and control systems for monitoring spent fuel pool parameters and operating systems ensuring the integrity of the fuel in the spent fuel pools.[206]

Recommendation 7 addresses the problems the Task Force identified by requiring enhanced spent fuel pool makeup capability and instrumentation, thereby providing the

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[204] Id. at 37.

[205] Id. at 45.

[206] Id. at 44.

defense-in-depth that the Task Force found necessary.[207] Here again, the Task Force effectively recommends what the FEIS rejects.

As previously explained, the FEIS concludes that SAMAs based on improved procedures or training could not be justified "because the maximum attainable benefit is so low."[208] In contrast, the Task Force concluded that Recommendation 8, which calls for "strengthening and integrating emergency response capabilities such as EOPs, SAMGs, and EDMGs;" would significantly enhance the protection of public health and safety.[209] According to the Task Force, "[t]he accidents at Fukushima highlight the importance of having plant operators who are well prepared and well supported by technically sound and practical procedures, guidelines, and strategies."[210] The Task Force observed that "[t]he effectiveness of onsite emergency actions is a very important part of the overall safety of nuclear power plants," and that "[t]he NRC could strengthen the current system substantially by requiring more formal, rigorous, and frequent training of reactor operators and other onsite emergency response staff on realistic accident scenarios with realistic conditions."[211]

The Task Force concluded that SAMGs, which are currently voluntary industry initiatives, should be regulatory requirements. The Report explains:

> To gain insights into the current implementation of the SAMGs, the Task Force requested that NRC inspectors collect information on how each licensee had implemented that industry voluntary initiative. The inspectors collected information on the initial implementation, ongoing training, and maintenance of the SAMGs . . . . The results of the inspection . . . reinforced the value of making SAMGs a

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[207] Id. at 45-46.

[208] FEIS at 5-89.

[209] Task Force Report at 45-46.

[210] Id. at 48.

[211] Id. at 49.

> requirement. The inspectors observed inconsistent implementation of SAMGs and attributed it to the voluntary nature of this initiative.[212]

The Task Force also found that, although "U.S. plants have addressed all of the elements of onsite emergency actions that need to be accomplished by reactor operators[,] . . . the overall effectiveness of those programs could be substantially enhanced through further integration, including clarification of transition points, command and control, decisionmaking, and through rigorous training that includes conditions that are as close to real accident conditions as feasible."[213]

The Task Force also determined that "action is warranted to confirm, augment, consolidate, simplify, and strengthen current regulatory and industry programs in a manner that produces a single, comprehensive framework for accident mitigation, built around NRC-approved licensee technical specifications."[214] The Task force found that integration of EOPs, SAMGs, EDMGs, and other important elements of emergency procedures, guidance, and tools, together with appropriate regulatory requirements to ensure the effectiveness of operator actions during events, would "substantially increase the effectiveness of the overall event mitigation."[215] The Task Force also concluded that the NRC's requirements in this area should be expanded to cover beyond-design-basis events.

> Since the current requirements in this area apply only to normal operation and emergencies within the plant's design basis, they appear outdated and inconsistent with Commission decisions in policy statements and rulemakings to regulate accident mitigation in other areas beyond the plant's design basis. The Task Force concludes that an expansion of the regulatory requirements to include procedures for beyond-design-basis events is warranted, and that such an

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[212] Id. at 48.

[213] Id. at 48-49.

[214] Id. at 49.

[215] Id.

> expansion would redefine the scope of such activities to include them in the regulatory framework to provide defense-in-depth and to ensure adequate protection of public health and safety.[216]

Thus, the NRC's experts have made three recommendations to improve the accident mitigation capability of U.S. reactors. According to those experts, there are significant gaps in the NRC's current regulations and a corresponding need to close those gaps with new requirements in order to adequately protect public health and safety in the event (however unlikely) of a severe accident. The Task Force's analysis applies with as much force to Unit 3 as to any other existing or proposed U.S. reactor. But the FEIS fails to mention, much less evaluates, any of the Task Force's recommendations, nor does it acknowledge any other aspect of the Task Force Report or the Fukushima accident itself. The Task Force Report thus paints a significantly different picture of the accident mitigation capabilities of U.S. reactors and the need to enhance those capabilities than the far more sanguine picture presented in the FEIS.

The significance of the Task Force recommendations to the adequate protection of public health and safety is further demonstrated by the Commission's recent orders making all U.S. power reactors, including Calvert Cliffs Units 1 and 2, subject to additional requirements stemming from Task Force Recommendations 4 and 7. The Commission's orders leave no doubt of the importance of those recommendations to ensure attainment of "fundamental NRC regulatory objectives": reasonable assurance of adequate protection of public health and safety and assurance of the common defense and security.[217]

The Task Force Report is therefore sufficient to raise a genuine dispute concerning the NRC's duty to supplement the FEIS. An agency violates NEPA when it fails to take a hard look at significant safety concerns raised by qualified experts to determine whether they require a

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[216] Id.

[217] 77 Fed. Reg. at 16,083; id. at 16,092; see supra p. 36.

supplemental EIS (SEIS).[218] It makes no difference that, as the Staff notes, "the Task Force Report does not take any position on NRC's environmental reviews."[219] It is equally irrelevant that the Commission's recent orders are not directed at NEPA compliance. Alternatives to mitigate the impacts of severe accidents must be given careful consideration in EISs supporting NRC licensing decisions.[220] That obligation is not contingent upon whether the agency's experts or Commission orders question the adequacy of the agency's NEPA reviews.[221]

To satisfy the hard look requirement, the NRC must provide detailed analysis of the new information and a reasonable explanation of the agency's decision concerning supplementation, not merely a conclusory assertion that the agency has reviewed the new information and concluded that no supplement is required. For example, in Warm Springs Dam Task Force v. Gribble,[222] the Army Corps of Engineers had conducted an extensive 10-month study of new information to determine whether further NEPA analysis was required.[223] Similarly, in Friends of Clearwater v. Dombeck, the Forest Service had prepared a "supplemental information report," which is a "formal instrument[] for documenting whether new information is sufficiently significant to trigger the need for a SEIS," and "several other analyses that specifically addressed the

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[218] See Warm Springs Task Force, 621 F.2d at 1025.

[219] NRC Staff Response at 9.

[220] Limerick, 869 F.2d at 741.

[221] In fact, the agency policy at issue in Limerick was that SAMDAs should not be considered in the agency's NEPA reviews for individual facilities, yet the court held the SAMDAs must be given careful consideration in the Limerick EIS. 869 F.2d at 727, 741.

[222] 621 F.2d at 1017.

[223] Id. at 1025-26. The study was completed after the agency's final decision, but before the case was heard on appeal. The court of appeals held that the agency's hard look cured the NEPA violation, and therefore remand to the district court was unnecessary.

significance of the new information."[224] The court of appeals "conclud[ed] that the Forest Service [had] taken the requisite 'hard look' at the newly-designated sensitive species[—albeit only after it faced this litigation]— . . . , and that its determination that an SEIS [was] not required [was] not arbitrary and capricious."[225]

In this case, in contrast, the NRC Staff has not claimed, much less demonstrated, that it has performed or intends to perform any detailed analysis to determine whether the FEIS should be supplemented. On the contrary, the Staff's position is that "if Intervenors have new design features they wish to see implemented at nuclear facilities, the correct procedural option is to file a Petition for Rulemaking under 10 C.F.R. § 2.802 rather than contentions in individual proceedings."[226] Thus, the Staff's position appears to be that all of Contention 11, and thus necessarily Contention 11A, is outside the scope of its NEPA obligations concerning Calvert Cliffs Unit 3.

Intervenors, however, are not requesting implementation of new mitigation alternatives at nuclear facilities generally. They are requesting that new mitigation measures recommended by the agency's experts be evaluated in the FEIS as alternatives for one specific nuclear facility: Calvert Cliffs Unit 3. Absent a valid regulation limiting the agency's NEPA obligations, the consideration of alternative severe accident mitigation measures may not be excluded from the agency's NEPA reviews,[227] and the agency's refusal to conduct such an analysis is therefore an appropriate subject for litigation in a licensing proceeding when, as here, no such regulation

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[224] 222 F.3d at 555, 559.

[225] Id. at 561. Accordingly, although the court of appeals held that the agency violated NEPA by not taking the required hard look before suit was filed, it affirmed the district court's decision not to enter injunctive relief. Id.

[226] Staff Response at 15.

[227] See Limerick, 869 F.2d at 739.

applies. Contention 11A therefore presents a genuine dispute concerning the agency's legal obligations under NEPA that is appropriate for resolution in the hearing process.

I would therefore admit Contention 11A. Intervenors have presented, at a minimum, sufficient information to show a genuine dispute and that "a further inquiry is appropriate."[228]

D. Although CLI-12-07 Requires that the Board Reject Contention 11A, that Result Should be Reconsidered

Under the Commission's holding in CLI-12-07, any new contention based on the Task Force Report must allege unique characteristics of the site or the proposed new reactor and show that they are significant with respect to the Task Force's recommendations. Although this requirement precludes the Board from admitting Contention 11A, I respectfully submit that its application to the Contention should be reconsidered.

The issue raised by Contention 11A, the NRC's duty to evaluate severe accident mitigation measures in its NEPA review for Calvert Cliffs Unit 3, presents virtually the same NEPA issue that was resolved against the agency in Limerick Ecology Action v. NRC.[229] The Third Circuit held that the agency violated NEPA by failing to evaluate SAMDAs in its EIS for the Limerick Nuclear Power Generating Station Unit 1 operating license (the Limerick EIS). Like the present case, Limerick arose in the aftermath of another serious nuclear power plant accident, the accident at Three Mile Island Unit 2. Before the Three Mile Island accident, the NRC "thought severe accidents too unlikely to justify consideration of their likelihood in reviewing and determining the safety of nuclear power plants."[230] But the NRC "retreated from that viewpoint

[228] Yankee Nuclear Power Station, CLI-96-7, 43 NRC at 249.

[229] Limerick, 869 F.2d at 729-41.

[230] Id. at 728.

following the TMI accident and subsequently set safety goals with respect to severe accidents."[231] The agency also "initiate[d] a research program into severe accident risks and mitigation alternatives, including a review of Limerick and other facilities located near major population centers."[232] Nevertheless, in a policy statement, the NRC directed that SAMDAs "should not be studied on a case-by-case basis," "excluded consideration of [SAMDAs] from individual licensing proceedings," and also "excluded environmental considerations under NEPA" related to SAMDAs from the Limerick licensing proceeding.[233]

As a result of this NRC policy, SAMDAs were not evaluated in the Limerick EIS. An intervenor group, Limerick Ecology Action, challenged this omission. It argued that "'[f]iltered-vented containment systems,'" one of the mitigation alternatives studied by the NRC, should have been considered in the Limerick EIS.[234] The Appeal Board affirmed the Licensing Board decision excluding the contention. The Appeal Board "noted that because the [Commission's] Final Policy Statement found that existing plants posed no undue risk to the public health and safety and that research was ongoing, the policy statement precluded review of design alternatives."[235] The Appeal Board further ruled that the policy statement precluded NEPA contentions as well as safety contentions because NEPA could not logically require more than the Atomic Energy Act (AEA).[236] After the Commission affirmed the Appeal Board's decision, the intervenor petitioned for review in the Third Circuit.

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[231] Id.

[232] Id. at 726.

[233] Id. at 727.

[234] Id. at 726.

[235] Id. at 732.

[236] Id. at 732-33.

The court of appeals granted the petition for review as to the NEPA issue.[237] The court ruled that the NRC must evaluate measures to mitigate the effects of severe accidents under NEPA even if the agency finds that granting a license will be consistent with the adequate protection of public health and safety standard of Section 182(a) of the AEA, 42 U.S.C. § 2232(a).[238] The court further concluded that the Limerick EIS "failed adequately to consider SAMDAs and, therefore, the decisionmaker did not take the requisite 'hard look' at SAMDAs," and that "the underlying issue of SAMDAs may not be treated as a generic issue and therefore summary treatment of SAMDAs was inappropriate."[239] The court of appeals noted that the NRC's own NEPA regulations require that the agency consider "the alternatives available for reducing or avoiding adverse environmental and other effects."[240] The court of appeals concluded that "the NRC was required to address SAMDAs and cannot now look to sufficiency under the AEA to avoid that obligation."[241]

More than two decades after Limerick was decided, the agency finds itself in a similar position. The Fukushima accident, like the Three Mile Island accident, has caused the NRC to reassess the sufficiency of its regulatory program for protection of public health and safety. In

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[237] Id. at 741.

[238] The court of appeals agreed with the intervenor that "[t]he language of NEPA indicates that Congress did not intend that it be precluded by the AEA." 869 F.2d at 730-31. The Third Circuit determined that the legislative history and case law require compliance with NEPA unless compliance is impossible, or another statute specifically prohibits compliance with NEPA. Id. at 729–30. In this case, the NRC did not argue that compliance was impossible, and the Atomic Energy Act does not expressly prohibit compliance with NEPA; thus the Third Circuit found that the NRC could not look to the sufficiency of safety standards enacted under the Atomic Energy Act to avoid its NEPA obligations. See id. at 730–31.

[239] Id. at 739.

[240] Id. at 730 (quoting 10 C.F.R. § 51.71(d)).

[241] Id. at 730-31.

response to the Fukushima accident, a task force of the agency's experts has made detailed recommendations to enhance the capability of U.S. reactors to mitigate the impact of a severe accident on public health and safety. The same requirement that the court of appeals relied on in Limerick, that the agency consider "the alternatives available for reducing or avoiding adverse environmental and other effects,"[242] remains in force. The NRC did include an evaluation of SAMAs in the FEIS,[243] but the FEIS was issued before the Task Force Report and thus did not evaluate its recommendations. Intervenors here, like the intervenor in Limerick, have identified specific accident mitigation measures recommended by the Task Force that they maintain must be evaluated in the agency's NEPA review for Unit 3. The agency's position in Limerick was that SAMDAs need not be considered in the EIS because "ongoing studies were still considering design alternatives,"[244] and that it could refuse to review SAMDAs in the Limerick EIS absent "special or unique circumstances about the Limerick site and environs that would warrant consideration of alternatives for Limerick Units 1 and 2."[245] Those arguments were evidently not persuasive to the Third Circuit, nor were any of the agency's other justifications for excluding SAMDAs from the Limerick EIS. Nevertheless, as it did with SAMDAs in Limerick, the NRC has attempted to exclude evaluation of the new mitigation alternatives recommended by the Task Force from individual NEPA reviews and licensing proceedings unless intervenors identify factors unique to the site or the proposed new reactor.[246]

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[242] Id. at 730 (quoting 10 C.F.R. § 51.71(d)).

[243] FEIS at 5-88 to 5-89. SAMAs include both SAMDAs and "procedural modifications or training activities that can be justified to further reduce the risks of severe accidents." Id. at 5-88.

[244] 869 F.2d at 733.

[245] Id. at 732 (quoting the Limerick FEIS at 5-126).

[246] See CLI-12-07, 75 NRC __, __ (slip op. at 9-13) (Mar. 16, 2012).

The Commission's analysis begins by noting its previous ruling in CLI-11-05 that a generic NEPA analysis of the Fukushima accident and the Task Force Report is premature given the agency's ongoing evaluation of the accident.[247] The Commission then implies that a contention based on the Report or the accident that seeks a site-specific NEPA review is the equivalent of the request for a generic NEPA analysis that the Commission previously rejected, unless it is based on factors unique to the site or the proposed new reactor.[248] The Commission accordingly affirmed the licensing board decisions not to admit Fukushima contentions because they were "akin to the generic type of NEPA review that [the Commission] declared premature in CLI-11-05."[249]

Contention 11A, however, cannot be dismissed as a request for a "generic type of NEPA review," even though it is based on the Task Force Report rather than factors unique to the site or the proposed new reactor. If an environmental issue is common to all or a number of U.S. reactors, the NRC may in its discretion decide to prepare a generic EIS to evaluate the issue. As the D.C. Circuit recently explained, "[b]oth the Supreme Court and this court have endorsed the Commission's longstanding practice of considering environmental issues through general rulemaking in appropriate circumstances."[250] Thus, a comprehensive generic analysis may be used to evaluate "on-site risks that are essentially common to all plants," as long as the agency provides "the opportunity for concerned parties to raise site-specific differences at the time of a specific site's licensing."[251]

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[247] CLI-12-07, 75 NRC at __ (slip op. at 8).

[248] See id. (slip op. at 9-13).

[249] Id. (slip op. at 9).

[250] New York v. NRC, 681 F.3d 471, 480 (D.C. Cir. 2012).

[251] Id.

Therefore, a generic NEPA review is, by definition, based on factors that are not unique to any particular site. But it does not follow that a contention based on an expert report that is not focused on a particular site is necessarily a request for a generic NEPA review. Contention 11A does not request that the implications of Task Force Recommendations 4, 7, and 8 be assessed at any proposed new reactor other than Calvert Cliffs Unit 3. Whether the recommendations are indeed appropriate for Unit 3 must be determined based on the characteristics of the nuclear power plant to be constructed at the site, the risks to the surrounding population, and other factors that the Staff must evaluate to determine whether the recommendations will be beneficial in the event of a severe accident at Unit 3. Thus, the resolution of the contention will necessarily be based on site and reactor-specific factors that would be outside the scope of a generic NEPA review. Therefore, the fact that Contention 11A does not refer to site-specific factors does not mean that is a request for a generic EIS. As the Third Circuit stated in Limerick, "the impact of SAMDAs on the environment will differ with the particular plant's design, construction and location,"[252] and therefore "the underlying issue of SAMDAs may not be treated as a generic issue and . . . summary treatment of SAMDAs was inappropriate."[253] This conclusion applies with equal force to Task Force recommendations 4, 7, and 8. Contention 11A may therefore not be rejected as a request for a generic NEPA review.

Moreover, even assuming that the application of Task Force recommendations 4, 7, and 8 to Calvert Cliffs Unit 3 could have been resolved in a generic EIS, the NRC has neither prepared such a generic NEPA document nor indicated the intent to do so. If the NRC had appropriately chosen to prepare a generic EIS analyzing the applicability of Task Recommendations 4, 7, and 8 to all U.S. reactors, it could justifiably insist that any demand for a site-specific analysis of that

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[252] 869 F.2d at 738.

[253] Id. at 739.

issue be based on factors unique to the site or reactor because the common factors would have been covered in the generic EIS. But, in CLI-11-05, the Commission rejected the request to prepare a generic EIS to evaluate the implications of the Fukushima accident and the Task Force Report. Having made that choice, the NRC may not now insist that the request for a NEPA analysis of the implications of Task Force Report for Unit 3 (or any other specific facility) be based on factors unique to the site or reactor. As the D.C. Circuit explained, "whether the analysis is generic or site-by-site, it must be thorough and comprehensive."[254] Thus, the NRC must produce a comprehensive and thorough NEPA analysis of all NEPA issues relevant to Calvert Cliffs Unit 3, including mitigation of severe accidents, and if the issue is not covered in a generic EIS it must be covered in the site-specific NEPA document.

It is therefore sufficient that the Task Force Report states that recommendations 4, 7, and 8 should be considered in pending COL reviews, which activates the NRC's duty to take a hard look at them as accident mitigation measures for Unit 3. The license application for Unit 3 is one of the COL reviews currently pending before the NRC Staff, and therefore the recommendations apply as much to Unit 3 as to any other proposed new reactor undergoing COL review. Nothing in the recommendations suggests that their applicability to any pending COL review is contingent upon unique characteristics of the site or the proposed new reactor.

That the Task Force recommendations are not limited to sites or reactors with unique characteristics is confirmed by the Commission's recent orders imposing requirements derived from recommendations 4 and 7 on all current nuclear power reactor licensees and on CP holders. Those orders were not limited to reactors with particular site or design characteristics.[255] Because of the orders, Calvert Cliffs Units 1 and 2 must comply with the substance of Task Force

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[254] New York v. NRC, 681 F.3d at 480-81.

[255] See supra. p. 36.

recommendations 4 and 7, yet the FEIS for Unit 3 is completely silent as to whether, or how, any of the Task Force recommendations will be applied to the proposed new reactor at the same site.

This omission frustrates NEPA's twin goals of "forc[ing] agencies to take a 'hard look' at the environmental consequences of a proposed project, and, making relevant analyses openly available, to permit the public a role in the agency's decision-making process."[256] An impact statement cannot fulfill its role of providing "a springboard for public comment"[257] if it fails to evaluate significant issues such as measures that the agency's experts recommend to mitigate the consequences of a severe accident. "The impact statement must be sufficient to enable those who did not have a part in its compilation to understand and consider meaningfully the factors involved."[258] But, if the FEIS fails to address the Task Force recommendations for enhanced mitigation, it will fail to inform the public whether or how the NRC intends to apply the Task Force recommendations to Unit 3 in order to close the gaps in the agency's regulations that the Task Force identified. This would frustrate NEPA's intent that the FEIS should provide the public with detailed information concerning significant environmental impacts of the proposed federal action and alternatives available to mitigate those impacts.[259] If the FEIS fails to explain whether or how the NRC intends to apply the Task Force recommendations for enhanced mitigation to Calvert Cliffs Unit 3, it would fail to "fulfill its vital role of 'exposing the reasoning and data of the agency proposing the action to scrutiny by the public and by other branches of the government.'"[260]

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[256] La. Energy Services, L.P. (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87 (1998) (citing Robertson, 490 U.S. at 349–50; Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 443 (4th Cir.1996)).

[257] Robertson, 490 U.S. at 349 (citation omitted).

[258] Limerick, 869 F.2d at 737.

[259] See Robertson, 490 U.S. at 349-52.

[260] State of Alaska v. Andrus, 580 F.2d 465, 475 (D.C. Cir. 1978) (quoting NRDC v. Callaway,

In CLI-12-07, the Commission referred to its ongoing review of the Fukushima accident and the Task Force Report,[261] and suggested that the Report is only "inchoate information" that has no present impact on its NEPA obligations for specific facilities.[262] Even if the Commission is still reviewing the Task Force's recommendations, however, the agency must take a hard look at the implications of the new information for the proposed action before it makes the licensing decision for Unit 3. In Friends of Clearwater v. Dombeck, the court held that "the Forest Service's failure to evaluate in a timely manner the need to supplement the original EIS in light of . . . new information violated NEPA."[263] It admonished the Forest Service for failing to comply with NEPA by waiting until suit was filed to take a hard look at the new information and to "consider whether the seven new sensitive species designations . . . upon which the original EIS relied were sufficiently significant to require preparation of an SEIS."[264]

The hard look requirement applies even if the implications of the new and potentially significant information are not entirely clear. In Warm Springs Dam Task Force v. Gribble,[265] the Ninth Circuit held that the Army Corps of Engineers' SEIS for a new dam violated NEPA because it failed to take a hard look at a new report by from the United States Geological Survey which suggested that the dam might experience an earthquake stronger than the SEIS indicated it was designed to withstand.[266] The accuracy of the report was "far from settled" at the time of

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524 F.2d 79, 93-94 (2d Cir. 1975); Silva v. Lynn, 482 F.2d 1282, 1286-7 (1st Cir. 1973)).

[261] CLI-12-07, 75 NRC at __ (slip op. at 8-9).

[262] See id (slip op. at 14).

[263] 222 F.3d at 559.

[264] Id. at 558.

[265] 621 F.2d at 1017.

[266] See id. at 1025. The case concerned a Corps project to construct a 319-foot earth-fill dam in

litigation, and "admittedly dealt in possibilities. [Thus, this report] was more significant for the questions it raised than for the answers it gave."[267] Nonetheless, the Court of Appeals held that the new information required the Corps to take a hard look at the report.[268] According to the Court, "[w]hen new information comes to light the agency must consider it, evaluate it, and make a reasoned determination whether it is of such significance as to require implementation of formal NEPA filing procedures."[269] The Court held that "[w]hile not so definitive as to compel initiation of the formal supplementation process, [the] study raised sufficient environmental concerns to require the Corps to take another hard look at the issues."[270]

Thus, potentially significant new information related to public health and safety cannot be dismissed from the NEPA analysis because it is "more significant for the questions it raise[s] than for the answers it g[ives]"; it still requires a hard look under NEPA.[271] The NRC is not absolved of its NEPA duty to take a hard look at the new information because the Task Force Report raises questions and concerns about the safety of domestic nuclear reactors and makes suggestions about strengthening current safety regulations for these reactors, but the NRC has not yet decided how those recommendations should be implemented at Unit 3. Thus, even if all the

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California. Id. at 1019. The Corps prepared an EIS, followed by a SEIS "addressing the problems of seismic safety and water quality." Id. The report mapped fault lines at and surrounding the dam site and estimated that fault lines near the dam site were longer than the Corps had estimated in its SEIS. See id. at 1020–21. Therefore, it was possible that these fault lines could cause higher magnitude earthquakes at the dam site than those discussed in the SEIS. See id. at 1025.

[267] Id.

[268] See id.

[269] Id. at 1024.

[270] Id. at 1025.

[271] Id. at 1025.

implications of the Task Force Report for U.S. reactors are not fully clear, Contention 11A should be admitted for hearing.

Finally, the Commission's March 19, 2012 orders foreclose any further argument that Contention 11A is premature. Those immediately effective orders impose requirements derived from Task Force recommendations 4 and 7 on current nuclear power reactor licensees and on CP holders.[272] The determinations reflected in those orders show that the Commission has progressed beyond merely evaluating the Task Force recommendations, and has decided that specific requirements recommended by the Task Force must be imposed on licensees and on CP holders to ensure adequate protection of public health and safety. Thus, even assuming that the Task Force recommendations were once outside the scope of the agency's NEPA obligations because they were merely "inchoate information," that is no longer true after the March 19 orders.

The NRC may choose to promulgate new regulations under the AEA that would require new reactors, including Unit 3, to implement mitigation measures equivalent to Task Force recommendations 4, 7, and 8. Alternatively, the Applicant might amend its application to adopt the substance of those recommendations, or the certified design to be utilized at Calvert Cliffs Unit 3 might be amended to incorporate those measures. If and when any such event occurs, the FEIS need not evaluate those mitigation measures as alternatives because they will have become part of the proposed action. But, as long as the agency is only considering regulatory changes and neither the application nor the certified design has been amended, the NRC's obligation under NEPA to consider mitigation alternatives remains unaltered. Contention 11A therefore raises a significant NEPA compliance issue, and the Commission should reconsider CLI-12-07 to the extent it forecloses admission of that contention.

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[272] See supra pp. 24-36.

II. The Remaining Parts of Contention 11 are Inadmissible

The remaining parts of Contention 11, which I refer to as Contentions 11B, 11C, and 11D, fail to meet the requirements of 10 C.F.R. § 2.309(f)(1) and are therefore inadmissible.

All three proposed contentions assert alternative grounds for requiring supplementation of the FEIS in light of the Task Force Report. Contention 11B maintains that the FEIS must take a hard look at the consequences of the Task Force's recommendation (Recommendation 2) to change the way in which the NRC evaluates SAMAs. Intervenors maintain that by recommending the incorporation of accidents formerly classified as "severe" or "beyond design basis" into the design basis, the Task Force Report effectively recommends a complete overhaul of the NRC's system for mitigating severe accidents through consideration of SAMAs.[273]

Unlike Contention 11A, Contention 11B concerns a recommendation for a general change to the NRC's regulatory program. Task Force recommendation 2 is not a recommendation for a specific accident mitigation measure, and, unlike recommendations 4, 7, and 8, it is not the type of recommendation that could be considered in an individual COL proceeding. It can be implemented only through a change to the agency's SAMA requirements. Given the nature of Task Force recommendation 2, it fails to provide a basis for supplementing the FEIS.

Contention 11C alleges that the Task Force Report questions the sufficiency of the NRC's existing regulatory regime to provide adequate protection of public health and safety. Intervenors state that the NRC must therefore "revisit any conclusions in the Calvert Cliffs-3 EIS based on the assumption that compliance with NRC safety regulations is sufficient to ensure that environmental impacts of accidents are acceptable."[274] At bottom, this appears to be at attack upon the probabilistic risk assessment that was used to estimate the probability-weighted

[273] Contention 11, at 11.

[274] Contention 11, at 11.

consequences of a severe accident at Unit 3.[275] But Intervenors do no more than make a sweeping demand to revisit conclusions in the FEIS that they believe are incorrect, without identifying specific aspects of the probabilistic risk assessment they contend are no longer tenable. If a petitioner neglects to provide the requisite support for its contentions, it is not within the board's power to make assumptions or draw inferences that favor the petitioner, nor may the board supply information that is lacking.[276] Contention 11C is accordingly inadmissible.

Contention 11D depends upon Contention 11B. Intervenors contend that, if additional mitigative measures were to be imposed on Calvert Cliffs 3, this could substantially increase the cost of the new facility. The increased costs could alter the cost-benefit balance, making alternatives more attractive. Therefore, FEIS Section 10.6.2, which evaluates the economic cost of the proposed new facility, should be supplemented to take into account the additional costs that would be incurred if additional mitigative measures are required as a result of the Task Force's recommendations.[277] It is the NRC's position, however, that it need not compare the costs of alternatives to the proposed action if, as is true here, its FEIS does not identify an environmentally preferable alternative.[278] Contention 11D does not contest the finding that there is no environmentally preferable alternative, and therefore Contention 11D may not be admitted.[279]

I would therefore admit only Contention 11A for hearing.

/RA/

Ronald M. Spritzer, Chairman
ADMINISTRATIVE JUDGE

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[275] See FEIS at 5-88 to -89.

[276] See Crow Butte, CLI-09-12, 69 NRC at 553; Ariz. Pub. Serv. Co. (Palo Verde Nuclear Generating Station, Units Nos. 1, 2 and 3), CLI-91-12, 34 NRC 149, 155 (1991).

[277] Contention 11, at 12-13.

[278] S. Carolina Elec. & Gas Co. and S. Carolina Pub. Serv. Authority (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-10-21, 72 NRC 197, 200 (2010).

[279] Id.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
CALVERT CLIFFS 3 NUCLEAR PROJECT, LLC.	)	
AND UNISTAR NUCLEAR OPERATING	)	
SERVICES, LLC	)	Docket No. 52-016-COL
	)	
(Calvert Cliffs 3 Nuclear Project, LLC)	)	
(Combined License)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing **BOARD ORDER (RULING ON JOINT INTERVENORS' PROPOSED NEW CONTENTION 11) (LBP 12-18)** have been served upon the following persons by Electronic Information Exchange.

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Docket No. 52-016-COL

BOARD ORDER (RULING ON JOINT INTERVENORS' PROPOSED NEW CONTENTION 11) (LBP 12-18)

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BOARD ORDER (RULING ON JOINT INTERVENORS' PROPOSED NEW CONTENTION 11) (LBP 12-18)

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[Original signed by Christine M. Pierpoint]
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