

June 27, 2011

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board Panel

In the Matter of	)	
	)	
Entergy Nuclear Generation Company and	)	Docket No. 50-293-LR
Entergy Nuclear Operations, Inc.	)	ASLBP No. 06-848-02-LR
	)	
(Pilgrim Nuclear Power Station)	)	

**ENTERGY'S ANSWER OPPOSING COMMONWEALTH
CONTENTION AND PETITION FOR WAIVER REGARDING
NEW AND SIGNIFICANT INFORMATION BASED ON FUKUSHIMA**

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I. INTRODUCTION

Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc. (collectively “Entergy”) hereby oppose the Commonwealth of Massachusetts Contention Regarding New and Significant Information Revealed by the Fukushima Radiological Accident (June 2, 2011) (“Contention”) and its related filings.¹ This Answer addresses the Commonwealth’s claims raised in the Contention, the Contention Motion, the Waiver Petition, the Thompson Report, and the Thompson Declaration.² The Commonwealth alleges that the final environmental impact

¹ In addition to the Contention, on June 2, 2011, the Commonwealth filed (1) Commonwealth of Massachusetts Motion to Admit Contention and, if Necessary, to Re-Open Record Regarding New and Significant Information Revealed by Fukushima Accident (June 2, 2011) (“Contention Motion”); (2) Commonwealth of Massachusetts Petition for Waiver of 10 C.F.R. Part 51 Subpart A, Appendix B or in the Alternative, Petition for Rulemaking to Rescind Regulations Excluding Consideration of Spent Fuel Storage Impacts From License Renewal Environmental Review (June 2, 2011) (“Waiver Petition”); (3) New and Significant Information From the Fukushima Daiichi Accident in the Context of Future Operation of the Pilgrim Nuclear Power Plant; A report for Office of the Attorney General, Commonwealth of Massachusetts (Gordon R. Thompson, Institute for Resource and Security Studies) (June 1, 2011) (“Thompson Report”); (4) Declaration of Dr. Gordon R. Thompson in Support of Commonwealth of Massachusetts Contention and Related Petitions and Motions (June 1, 2011) (“Thompson Declaration” or “Thompson Decl.”); and (5) Commonwealth of Massachusetts’ Conditional Motion to Suspend Pilgrim Nuclear Power Plant License Renewal Proceeding Pending Resolution of Petition for Rulemaking to Rescind Spent Fuel Pool Exclusion Regulations (June 2, 2011) (“Conditional Motion”).

² Entergy has already responded to the Conditional Motion, which is pending before the Commission. Entergy Answer Opposing Commonwealth of Massachusetts Conditional Motion to Suspend License Renewal Proceeding (June 13, 2011).

statement (“FEIS”)³ prepared by the Nuclear Regulatory Commission (“NRC”) and the severe accident mitigation alternatives (“SAMA”) analysis prepared by Entergy to support the Pilgrim Nuclear Power Station (“Pilgrim”) license renewal are inadequate because they do not address purportedly new and significant information revealed by the Fukushima Daiichi nuclear power plant accident. Contention at 1. The Commonwealth claims that this new and significant information shows that the environmental impacts of Pilgrim license renewal are “more significant” than presented in the environmental analyses on which the NRC is currently relying to support Pilgrim license renewal and therefore must be considered before Pilgrim can be relicensed. Id. at 2. Among other items filed in support of the Contention, the Commonwealth has petitioned for waiver of the Commission regulations that generically determine the environmental impacts of spent fuel pools for all plants and therefore exclude such impacts from litigation in individual licensing proceedings. Waiver Petition at 1.

The Commonwealth’s claims are fatally flawed for numerous reasons that require their rejection by the Board. First, the Contention fails to meet the stringent requirements for reopening a closed hearing record in 10 C.F.R. § 2.326.⁴ In particular, the Contention fails to raise a significant environmental issue and the Commonwealth has not shown that a materially different result would have been likely had the newly proffered evidence been considered initially. 10 C.F.R. § (a)(2) & (3). Second, the Waiver Petition fails to meet the stringent requirements for waiver in this proceeding of the Commission’s that the environmental impacts

³ NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 29 Regarding Pilgrim Nuclear Power Station (July 2007).

⁴ Attached to this Answer is the Declaration of Joseph R. Lynch, Lori Ann Potts, and Dr. Kevin R. O’Kula in Support of Entergy’s Answer Opposing Commonwealth of Massachusetts Contention Regarding New and Significant Information Revealed by the Fukushima Radiological Accident (June 26, 2011) (“Entergy Declaration” or “Entergy Decl.”). Among other things, the declarants show that the Contention fails to demonstrate that a materially different result would be likely under 10 C.F.R. § 2.326(a)(iii), one of the criteria for reopening a closed record.

of spent fuel pools are “SMALL” for all plants, in particular the requirement that a prima facie showing be made that special circumstances exist that are unique to Pilgrim. Finally, the Contention does not meet the standards applicable to considering a late-filed contention, and it fails to meet the standards for an admissible contention because, among other deficiencies, it raises issues immaterial to this proceeding and fails to demonstrate that a genuine dispute with the Pilgrim License Renewal Application (“LRA”). See 10 C.F.R § 2.309.

The Commonwealth’s Contention turns on two issues: (1) the allegation that the risk of a core-melt accident is an order of magnitude higher than that estimated in the Pilgrim FEIS, and (2) the claim that there is a substantial conditional probability of a spent fuel pool accident during or following a reactor core melt accident involving an early release of radioactivity. Contention at 5-7. Neither of these issues is sufficient to warrant reopening of this proceeding’s record or to waive application of the Commission’s spent fuel pool environmental impacts rule.

First, the Commonwealth’s claim that its purportedly new and significant information shows that the core damage frequency (“CDF”) relied on in the Pilgrim SAMA analysis is “unrealistically low” by an order of magnitude (Contention at 6) is based on a fundamentally flawed methodology that is illogical, has never been used to calculate a CDF, and directly contradicts fundamental probabilistic risk assessment (“PRA”) precepts employed by the NRC for more than two decades. The Commonwealth’s assertion relies on Dr. Thompson’s calculation of a so-called “direct experience” CDF of 3.4E-04 per reactor year based on five core melt accidents (including the three Fukushima core melts) over 14,484 years of reactor operation. Thompson Report at 17. Dr. Thompson’s CDF estimate is approximately an order of magnitude higher than the 3.2E-05 per reactor year CDF estimated for the Pilgrim SAMA analysis based on Pilgrim’s site-specific design features and site characteristics. Id. He claims

that his CDF provides a “reality check” on the accident probability assumed in Pilgrim’s environmental analyses, and alleges solely on this basis – unrelated to any consideration of Pilgrim’s site-specific design or its site characteristics (e.g. its lack of vulnerability to large tsunamis such as that which occurred at Fukushima) – that the Pilgrim SAMA analysis must be “re-done with a baseline CDF that is increased by an order of magnitude.” Id. at 16, 17.

However, as explained later in this Answer and in the attached Entergy Declaration, Dr. Thompson’s “direct experience” method for calculating CDF is not a scientifically acceptable approach for determining the CDF for a specific plant in that, as stated, it has no basis in logic, has never been used to calculate a CDF, and violates fundamental precepts of PRA analysis as applied by the NRC. Entergy Decl. at ¶¶ 18-32. Use of Dr. Thompson’s direct experience CDF would erase any differentiation between accident analyses performed for reactors of different designs, as well as eliminate any ability to account for site-specific differences. In short, use of Dr. Thompson’s direct experience CDF – which by its very nature would apply to every single commercial nuclear plant in operation today – would reveal nothing about the plant-specific vulnerabilities a SAMA is intended to analyze.

Furthermore, Dr. Thompson’s direct experience CDF is inherently invalid because it does not provide an appropriate statistical basis for calculating Pilgrim’s CDF. None of the five data points used in Dr. Thompson’s direct experience CDF method are applicable to Pilgrim. The Chernobyl event has no relevance because of the plant’s entirely different design, Three Mile Island (“TMI”) is a Pressurized Water Reactor (“PWR”) with very different systems than those of Boiling Water Reactors (“BWR”) like Pilgrim, and the core melts at Fukushima were triggered by a tsunami of a size and magnitude inapplicable to Pilgrim. Such a data set does not provide a statistically valid basis for calculating Pilgrim’s CDF. Entergy Decl. at ¶¶ 32-36.

Second, based on the alleged higher probability of a precursor core melt accident, and asserted new information revealed by the Fukushima accident, Dr. Thompson claims that there is a substantial, 50% conditional probability of a spent fuel pool fire during a reactor accident. Thompson Report at 20. Notably, this is the same conditional probability he asserted in the Commonwealth's 2006 petition for rulemaking, which asked the Commission to revoke the provisions in 10 C.F.R. Part 51 that exclude consideration of spent fuel pool issues in individual licensing proceedings. The Commission rejected Dr. Thompson's 50% conditional probability claim as an "unsubstantiated assumption" that lacked any technical or analytical basis.⁵ Unlike Dr. Thompson's CDF calculation, his spent fuel pool fire conditional probability is not based on any direct experience since 2006. Thompson Report at 27. This is likely because any direct experience "reality check" would reveal a conditional probability of zero, i.e., zero spent fuel pool fires have occurred during core melt accidents. Entergy Decl. at ¶ 64.

Rather, Dr. Thompson claims that there is a substantial conditional probability based on his "judgment that jury-rigged systems may fail to add water to an affected pool in sufficient quantity to prevent a pool fire." Thompson Report at 27. The events of Fukushima do not support Dr. Thompson's judgment because even with the prolonged delay of several days in their implementation, the mitigation measures employed were successful in adding water to the spent fuel pools in time to avoid a spent fuel pool fire. Videos of the spent fuel pools at Fukushima Units 3 and 4 show that no fire has occurred at the spent fuel pools and that the fuel appears to be intact and near normal. Entergy Decl. at ¶ 56.

⁵ The Attorney General of Commonwealth of Massachusetts; the Attorney General of California; Denial of Petitions for Rulemaking, 73 Fed. Reg. 46,204, 46,209 (Aug. 8, 2008) ("Rulemaking Denial"); Entergy Decl. at ¶ 59.

While acknowledging that “affirmative evidence of a pool fire has not emerged [as of] this writing” (Contention at 2), the Commonwealth nonetheless claims that Fukushima has prompted its Contention and Waiver Petition, and thus the Commonwealth seeks to challenge for a second time the NRC’s preclusion of the consideration of spent fuel pool fire risks in individual licensing proceedings. The Commission rejected the Commonwealth’s previous petition for rulemaking, and the supporting Thompson report, concluding that the risk of a zirconium fire initiating in a spent fuel pool is “very low.”⁶ The Commission based its conclusion on a series of studies, conducted over the last three decades, which that have consistently shown the probability of an accident causing a spent fuel pool fire to be substantially lower than that for severe reactor accidents.

As discussed in this Answer and the attached Declaration, the Commonwealth raises nothing new and significant concerning spent fuel pool fire risks. It provides no information to show that the Commission’s reliance on the extensive series of studies showing a very low level of risk is wrong in light of Fukushima. Thus, its concerns have already been considered and rejected by the Commission. That ruling was affirmed by the Second Circuit. There is no basis for the Licensing Board to disturb those prior determinations.

II. STATEMENT OF THE CASE

This proceeding involves the LRA submitted by Entergy in January 2006 seeking renewal of the operating license for Pilgrim.⁷ On May 25, 2006, intervenor Pilgrim Watch filed an intervention petition seeking the admission of five contentions.⁸ The next day, the Commonwealth petitioned to intervene in this proceeding, and requested a hearing on a single

⁶ Rulemaking Denial, 73 Fed. Reg. at 46,207.

⁷ See 71 Fed. Reg. 15,222 (Mar. 27, 2006).

⁸ Request for Hearing and Petition to Intervene by Pilgrim Watch (May 25, 2006).

contention alleging the need for the License Application Environmental Report (“ER”) to address the environmental impacts of spent fuel pool accidents because of information alleged to be new and significant.⁹ Approximately three months thereafter, based on the same allegedly new and significant information, the Commonwealth submitted a Petition for Rulemaking to the Commission requesting that the Commission amend its regulations to revoke the 10 C.F.R. Part 51 provisions that codify its generic conclusion that the environmental impacts of spent fuel storage are small and exclude consideration of spent fuel environmental issues in individual licensing proceedings.¹⁰

On October 16, 2006, the Atomic Safety and Licensing Board (“Licensing Board” or “Board”) denied the Commonwealth’s hearing request as a challenge to a generic Category 1 determination codified in the NRC rules, which is impermissible absent a waiver.¹¹ The Board admitted two of the five contentions (Contentions 1 and 3) proffered by Pilgrim Watch.¹²

On appeal by the Commonwealth, the Commission affirmed the Licensing Board’s ruling.¹³ The Commission found that the Commonwealth had not presented grounds for a waiver, but instead sought to raise generic concerns that were more appropriately addressed through the Commonwealth’s rulemaking petition.¹⁴ The Commission also found premature the

⁹ Massachusetts Attorney General’s Request for a Hearing and Petition for Leave to Intervene with Respect to Entergy Nuclear Operations, Inc.’s Application for Renewal of the Pilgrim Nuclear Power Plant Operating License and Petition for Backfit Order Requiring New Design Features to Protect Against Spent Fuel Pool Accidents (May 26, 2006).

¹⁰ Massachusetts Attorney General’s Petition for Rulemaking to Amend 10 C.F.R. Part 51 (Aug. 25, 2006) (“2006 Petition”); see also Massachusetts Attorney General; Receipt of Petition for Rulemaking, 71 Fed. Reg. 64,169 (Nov. 1, 2006).

¹¹ Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station), LBP-06-23, 64 N.R.C. 257, 288, 295-300 (2006).

¹² Id.

¹³ Entergy Nuclear Operations, Inc. (Vermont Yankee Nuclear Power Station and Pilgrim Nuclear Power Station), CLI-07-3, 65 N.R.C. 13 (2007).

¹⁴ Id. at 20.

Commonwealth's request to defer any decision in the Pilgrim license renewal proceeding until completion of the rulemaking.¹⁵ In response to a motion by the Commonwealth for reconsideration, the Commission explained how the Commonwealth could participate in the license renewal proceeding as an Interested State, which would enable the Commonwealth to move to stay that proceeding if it appeared that the NRC would issue the renewed license prior to issuing a decision on the Commonwealth's rulemaking petition.¹⁶

On judicial review, the U.S. Court of Appeals for the First Circuit upheld the Commission's decisions rejecting the Commonwealth's challenges to the Commission's procedural determinations, i.e., rejecting the Commonwealth's participation as a party in the Pilgrim license renewal proceeding because its contention was inadmissible.¹⁷ The Court issued a brief administrative stay to permit the Commonwealth to request to participate as an Interested State in the NRC proceeding so that it could protect its interests in the manner that the Commission had prescribed.¹⁸ Thereafter, the Commonwealth provided notice that it intended to participate as an Interested State.¹⁹

On August 8, 2008, the Commission denied the Commonwealth's rulemaking petition.²⁰ The Commonwealth's 2006 Petition for Rulemaking had requested the Commission to revoke the provisions in 10 C.F.R. Part 51 that exclude consideration of spent fuel pool issues in individual licensing proceedings based on claims of allegedly "new and significant information" developed since the 1996 issuance of NUREG-1437, Generic Environmental Impact Statement

¹⁵ Id. at 22 & n.37.

¹⁶ CLI-07-13, 65 N.R.C. 211, 214-15 & n.16 (2007).

¹⁷ Massachusetts v. United States, 522 F.3d 115 (1st Cir. 2008).

¹⁸ Id. at 130 & n.9.

¹⁹ Commonwealth of Massachusetts' Notice of Intent to Participate as an Interested State (May 6, 2008) at 1-2.

²⁰ Rulemaking Denial, supra note 5.

for License Renewal of Nuclear Plants (1996) (“GEIS”). The Commonwealth had asserted that this purportedly new and significant information showed that the NRC's determination in the GEIS of “insignificant” environmental impacts for high-density spent fuel storage is incorrect.²¹

The new information asserted by the Commonwealth included a 2006 Report by Dr. Thompson.²² As explained in the attached Entergy Declaration (at ¶41), the 1996 GEIS expressly considered severe spent fuel pool accidents and concluded that “even under the worst probable cause of a loss of spent-fuel pool coolant (a severe seismic-generated accident causing a catastrophic failure of the pool), the likelihood of a fuel-cladding fire is highly remote.”²³

In its 2008 Rulemaking Denial, the Commission evaluated the purportedly new and significant information proffered by the Commonwealth and found that it was neither new nor significant.²⁴ In denying the Commonwealth’s 2006 Petition for Rulemaking, the Commission found that the risk of a spent fuel pool fire is “very low” based on “[s]tudies conducted over the last three decades [that] have consistently shown that the probability of an accident causing a zirconium fire in an spent fuel pool (“SFP”) to be lower than that for severe reactor accidents.”²⁵

These studies included:

²¹ 2006 Petition at 1, 17, 20.

²² The Commonwealth provided as an attachment to its 2006 Petition a copy its hearing request in the Pilgrim license renewal proceeding which included the 2006 report by Gordon R. Thompson, Risks and Risk-Reducing Options Associated with Pool Storage of Spent Nuclear Fuel at the Pilgrim and Vermont Yankee Nuclear Power Plants (Institute for Resource and Security Studies, May 25, 2006) (“2006 Thompson Report” or “2006 Report”).

²³ GEIS at 6-72 to 6-75 (citation omitted). As support for its conclusion, the GEIS revered the Commission’s 1990 Waste Confidence Update, Review and Final Revision of Waste Confidence Decision, 55 Fed. Reg. 38,474 (Sept. 18, 1990).

²⁴ Rulemaking Denial, 73 Fed. Reg. at 46,208.

²⁵ Id. at 46,207.

- NUREG-1353,²⁶ which was the primary basis for the 1990 Waste Confidence Decision underlying the 1996 GEIS conclusion that the likelihood of a spent fuel fire zirconium fuel fire “is highly remote.”
- NUREG-1738,²⁷ which was a conservative bounding study of spent fuel pool fires which conservatively assumed, for example, that the spent fuel would burn if the “water level reached 3 feet from the top of the spent fuel.”²⁸ Even with these conservative assumptions, NUREG-1738 found a “very low likelihood of a zirconium fire.”²⁹ The Commission concluded that “even with the numerous conservatisms” the risk of an SFP fire as shown by NUREG-1738 is “low and well within the Commission’s Safety Goals” and is “substantially lower than reactor risk.”³⁰
- Sandia tests conducted subsequent to the events of September 11, which evaluated the potential for spent fuel pool fires under more realistic assumptions that accounted for relevant heat flow and fluid flow mechanisms, and which showed that spent fuel pool fires would not occur under many of the circumstances conservatively assumed to cause a fire in NUREG-1738.³¹

In addition to these studies, which consistently showed that the risk of a spent fuel pool fire is lower than that for severe reactor accidents, the Commission found that mitigative measures put in place by all plant licensees subsequent to September 11, 2001 to cope with losses of large areas of a plant due to fire or explosions provided enhanced capability to cool the

²⁶ Regulatory Analysis for the Resolution of Generic Issue 82, “Beyond Design Basis Accidents in Spent Fuel Pools” (April 1989) (“NUREG-1353”).

²⁷ NUREG-1738, Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants (Jan. 2001) (“NUREG-1738”).

²⁸ Id. at 3-1; see also, e.g., id. at 2-1.

²⁹ Id. at xi, 5-1, 5-3.

³⁰ Rulemaking Denial, 73 Fed. Reg. at 46,207, 46,209. NUREG-1738 is referenced in the Draft Revision 1 of the GEIS as the primary basis for the conclusion that spent fuel pool accidents are a Category 1 issue. Draft Report for Comment, NUREG-1437, Volume 2, Revision 1, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, (July 2009) Appendix E, Environmental Impact of Postulated Accidents, E.3.7 Impact from Accidents at Spent Fuel Pools, at E-32 to E-37.

³¹ 73 Fed. Reg. at 46,207-208, 46,212.

spent fuel.³² These mitigative measures included both an internal strategy to implement a diverse SFP makeup system and an SFP spray to remove decay heat and an external strategy “using an independently-powered, portable, SFP coolant makeup and spray capability system that enhances spray and rapid coolant makeup to mitigate a wide range of possible scenarios that could reduce SFP water levels.”³³ As stated by the Commission, “[t]hese mitigative measures further reduce the risk from SFP zirconium fires, and make it even more unlikely that additional SFP safety enhancements could substantially reduce risk or be cost- beneficial” in a SAMA analysis.³⁴

The Commission in its Rulemaking Denial went on to analyze each claim and piece of purportedly new and significant information presented by the Commonwealth, including the 2006 Thompson Report, and concluded that, to the extent any information proffered by the Commonwealth was not considered in the GEIS, the information was insignificant because it “would not lead to ‘an impact finding different from that codified in 10 CFR Part 51,’ or as set forth in [the GEIS].” Rulemaking Denial, 73 Fed. Reg. at 46,208. The Commission specifically rejected Dr. Thompson’s claim of a 50% conditional probability of a spent fuel pool fire occurring in the event of a severe reactor accident leading to an early release as an “unsubstantiated assumption” of Dr. Thompson. Id. at 46,208-12.

The Commonwealth sought judicial review of the Rulemaking Denial in the U.S Court of Appeals for the Second Circuit, which was denied.³⁵ Before the Second Circuit, the Commonwealth (and its co-petitioners) argued, among other things, that because plant specific

³² Id. at 46,208.

³³ Id. at 46,208-209.

³⁴ Id. at 46,212 (emphasis added).

³⁵ New York v. NRC, 589 F.3d 551 (2d Cir. 2009).

mitigation measures were used to assess the environmental impact of spent fuel pools, the impacts of spent fuel pools should be treated as Category 2 plant-specific impacts and be addressed in plant-specific EISs.³⁶ The Commonwealth also contended that the Commission's determination prevented it "from receiving information about the plant-specific matters – design issues and security and mitigation matters – that affect the risk of fires in spent-fuel pools."³⁷ According to the Commonwealth, this precluded it "from meaningful participation in identifying and exploring those impacts," even though the Commission expected the Commonwealth and other states "to play a large role in responding to the environmental impacts of a spent-fuel pool fire."³⁸ The Commonwealth also asserted that the Commission's denial of information on these matters denied it a right to a hearing on those matters when a plant's license is renewed.³⁹

The Second Circuit rejected the Commonwealth's petition for review. Among other rulings, the Second Circuit held that, "[a]s the NRC has given due consideration to the relevant studies, we must defer to their expertise in determining the proper risk level associated with the storage of nuclear material in spent fuel pools, and therefore deny the petition for review."⁴⁰ Specifically, the Second Circuit held that the NRC had already analyzed most of the information submitted with the rulemaking petition, and that the Commonwealth "simply disagree[d] with the NRC's interpretation of those studies."⁴¹ For the one study not previously considered, the 2006 Thompson Report, the Second Circuit noted that the Commission had concluded that it was

³⁶ Brief of Petitioners at 33-34, New York v. NRC, 589 F.3d 551 (2d Cir. 2009) (No. 08-3903-ag(L)).

³⁷ Id. at 37.

³⁸ Id.

³⁹ Id. at 37-38.

⁴⁰ New York, 589 F.3d at 553.

⁴¹ Id. at 554.

not as accurate as the studies on which the Commission previously relied.⁴² Importantly, the Second Circuit expressly rejected the Commonwealth’s argument that the risk of a spent fuel pool fire must be a Category 2 rather than a Category 1 risk (and therefore subject to challenge in license renewal proceedings) because the risk is affected by mitigation that varies from plant to plant.⁴³ The Second Circuit rejected this argument because the Commission “has mandated that these mitigation tactics be implemented at all nuclear power plants.”⁴⁴ The Second Circuit found the Commonwealth’s “other arguments to be without merit.”⁴⁵

Meanwhile, the NRC Staff reviewed the Pilgrim LRA and issued the FEIS in July 2007 and the final safety evaluation report (“SER”) in November 2007.⁴⁶ Following summary disposition of Pilgrim Watch Contention 3,⁴⁷ the Board held a hearing on Pilgrim Watch Contention 1 and then closed the evidentiary record on that contention.⁴⁸ It then issued a decision resolving that remaining contention in Entergy’s favor and terminated the proceeding.⁴⁹

In CLI-10-11, the Commission reversed and remanded a portion of the summary disposition of Pilgrim Watch Contention 3 and remanded Contention 3, “as limited by [its] ruling,” to the Board for hearing.⁵⁰ In CLI-10-14, the Commission denied Pilgrim Watch’s request for review of all the other Licensing Board decisions that Pilgrim Watch had challenged

⁴² Id.

⁴³ Id. at 555.

⁴⁴ Id. (emphasis in original).

⁴⁵ Id.

⁴⁶ NUREG-1891, Safety Evaluation Report Related to the License Renewal of Pilgrim Nuclear Power Station (Nov. 2007).

⁴⁷ Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station), LBP-07-13, 66 N.R.C. 131 (2007).

⁴⁸ Memorandum and Order (Ruling on Pilgrim Watch Motions Regarding Testimony and Proposed Additional Evidence Relating to Pilgrim Watch Contention 1) (June 4, 2008).

⁴⁹ Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station), LBP-08-22, 68 N.R.C. 590, 610 (2008).

⁵⁰ Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station), CLI-10-11, 71 N.R.C. __ (Mar. 26, 2010) (“CLI-10-11”).

on appeal.⁵¹ The Board completed the hearing record on the remanded contention in March 2011.⁵²

On June 2, 2011, the Commonwealth filed its Contention and related papers.

III. APPLICABLE LEGAL STANDARDS

The NRC does not look with favor on amended or new contentions filed after the initial filing. Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-36, 60 N.R.C. 631, 638 (2004). As the Commission has repeatedly stressed,

[o]ur contention admissibility and timeliness rules require a high level of discipline and preparation by petitioners “who must examine the publicly available material and set forth their claims and the support for their claims at the outset.” There simply would be “no end to NRC licensing proceedings if petitioners could disregard our timeliness requirements” and add new contentions at their convenience during the course of a proceeding based on information that could have formed the basis for a timely contention at the outset of the proceeding. Our expanding adjudicatory docket makes it critically important that parties comply with our pleading requirements and that the Board enforce those requirements.

AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 N.R.C. 235, 271-72 (2009) (emphasis added) (citations omitted).

Where, as here, the adjudicatory record has been closed, the Commission’s rules specify that a motion to reopen that record to consider additional evidence – including evidence on a new contention (see 10 C.F.R. § 2.326(d)) – will not be granted unless the following criteria are satisfied:

⁵¹ Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station), CLI-10-14, 71 N.R.C. __ (June 17, 2010) (“CLI-10-14”).

⁵² On February 23, 2011, the Board granted the parties’ Joint Motion requesting that the remanded Pilgrim Watch Contention 3 be resolved solely on the parties’ pre-filed testimony and exhibits, with no evidentiary hearing. Revised Notice and Order (Regarding Hearing and Oral Argument) (Feb. 23, 2011). On March 4, 2011, the parties filed their findings of fact and conclusions of law on remanded Pilgrim Watch Contention 3, and on March 9, 2011, the Board heard closing arguments on remanded Pilgrim Watch Contention 3.

- (1) The motion must be timely. However, an exceptionally grave issue may be considered in the discretion of the presiding officer even if untimely presented;
- (2) The motion must address a significant safety or environmental issue; and
- (3) The motion must demonstrate that a materially different result would be or would have been likely had the newly proffered evidence been considered initially.

10 C.F.R. § 2.326(a). Further, under the NRC rules,

The motion must be accompanied by affidavits that set forth the factual and/or technical bases for the movant's claim that the criteria of paragraph (a) of this section have been satisfied. Affidavits must be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised. Evidence contained in affidavits must meet the admissibility standards of this subpart. Each of the criteria must be separately addressed, with a specific explanation of why it has been met. When multiple allegations are involved, the movant must identify with particularity each issue it seeks to litigate and specify the factual and/or technical bases which it believes support the claim that this issue meets the criteria in paragraph (a) of this section.

10 C.F.R. § 2.326(b) (emphasis added). In addition, where a motion to reopen relates to a contention not previously in controversy, a motion to reopen must also satisfy the standards for non-timely contentions in 10 C.F.R. § 2.309(c). 10 C.F.R. § 2.326(d). As discussed later, the Commonwealth has not met any of these standards and requirements.

The Commission has repeatedly emphasized that “[t]he burden of satisfying the reopening requirements is a heavy one.” Oyster Creek, CLI-09-7, 69 N.R.C. at 287 (citing Louisiana Power & Light Co. (Waterford Steam Electric Station, Unit 3), CLI-86-1, 23 N.R.C. 1, 5 (1986)). “[P]roponents of a reopening motion bear the burden of meeting all of [these] requirements.” Id. (citing Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-90-10, 32 N.R.C. 218, 221 (1990)). “Bare assertions and speculation . . . do not supply the requisite support.” Id. (citing AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-08-28, 68 N.R.C. 658, 674 (2008)).

Moreover, where as here, a motion to reopen relates to a contention not previously in controversy among the parties, it must also satisfy the requirements for non-timely contentions in § 2.309(c). 10 C.F.R. § 2.326(d).⁵³ Section 2.309(c) provides that non-timely contentions will not be entertained absent a determination by the Board that the contentions should be admitted based upon a balancing of the following factors:

- (i) Good cause, if any, for the failure to file on time;
- (ii) The nature of the requestor's/petitioner's right under the Act to be made a party to the proceeding;
- (iii) The nature and extent of the requestor's/petitioner's property, financial or other interest in the proceeding;
- (iv) The possible effect of any order that may be entered in the proceeding on the requestor's/petitioner's interest;
- (v) The availability of other means whereby the requestor's/petitioner's interest will be protected;
- (vi) The extent to which the requestor's/petitioner's interests will be represented by existing parties;
- (vii) The extent to which the requestor's/petitioner's participation will broaden the issues or delay the proceeding; and
- (viii) The extent to which the requestor's/petitioner's participation may reasonably be expected to assist in developing a sound record.

10 C.F.R. § 2.309(c)(1).

In keeping with the Commission's disfavor of contentions after the initial filing, these factors are "stringent." Oyster Creek, CLI-09-7, 69 N.R.C. at 260, (citing Florida Power & Light Co. (Calvert Cliffs Nuclear Power Plant, Units 1 and 2, et al.), CLI-06-21, 64 N.R.C. 30, 33 (2006)). "Late petitioners properly have a substantial burden in justifying their tardiness."

⁵³ See also Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Unit 3), CLI-09-5, 69 N.R.C. 115, 125 (2009); Oyster Creek, CLI-08-28, 68 N.R.C. at 668.

Nuclear Fuel Services, Inc. (West Valley Reprocessing Plant), CLI-75-4, 1 N.R.C. 273, 275 (1975).

Commission case law places most importance on whether the petitioner has demonstrated sufficient good cause for the untimely filing. Tennessee Valley Authority (Watts Bar Nuclear Plant, Unit 2), CLI-10-12, 71 N.R.C. ___, slip op at 4 (Mar. 26, 2010) (“CLI-10-12”); Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-00-02, 51 N.R.C. 77, 79 (2000); Millstone, CLI-09-5, 69 N.R.C. at 125. Indeed, failure to demonstrate good cause requires the petitioner to make a “compelling” showing with respect to the other factors. Texas Utilities Electric Co. (Comanche Peak Steam Electric Station, Unit 2), CLI-93-04, 37 N.R.C. 156, 165 (1993). In other words,

A petitioner’s showing must be highly persuasive; it would be a rare case where [the Commission] would excuse a non-timely petition absent good cause.

Watts Bar, CLI-10-12 at 4 (footnote omitted). As discussed later, the Commonwealth has not shown good cause for its filing, and a balance of the lateness factors weighs against admitting this late-filed Contention.

Finally, any new contention must also satisfy the standards for admissibility in 10 C.F.R. § 2.309(f)(1). These standards too are to be enforced rigorously. “If any one . . . is not met, a contention must be rejected.” Arizona Public Service Co. (Palo Verde Nuclear Generating Station, Unit Nos. 1, 2, and 3), CLI-91-12, 34 N.R.C. 149, 155 (1991) (citation omitted); USEC, Inc. (American Centrifuge Plant), CLI-06-9, 63 N.R.C. 433, 437 (2006) (“These requirements are deliberately strict, and we will reject any contention that does not satisfy the requirements.” (footnotes omitted)). A licensing board is not to overlook a deficiency in a contention or assume the existence of missing information. Palo Verde, CLI-91-12, 34 N.R.C. at 155; Oyster Creek,

CLI-09-7, 69 N.R.C. at 260 (the contention admissibility rules “require the petitioner (not the board) to supply all of the required elements for a valid intervention petition” (emphasis added) (footnote omitted)). As discussed below, the Commonwealth also fails to meet these requirements.

IV. THE COMMONWEALTH’S CONTENTION AND PETITION FOR WAIVER SHOULD BE DENIED

A. THE COMMONWEALTH FAILS TO MEET THE STANDARDS IN 10 C.F.R. § 2.326 FOR A MOTION TO REOPEN A CLOSED RECORD

The Commonwealth’s Contention fails to satisfy the standards for reopening a closed record in 10 C.F.R. § 2.326.⁵⁴ It is not supported by an affidavit that meets the requirements in 10 C.F.R. § 2.326(b), and it fails to meet the requirements in 10 C.F.R. § 2.326(a)(1)-(3). Each of these failures by itself requires that the Commonwealth’s Contention be rejected.

1. The Thompson Declaration Fails to Satisfy the Affidavit Requirement in 10 C.F.R. § 2.326(b).

Among other requirements, 10 C.F.R. § 2.326(b) requires that a supporting affidavit “be given by competent individuals with knowledge of the facts alleged, or by experts in the disciplines appropriate to the issues raised.” The Thompson Declaration fails these requirements. Although Dr. Thompson claims to be an expert in technical safety, security, and environmental analysis related to nuclear facilities, his Declaration and Curriculum Vitae fail to show that he has the requisite education, training, skill, or experience in the operation of a nuclear power plant or in PRA (also known as probabilistic safety assessment (“PSA”)) to support Commonwealth’s Contention. The party sponsoring a witness has the burden of

⁵⁴ The Commonwealth addresses the Commission’s reopening standards in the Contention Motion. Contention Motion at 9-12. Dr. Thompson appears to address those standards in his Declaration. Thompson Decl. at ¶¶ 14-16.

demonstrating his or her expertise. Pacific Gas & Elec. Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-410, 5 N.R.C. 1398, 1405 (1977). The Commonwealth has failed its burden here.

Dr. Thompson claims that he is “highly familiar” with “the characteristics of probabilistic risk assessment,” Thompson Decl. at ¶ 7, but neither his Declaration nor his Curriculum Vitae evidences any education, training, skill, or experience in performing PRAs. Indeed, his lack of competence is reflected in his casual dismissal of over 30 years’ worth of comprehensive studies and NRC guidance on developing and implementing probabilistic risk assessments for nuclear power plants. See, e.g., Entergy Decl. at ¶ 25-27. Although Dr. Thompson may be well qualified to perform the mathematics to calculate his direct experience method for determining CDF, his “simplistic” method for calculating CDF entirely disregards the detailed design-, plant type-, and site-specific PRA analysis that identifies initiating events and their likelihood of potentially leading to core damage used to establish the CDF, subsequent reactor containment release, and environmental release conditions. Id. at ¶ 24-28. His method would undermine the process of systematically looking for vulnerabilities that could lead to accident sequences that may impact the plant. Id.

Similarly, Dr. Thompson claims to be “highly familiar” with the design and operation of nuclear power plants, (Thompson Decl. at ¶ 7), and he makes several assertions concerning accident mitigation measures and the design and operation of a filtered venting system. Thompson Report at 20, 29. These include an assertion that Pilgrim’s Extensive Damage Mitigation Guidelines (“EDMGs”) lack “a radiation resistant TV camera to guide nozzle positioning” for truck mounted spray capability. Thompson Report at 19-20. But one will not find in Dr. Thompson’s Declaration and Curriculum Vitae any indication that he has any

education, training, skill, or experience in nuclear power plant design and operations that could qualify him to make such an assertion.

In short, nothing indicates that Dr. Thompson has the competence required of affiants under 10 C.F.R. § 2.326(b) to support the Commonwealth’s claims. Indeed, this is not the first time Dr. Thompson’s competence in nuclear power plant operations or in PRA preparation have been found lacking in an NRC licensing proceeding. In the licensing proceeding for the Shearon Harris Nuclear Power Plant spent fuel pool expansion, the licensing board determined that, “by reason of [Dr. Thompson’s] experience and training, his expertise relative to reactor technical issues seems largely policy-oriented rather than operational.” Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant), LBP-00-12, 51 N.R.C. 247, 267 n. 9 (2000) (emphasis added), aff’d CLI-01-11, 53 N.R.C. 370 (2001). In another ruling in that same proceeding, the licensing board found that Dr. Thompson had “little experience in the actual operation of a nuclear power plant or in PRA preparation.” Harris, LBP-01-9, 53 N.R.C. 239, 251, aff’d CLI-01-11, 53 N.R.C. 370 (2001). Although the Harris licensing board did not preemptively disqualify Dr. Thompson on this basis, it ultimately found that Dr. Thompson’s analyses were (1) “too simplistic” for failing to give “adequate consideration to the specific details of accident scenarios, containment and equipment configuration, and plant operating procedures that will affect the overall probability for containment failure or bypass”; (2) “unrealistically conservative and lack[ing] reasonable scientific basis”; and (3) calling for the Board to engage in mere “unsupported surmise.” Id. at 255, 260, 263 (emphasis added). As explained throughout the attached Entergy Declaration, the Harris licensing board’s descriptions of Dr. Thompson’s analyses apply with equal force to his analyses here.

Because the Commonwealth has failed to support its request to reopen the hearing record with a competent affiant, its request must be rejected.

2. The Request is Not Timely

Neither the Commonwealth nor Dr. Thompson demonstrate that the Contention is timely. Although they claim that the Contention is timely based on allegedly new and significant information brought to light by the Fukushima accident,⁵⁵ all of the Contention's claims and bases could have been raised long ago. Fukushima provided no materially new information with respect to these claims.

10 C.F.R. § 2.309(f)(2) states that “[c]ontentions must be based on documents or other information available at the time the petition [to intervene] is to be filed, such as the application [and] supporting safety analysis report.” An intervenor has an “ironclad obligation to examine the publicly available documentary material . . . with sufficient care to enable it to uncover any information that could serve as the foundation for a specific contention.” Sacramento Municipal Utility District (Rancho Seco Nuclear Generating Station), CLI-93-3, 37 N.R.C. 135, 147 (1993) (footnote and quotation omitted). Other than new or amended contentions challenging new data or conclusions in the NRC Staff's environmental impact statement (not applicable here), the NRC rules allow new contentions to be filed after this initial filing only with the leave of the presiding officer upon a showing that:

- (i) The information upon which the amended or new contention is based was not previously available;
- (ii) The information upon which the amended or new contention is based is materially different than information previously available; and

⁵⁵ Contention Motion at 3-5; Thompson Decl. at ¶ 14

(iii) The amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.

10 C.F.R. § 2.309(f)(2)(i)-(iii). In essence, a proponent of a new contention must show that it could not have raised its contention earlier. Intervenor is not free simply “to add new contentions at their convenience during the course of a proceeding based on information that could have formed the basis for a timely contention at the outset of the proceeding.” Oyster Creek, CLI-09-7, 69 N.R.C. at 272 (footnote omitted).

Neither the Commonwealth nor Dr. Thompson demonstrate that the Contention could not have been raised earlier. The Commonwealth’s Contention states that “[t]he experience of the Fukushima accident yielded new and significant information in a number of respects.” Contention at 6-7. The Contention Motion claims that its alleged new and significant information is timely raised because it relates to the accident at Fukushima Daiichi, it is materially different than information previously available, and the Commonwealth has proffered its contention in a timely fashion. Contention Motion at 3-4. Dr. Thompson parrots the Commonwealth’s claim that the Contention is timely based on “the implications of the Fukushima accident.” Thompson Decl. at ¶ 14.

To the contrary, the Commonwealth’s and Dr. Thompson’s assertions of timeliness do not withstand scrutiny. All of the Contention’s claims could have been raised long before the Fukushima Daiichi accident. Each will be addressed *seriatim*.

First, Dr. Thompson’s CDF calculation is not timely raised. If the CDF assumed by the Pilgrim SAMA analysis is “unrealistically low” after the Fukushima accident under Dr. Thompson’s direct experience method, it was also unrealistically low long before Fukushima. Under Dr. Thompson’s reasoning, there were two core melt accidents before Fukushima, Three

Mile Island and Chernobyl. Two core melt accidents over approximately 14,484 years of reactor operations results in a “direct experience” CDF of approximately $1.4\text{E-}04$ per reactor year, or approximately four times higher than the CDF assumed in the Pilgrim SAMA. At the time the Pilgrim LRA was submitted five years ago, there were approximately 2,200 fewer reactor years of operation experience than there are now (five years multiplied by 440 operating units). Hence, at the time the initial opportunity for hearing was announced, the direct experience method would have revealed a CDF of $1.6\text{E-}04$ per reactor year, or five times more than that assumed in the Pilgrim SAMA analysis. Under Dr. Thompson’s rationale, the Pilgrim SAMA analysis CDF has been deficient since the outset of the proceeding, and therefore Dr. Thompson’s direct experience challenge to Pilgrim’s SAMA analysis is not timely raised now.⁵⁶

Second, the Commonwealth’s renewed claims concerning the conditional probability of a risk of spent fuel pool fire, and the capability to mitigate such fire, (see Contention at 6-7), are neither timely raised nor materially different from information already raised and rejected long ago by the Commission and the Second Circuit in this proceeding long ago.

Even the Commonwealth concedes that Fukushima raises no materially different information not previously raised and considered. For example, the Commonwealth admits that no “affirmative evidence” of a spent fuel pool fire has been revealed by the Fukushima accident. Contention at 2. The lack of any spent fuel fire is confirmed by the videos of the spent fuel pools

⁵⁶ Although Dr. Thompson claims that Fukushima has “expanded the body of experience” such that his direct experience can provide a “reality check for PRA estimates,” (Thompson Report at 15), he provides no support for his assertion. He nowhere explains why the “direct experience” prior to Fukushima would have been insufficient to provide a “reality check” but is allegedly sufficient now. In fact, as discussed in Entergy’s Declaration, it is and always has been insufficient period. Entergy Decl. at ¶¶ 18-36.

at Fukushima which show the fuel intact and near normal.⁵⁷ Rather than assert that the Fukushima accident raises new and materially different information, the Commonwealth alleges that the accident serves only to “confirm[] the validity of the concern raised in the Commonwealth’s 2006 contention and rulemaking petition....” *Id.* (emphasis added).

The discussion of spent fuel pool issues in Dr. Thompson’s report (Issues 2 and 5) fails to rescue the Commonwealth’s position. Among other things, Dr. Thompson asserts that “Fukushima experience shows clearly that the operators’ capability to mitigate an accident at the Pilgrim NPP can be severely degraded in the accident environment” and that “reducing the probability of a pool fire at the Pilgrim plant should be a high priority.” Thompson Report at 20, 27. However, Dr. Thompson had previously raised these same claims in his 2006 report. *See* 2006 Thompson Report at 21 (“the spread of hot gases and radioactive material throughout the pool building . . . would preclude access by operating personnel”); 27 (“In practice, the high radiation field surrounding the pool would preclude the approach of firefighters”). Thus, Dr. Thompson cannot argue that his accident mitigation concerns are new or materially different information because he previously raised these precise concerns in this proceeding in 2006.

Again, the Commonwealth appears to agree, stating that “nothing about the [Fukushima] accident has contradicted Dr. Thompson’s view that the Pilgrim spent fuel poses a serious risk of fire if water is lost from the pool.” Contention at 2 (emphasis added). If nothing has changed since 2006 to contradict Dr. Thompson’s view, then there is nothing new or materially different

⁵⁷ The Great East Japan Earthquake Expert Mission, IAEA International Fact Finding Expert Mission of the Fukushima Daiichi NPP Accident Following the Great East Japan Earthquake Tsunami (May 24 – June 2, 2011) (“IAEA Report”) at 36; *see also* Entergy Declaration at ¶ 56.

raised here.⁵⁸ Moreover, the Commission has previously considered (and ultimately rejected) the Commonwealth's spent fuel pool fire risk and mitigative measures concerns. So has the Second Circuit.⁵⁹

Third, the Commonwealth and Dr. Thompson claim that "excessive secrecy degrades the licensee's capability to mitigate an accident at the Pilgrim NPP" and thus "it is important to examine information arising from the Fukushima accident, to determine how secrecy could affect the implementation of accident-mitigating measures at the Pilgrim Plant." Thompson Report at 21, 23; Contention at 7. This is a policy issue unrelated to any SAMA or National Environmental Policy Act ("NEPA") issue.⁶⁰ Therefore, it is irrelevant to the Contention. In any event, the (former) secrecy of these mitigation measures is not new.⁶¹ The Commonwealth raised the same issue in its appeal to the U.S. Court of Appeals for the Second Circuit of the Commission's Rulemaking Denial.⁶² The Commission had found that the already low likelihood of a spent fuel pool fire occurring was further reduced by the mitigative measures put in place subsequent to September 11.⁶³ The Commonwealth petitioned for review of the Rulemaking Denial, specifically challenging the Commission's reliance on the mitigation measures enacted since September 11, 2001. The Second Circuit rejected the Commonwealth's petition for review, finding all of the Commonwealth's claims on review "to be without merit."⁶⁴ Thus, the

⁵⁸ In addition, under Dr. Thompson's direct experience method, Fukushima shows that the conditional probability of a spent fuel pool fire is zero – zero spent fuel pool fires out of three core melt accidents – which is not information "materially different than information previously available" under 10 C.F.R. § 2.309(f)(2)(ii).

⁵⁹ New York v. NRC, 589 F.3d 551 (2nd Cir. 2009).

⁶⁰ See San Luis Obispo Mothers for Peace v. NRC, 635 F.3d 1109, 1117-118 (9th Cir. Feb. 15, 2011).

⁶¹ As the Commonwealth and Dr. Thompson acknowledge, since Fukushima, the NRC has made public the mitigative measures employed at all U.S. plants following the events of September 11. Waiver Petition at 15; Thompson Report at 19.

⁶² Brief of Petitioners at 33-34, New York v. NRC, 589 F.3d 551 (2nd Cir. 2009) (No. 08-3903-ag(L)).

⁶³ Rulemaking Denial, 73 Fed. Reg. at 46,212.

⁶⁴ New York, 589 F.3d at 555.

secrecy of the mitigation measures complained of by the Commonwealth is hardly new or materially different than information previously available. Moreover, as noted, the information has now been made public.

Fourth, the potential for hydrogen explosions (discussed at Contention at 7, Thompson Report at 24-26), have been long known and understood. As explained in the attached Entergy Declaration at ¶ 76, the potential for hydrogen explosions has been recognized by the industry since the Three Mile Island accident, and regulations are in place to ensure that combustible gases are controlled to minimize this potential (see 10 C.F.R. § 50.44). The information from Fukushima reveals no new or materially different data on hydrogen explosions that was not already accounted for in the Pilgrim SAMA analysis. Id. at ¶¶ 79-88. Indeed, Dr. Thompson does not point out any respect in which he claims that the Pilgrim SAMA inadequately considered hydrogen explosions. Id.; see Thompson Report at 24-26. Thus, any claims related to the potential for hydrogen explosions could have been raised long ago, and if fact none are raised by the Commonwealth with respect to the Pilgrim SAMA analysis.

Fifth, the claims that a filtered direct torus vent (“DTV”) could substantially reduce atmospheric radioactive releases and, therefore, Pilgrim ought to install one or consider such installation in its SAMA analysis (see, e.g., Thompson Report at 29) is also not new information. As explained in the attached Declaration (¶¶ 92-99), the installation of a filtered DTV was considered in Pilgrim’s SAMA analysis and subsequent responses to NRC requests for additional information. Further, installation of a filter for the DTV is not a new concept. Again, Fukushima has revealed no new or materially different information not already considered in Pilgrim’s SAMA analysis. Prior to Pilgrim’s evaluation of that mitigation measure, other U.S.

plants had contemplated it and screened it from consideration in their SAMA analyses because it was not found to be cost-beneficial. There is nothing new to this issue.

In summary, all of the claims raised in the Contention could have been raised long ago. The events at Fukushima are but a pretext for the timeliness of the claims. Consequently, the Commonwealth's Contention is not timely raised.

3. No Demonstration of the Existence of a Significant Environmental Issue

Neither the Commonwealth nor Dr. Thompson demonstrate the existence of a significant environmental issue, let alone an "exceptionally grave" issue as is required for untimely motions to reopen the record. 10 C.F.R. § 2.326(a)(1)-(2).

Nothing about the Commonwealth's untimely Contention can be characterized as exceptionally grave. "[E]xceptionally grave" means "a sufficiently grave threat to public safety."⁶⁵ Neither the Commonwealth nor Dr. Thompson have raised any threat to public safety, let alone a grave one. The Contention seeks revisions to Pilgrim's license renewal environmental impact analysis and SAMA analysis based on, among other things, Dr. Thompson's allegedly grave and new claims concerning the likelihood of a spent fuel pool fire, accident mitigation measures, and the (former) secrecy of those measures. Contention at 6-7; Thompson Decl. at ¶ 15. But none of these issues raises a grave safety issue in the context of the Contention, which seeks only revised environmental analyses in light of the purportedly new information. In other words, the Contention itself belies any claim that grave threats to public safety will be averted should the Commonwealth ultimately prevail on its Contention.

⁶⁵ Final Rule, Criteria for Reopening Records in Formal Licensing Proceedings, 51 Fed. Reg. 19,535, 19,536 (May 30, 1986) (emphasis added) (quoting Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), ALAB-124, 6 A.E.C. 358, 365 n.10 (1973)).

Even assuming the Commonwealth has timely raised any issue (which it has not), it still has failed to demonstrate the existence of a significant environmental issue. The Commission equates the standard for raising a significant environmental issue under Section 2.326 with the standard that governs whether supplementation of an EIS is required.⁶⁶

To require supplementation of an EIS, the allegedly new and significant information must “paint a ‘seriously different picture of the environmental landscape.’” Id. at 28. In other words, supplementation is required only when the allegedly new and significant information raises a previously unknown environmental concern, “not necessarily when it amounts to mere additional evidence supporting one side or the other of a disputed environmental effect.” Id. Moreover, the Commission has directly held that “bare assertions and speculation . . . do not supply the requisite support” to satisfy the Section 2.326 standards. Oyster Creek, CLI-09-7, 69 N.R.C. at 287 (citing Oyster Creek, CLI-08-28, 68 N.R.C. at 674). In other words, a “mere showing” that changes to the SAMA analysis results are “possible” or “likely” or “probable” is not enough. Oyster Creek, CLI-08-28, 68 N.R.C. at 670, 674.

With these standards in mind, it is clear that the Commonwealth has failed to demonstrate the existence of a significant environmental issue in its NEPA Contention. Generally, the Commonwealth alleges that the purportedly new and significant information revealed by the Fukushima accident “is likely to affect the outcome of those analyses” and that the environmental impacts of Pilgrim license renewal “have been underestimated.” Contention at 5 (emphasis added). In its own words, “[t]he Commonwealth is particularly concerned that some previously rejected or ignored SAMAs may prove to be cost-effective in light of the experience

⁶⁶ Private Fuel Storage, L.L.C. (Independent Spent Fuel Storage Installation), CLI-06-03, 63 N.R.C. 19, 29 (2006) (“PFS”) (holding that claimed additional environmental impacts were “not so significant or central to the FEIS’s discussion of environmental impacts that an FEIS supplement (and the consequent reopening of our adjudicatory record) is reasonable or necessary”).

of the Fukushima accident.” Contention at 9 (emphasis added). Thus, the Commonwealth offers mere speculation that Entergy’s SAMA analysis might be different, and makes no attempt to quantify what SAMAs would be cost effective were its concerns considered.

Dr. Thompson’s Report also fails to demonstrate a significant environmental issue for these same reasons. Dr. Thompson essentially argues that Pilgrim ought to redo its SAMA analysis to see what might turn up, but the Commission has made abundantly clear that such argument does not raise a significant issue and is therefore insufficient to restart the hearing process. AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-08-23, 68 N.R.C. 461, 486-87 (2008).⁶⁷

Also fatally flawed for the same reasons are Dr. Thompson’s speculative concerns regarding mitigation measures. Among other statements, he claims that Pilgrim operators’ capability to mitigate an accident “can be severely degraded in the accident environment,” and that “it is important . . . to determine how secrecy could affect the implementation of accident-mitigating measures at the Pilgrim plant.” Thompson Report at 20-21 (emphasis added). But nowhere does Dr. Thompson attempt to show how these concerns would affect the Pilgrim environmental impact and SAMA analyses.

Finally, Dr. Thompson raises issues that cannot be significant environmental issues in this license renewal proceeding because they concern Pilgrim’s current licensing basis. These include Dr. Thompson’s demands that certain issues be incorporated into the plant’s design basis; that Pilgrim’s spent fuel pool be equipped with low-density, open-framed racks; and that

⁶⁷ Similarly, “the Board has no authority to order the Licensee to perform a reanalysis for the purpose of determining whether the record should be reopened” because “‘a Board is to decide a motion to reopen on the information before it and has no authority to engage in discovery in order to supplement the pleadings before it.’” Florida Power & Light Co. (Turkey Point Plant, Units 3 & 4) LBP-87-21, 25 N.R.C. 958, 963 (1987) (quoting Cleveland Electric Illuminating Co. (Perry Nuclear Plant, Units 1 and 2), CLI-86-7, 23 N.R.C. 233, 235 (1985)).

Pilgrim's DTV be equipped with filtered venting using passive mechanisms. Thompson Report at 17-18, 25-26, 28, 29. These concerns, however, are current licensing basis and "everyday operational issues," and therefore "would not be a reason for denying license renewal."⁶⁸

In summary, none of the claims made in the Contention or the Thompson Report raises a significant environmental issue sufficient to warrant reopening of the hearing record. That the Commonwealth has failed to raise any significant environmental issue is conclusively shown in the following discussion regarding the Commonwealth's and Dr. Thompson's failure to show have shown that any materially different result would be likely even if their claims were considered.

4. No Materially Different Result Would Be Likely

The Commonwealth's Contention must also be rejected on the grounds that the Commonwealth has failed to demonstrate that a materially different result would be likely, as required by 10 C.F.R. § 2.326(a)(3). The Commonwealth has a "deliberatively heavy" burden to demonstrate that a materially different result would be likely. Oyster Creek, CLI-08-28, 68 N.R.C. at 674. At this late stage of the proceeding, is it not sufficient simply to raise an issue. Rather, "longstanding agency practice hold[s] that a party seeking to reopen a closed record to introduce a new issue . . . must back its claim with enough evidence to withstand summary disposition when measured against its opponent's contravening evidence." Private Fuel Storage (Independent Spent Fuel Storage Installation), CLI-05-12, 61 N.R.C. 345, 348 (2005) (footnote omitted). This means that "no reopening of the evidentiary hearing will be required if the

⁶⁸ Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-06-04, 63 N.R.C. 32, 37 (2006) (denying a motion to reopen for failing to raise a significant environmental or safety issue because it raised everyday operational concerns) (quoting Millstone, CLI-04-36, 60 N.R.C. at 637-38 & Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 N.R.C. 3, 7 (2001)).

documents submitted in response to the motion demonstrate that there is no genuine unresolved issue of fact.” Id. at 350 (quotation and footnote omitted).

As discussed in the attached Declaration and summarized in the paragraphs below, the Commonwealth and Dr. Thompson fail to demonstrate that a materially different result would be likely had their allegedly new and significant information been considered initially. Entergy’s Declaration shows that there is no genuine unresolved issue of material fact, and the Commonwealth’s request for reopening the record should be denied.

a) Dr. Thompson’s CDF claims are unfounded

Dr. Thompson’s claim, described above, that the CDF should be an order of magnitude larger for the Pilgrim plant based on his “direct experience” method for calculating CDF based on the historical experience of 5 reactor core melts is fundamentally flawed in two key respects. **First**, Dr. Thompson’s “direct experience” method for calculating CDF is not a scientifically accepted approach because it has no basis in logic, has never been used to calculate a CDF, and violates fundamental precepts of PRA developed and used throughout the nuclear industry, including regulation by the NRC. It would reverse 36 years of NRC and industry precedent and use of PRA as a risk-informed basis for decision-making. **Second**, Dr. Thompson’s “direct experience” method is inherently invalid in that it does not provide an appropriate statistical basis for calculating the CDF for Pilgrim. Entergy Decl. at ¶¶ 16-18, 33-34.

As set forth in Entergy’s expert Declaration, Dr. Thompson’s direct experience CDF method directly contradicts fundamental precepts of PRA developed and used throughout the nuclear industry, including regulation by the NRC for the past 36 years. Under well-established NRC precedent, practice and regulatory guidance, PRAs are based on specific reactor and containment design, operating procedures, and site considerations for evaluating overall

vulnerabilities, establishing prioritization of potential improvements, and for purposes of making risk-informed decisions. Utilizing design-specific and site-specific information is critical to obtain meaningful results because many nuclear plants have significant differences in design and siting that directly affect the probability of a core damage event. Dr. Thompson's direct experience CDF method would nevertheless establish one CDF for all plants with no distinction for design and site differences. Dr. Thompson's method ignores and fails to take into account plant-unique site conditions, plant design, support system dependencies, plant maintenance procedures, plant operating procedures, operator training, and the dependencies all of which directly affect and influence the CDF estimate for a specific plant. Entergy Decl. at ¶¶ 18-24. This is fundamentally wrong and illogical.

The regulatory precedent and guidance that PRAs as well as SAMAs are to be based on plant-specific design and site considerations is clear and long standing. Entergy Decl. at ¶ 25. It includes the following:

- **NUREG-1150**: NUREG-1150 is the seminal work on probabilistic risk assessment that generally preceded PRA use in U.S. nuclear regulation. The NUREG-1150 study points out in clear terms: "NUREG-1150 is not an estimate of the risks of all commercial nuclear power plants in the United States or abroad. One of the clear perspectives from this study of severe accident risks and other such studies is that characteristics of design and operation specific to individual plants can have a substantial impact on the estimated risks." NUREG-1150, Section 1.2 at 1-3 (emphasis added).
- **Generic Letter 88-20 and Supplement 4 to Generic Letter 88-20**: In Generic Letter 88-20, the Commission recognized:
based on NRC and industry experience with plant-specific probabilistic risk assessments (PRAs), that systematic examinations are beneficial in identifying plant-specific vulnerabilities to severe accidents that could be fixed with low cost improvements. Therefore, each existing plant should perform a systematic examination to identify any plant-specific vulnerabilities to severe accidents . . .

Generic Letter 88-20 at 1 (emphasis added). The Generic Letter states that the general purpose of this examination, defined as an Individual Plant Examination (“IPE”), is for each utility:

(1) to develop an appreciation of severe accident behavior, (2) to understand the most likely severe accident sequences that could occur at its plant, (3) to gain a more quantitative understanding of the overall probabilities of core damage and fission product releases, and (4) if necessary, to reduce the overall probabilities of core damage and fission product releases by modifying, where appropriate, hardware and procedures that would help prevent or mitigate severe accidents.

Id. (emphasis added). Supplement 4 to Generic Letter 88-20 requested all licensees to perform an Individual Plant Examination of External Events (“IPEEE”) “to identify plant-specific vulnerabilities to severe accidents” caused by external events and report the results to NRC. Generic Letter at 88-20, Supp. 4 at 2 (emphasis added).

- **Regulatory Guide 1.200:** Revision 2 to Regulatory Guide 1.200 describes acceptable approaches to ensure the technical adequacy of a PRA sufficient to provide confidence in the results, such that the PRA can be used in regulatory decision-making for light-water reactors. In particular, it states that the CDF is not defined a priori and applied, but is “defined as the sum of the frequencies of those accidents that result in uncover and heatup of the reactor core to the point at which prolonged oxidation and severe fuel damage are anticipated and involving enough of the core, if released, to result in offsite public health effects.” Reg. Guide 1.200, Section 1.1, at 7 (emphasis added).
- **Regulatory Guide 1.174:** Regulatory Guide 1.174 sets forth the requirements for using PRA to support changes in a plant’s licensing basis. It provides that the scope, level of detail, and technical acceptability of these risk-informed analyses are to be based on the “as-built and as-operated and maintained plant,” and “must reflect operating experience at the plant.” Regulatory Guide 1.174 at 7 (emphasis added).
- **NEI 05-01, Rev. A:** NEI 05-01, Rev. A, endorsed by the NRC, provides a template for completing the SAMA analysis in support of license renewal. NEI 05-01 states for the Level 1 and 2 analysis to “[u]se the plant-specific PSA model,” and to apply IPE and IPEEE analyses and recommendations. NEI 05-01, Rev. A at 2 (section 2).

Thus, this long line of NRC regulatory precedents is clear and straight-forward. PRAs and the CDFs calculated by the PRA are to be based on plant-specific design and site-specific considerations. Dr. Thompson's direct experience CDF method totally ignores and violates these fundamental PRA precepts developed over more than 30 years of experience with no explanation or rationale. Entergy Decl. ¶ 16. Closer examination of the implications of his direct experience CDF method and his limited data base reveals the illogical nature of his direct experience CDF method and the fundamental inappropriateness of using it to calculate a site-specific CDF, such as for Pilgrim.

The illogical nature of Dr. Thompson's thesis is highlighted by the simple example provided in the Entergy Declaration of a large unusual event, such as a massive meteor strike, impacting more than one plant. As set forth in the example, assuming that some of the plants are able to mitigate the event and avoid core damage while others suffer core damage, under Dr. Thompson's direct experience method, the CDFs of those plants that avoided core damage would nevertheless be increased by that of plants that suffered core damage. Thus, under Dr. Thompson's direct experience CDF method, no matter how many severe accident mitigation features Pilgrim or any other plant adds, the core damage estimate cannot be improved because it is dependent on the experience of all other plants, even those of different design and site characteristics. This conclusion defies logic. Entergy Decl. at ¶ 22.

Applied to the facts and circumstance here, Dr. Thompson's direct experience CDF method would have Pilgrim and all other plants arbitrarily increase their CDF even though they may never be subject to a tsunami nor, if subject, may be able to mitigate the event so as to suffer no ore damage. Again, such a result defies logic. Entergy Decl. at ¶23.

For similar reasons, Dr. Thompson's direct experience method is inherently inadequate to estimate the CDF for Pilgrim in that it does not provide a sufficient or appropriate statistical basis for doing so. Dr. Thompson acknowledges that his "five events provide a data set that is comparatively sparse and therefore does not provide a statistical basis for a high-confidence estimate of CDF." Thompson Report at 16. Yet he uses this estimate to invalidate the plant-specific CDF based on extensive site-specific data. His "sparse" data set simply cannot be used to draw such a conclusion. Entergy Decl. at ¶¶ 33-34. The inappropriateness of using Dr. Thompson's direct experience method for calculating the CDF is highlighted by the fact that none of the five core-melt data points in Dr. Thompson's database are applicable to Pilgrim.

- Three of Dr. Thompson's core melt data points events, Fukushima Daiichi Units 1, 2, and 3, are attributable to the tsunami that caused a complete loss of power to all three plants and led to their core-melts. Thus, Dr. Thompson's resulting direct experience CDF is greatly influenced by Fukushima, even though most U.S. coastal plants, including Pilgrim, have very small tsunami risk, and certainly not the potential for a tsunami of the severity such as that which struck Fukushima.
- Similarly, the core melt event at Chernobyl has no relevance at all to Pilgrim or any other U.S. plant because it was a totally different reactor design.
- TMI was a PWR with very different systems than those of BWRs like Pilgrim

Id. Thus, none of the five data from used by Dr. Thompson are applicable to the Pilgrim plant, and therefore the application of Dr. Thompson's direct method CDF to Pilgrim is wholly inappropriate on that basis alone. Id.

In summary, Dr. Thompson's direct experience CDF method is illogical, violates fundamental PRA precepts that underlie the NRC's application of PRAs, and is inherently invalid to provide an appropriate statistical basis for estimating Pilgrim's CDF.⁶⁹

b) The Commonwealth's Spent Fuel Claims Provide no New and Significant Information that would Alter the NRC's Determination that Spent Fuel Environmental Impacts are Small for all Plants

Based on the events at Fukushima, Dr. Thompson claims that the NRC's assumptions about operators' capability to mitigate a spent fuel pool accident are unrealistically optimistic and that, as a result, there is a substantial conditional probability (of 50%) of a spent fuel pool fire occurring during a reactor accident that leads to an early release.⁷⁰ He further claims that his asserted substantial conditional probability is supported by the "direct experience from Fukushima." Thompson Report at 27.⁷¹

Dr. Thompson provides no new information based on Fukushima that would negate the Commission's determination in its 2008 Rulemaking Denial that the risk of spent fuel pool fire is "very low". Rulemaking Denial, 73 Fed. Reg. at 46,207. The Commission's conclusion was based on "[s]tudies conducted over the last three decades [that] have consistently shown that the probability of an accident causing a zirconium fire in an SFP to be lower than that for severe reactor accidents," including NUREG-1353, NUREG-1738, and the Sandia Tests discussed

⁶⁹ As set forth in Entergy's Declaration, the two points that Dr. Thompson advances in support of his direct experience CDF method lack merit. Entergy Decl. at ¶¶ 29-30.

⁷⁰ See Thompson Report at 18-20 (Issue #2, "Operators' Capability to Mitigate an Accident, and its Effect on the Conditional Probability of a Spent-Fuel-Pool Fire During a Reactor Accident.")

⁷¹ See *Id.* at 26-28 (Issue #5, "Probability of a Spent-Fuel-Pool Fire and Radioactive Release, Accounting for Fukushima Direct Experience").

above.⁷² Dr. Thompson's Report neither mentions these extensive studies nor makes any attempt to say whether they are affected by Fukushima in any way. Entergy Decl. at ¶¶ 38, 44, 46.

Instead, Dr. Thompson focuses his Report on the mitigative measures put in place by licensees subsequent to September 11, 2001, on which the Commission relied in its Rulemaking Denial to provide enhanced capability to cool spent fuel pools.⁷³ Dr. Thompson's focus on mitigative measures ignores the Commission's prior determinations, based solely on the technical studies, (1) that the potential for a zirconium fire was "extremely rare," as concluded by the Commission in the 1990 Waste Confidence Decision, (2) that the potential for a zirconium fire was of "very low likelihood," as concluded in NUREG-1738, and (3) that, as relied upon by the Commission in its Rulemaking Denial, the mitigative measures only served to "further reduce" an already "low level of risk from fuel stored in SFPs" that would not have a significant impact on the total risk for a site.⁷⁴ Thus, the Thompson Report's claims concerning mitigative measures, even if correct, would not affect the conclusion reached by the Commission in its Rulemaking Denial.

Moreover, as set forth in the Entergy Declaration, Dr. Thompson's mitigative measures claims rest on a series of faulty premises that invalidate those claims. These include:

- **First**, Dr. Thompson's Report erroneously equates the mitigative measures used at Fukushima with the mitigative measures put place in the U.S. following September 11, 2001. As is clear from the Japanese government official report, Fukushima did not have in place prior to the earthquake and tsunami mitigative measures to provide alternate cooling to the spent fuel pool. Thus, the mitigative measures utilized in

⁷² Id.

⁷³ See Rulemaking Denial, 73 Fed. Reg. at 46,212.

⁷⁴ 73 Fed. Reg. at 46,212; Entergy Decl. at ¶ 48.

Japan were developed on the spot during the course of the accident. Entergy Decl. at ¶ 50.

- In contrast, in the U.S., all nuclear utilities have been required by Commission Order⁷⁵ after September 11, 2001, to establish a range of mitigative measures to respond to events that could lead to a serious accident, including the simultaneous loss of offsite and onsite power. These required mitigative measures include providing an independent portable power supply, external to the plant, to pump makeup water from different external sources to the spent fuel pool.⁷⁶ To satisfy this requirement, Pilgrim has a dedicated portable diesel engine-driven pump, physically on site, to provide cooling for the spent fuel pools (which apparently was not available at Fukushima). Entergy Decl. at ¶¶ 51-54.
- **Second**, Dr. Thompson's Report ignores that U.S. utilities are required to have a range of mitigative measures in place to draw upon as needed, including making provision for the physical and personnel resources and the necessary training to implement them. Instead, he focuses on only one of several mitigative measures in place at all U.S. plants, which is in reality a secondary measure. Entergy Decl. at ¶ 55.
- **Third**, even with the prolonged delay in implementing mitigative measures at Fukushima, they were adequate to prevent a zirconium spent fuel pool fire because of the long extended, allowable time during which mitigative measures may be implemented to prevent a spent fuel pool zirconium fire. Entergy Decl. at ¶ 56.

Thus, Dr. Thompson's mitigative measures claims have no basis in fact. The events at Fukushima show the long time available during which mitigative measures can be implemented. Mitigative measures were not implemented until six days after the event on Unit 3 and nine days after the event on Unit 4, the unit of primary concern because it had just off-loaded a full core into the spent fuel pool, which gave the pool a much higher heat load to maintain in a cooled

⁷⁵ Mitigating Strategies Requirements from Order EA-02-026, Section B.5.b.

⁷⁶ These measures, now in place at Pilgrim and other plants, are required by each plant's license and by Commission regulation in 10 C.F.R. § 50.54(hh), and are subject to NRC inspection and enforcement.

condition. Even with this extended period of time, videos of the spent fuel pool of Unit 4 showed the “status of the racks and the fuel” in the Unit 4 spent fuel pool to be “near normal” and “nearly undamaged.” Entergy Decl. at ¶¶ 56-57. Thus, the direct experience from Fukushima corroborates the Commission’s determination in the Rulemaking Denial that there would be “a significant amount of time” from the initiating event to the possible onset of a zirconium fire, “thereby providing a substantial opportunity for both operator and system event mitigation.” Rulemaking Denial, 73 Fed. Reg. at 46,208.

Likewise, there is no basis for Dr. Thompson’s claim of 50% conditional probability of a spent fuel pool fire occurring following the event of a severe reactor accident that leads to an early release. This is an identical claim to that which made in the 2006 Thompson Report, which the Commission rejected in its Rulemaking Denial as merely Dr. Thompson’s “unsubstantiated assumption” lacking technical or analytical support. Entergy Decl. at ¶¶ 58-59. His new Report comes forward with no new support for this claim other than his reliance on mitigative measures and the direct experience of Fukushima. However, his mitigative measures reliance is both misplaced and erroneous as discussed above. And the direct experience of Fukushima shows that a spent fuel fire is very unlikely because of the extended time during which mitigative measures may be implemented to provide alternate cooling for the spent fuel. Entergy Decl. at ¶¶ 60-63.

Because of this extended time, none of the spent fuel pools at Fukushima experienced a zirconium fire, even though there were meltdowns (i.e., severe accidents) in three of the Fukushima Daiichi reactors. Nor did any of the five core melt data points relied upon in Dr. Thompson’s “direct experience” CDF method suffer a spent fuel pool fire. Therefore, following Dr. Thompson’s own line of reasoning regarding direct experience as applied in his Issue #1, the

conditional probability of a severe reactor accident also resulting in a spent fuel pool zirconium fire is zero. This fact further affirms the lack of any significant tie between the occurrence of a severe reactor accident and the occurrence of a spent fuel pool zirconium fire. Entergy Decl. at ¶ 63.

In summary, Dr. Thompson's Report provides no new or significant information based on Fukushima that supports his 50% conditional probability thesis,⁷⁷ or disturbs the Commission's conclusion in its 2008 Rulemaking Denial that there is a very low likelihood for the occurrence of a spent fuel pool fire.

c) Dr. Thompson's Claims of Secrecy Are Not NEPA Issues

Dr. Thompson's claims in Issue #3 regarding the alleged secrecy of mitigative measures do not concern either NEPA or SAMA analysis, and are therefore not pertinent here. In addition, his claims far overstate the level of secrecy that existed, and the mitigation guidelines are no longer secret. Entergy Decl. at ¶¶ 67-69. Dr. Thompson claims that events at Fukushima show that the secrecy of mitigation measures can degrade mitigation capability, and that the generic guidance on this subject should be made public. However, this policy argument does not concern NEPA or SAMA analysis and is therefore irrelevant here. Id. at ¶ 67. Further, Dr. Thompson's claims of secrecy are overstated. For one, as Dr. Thompson recognizes, (Thompson Report at 23), the generic guidance (i.e., extensive damage mitigation guidelines) has been made public. In addition, Pilgrim operators and personnel responsible for implementing mitigating actions are fully trained on their implementation. Id. at ¶ 52, 68. And, importantly, even before the guidance was made public to the population at large, Pilgrim had in place memoranda of

⁷⁷ It should be noted that even if one were to accept Dr. Thompson's 50% conditional probability thesis, it would have no material impact with respect to Pilgrim, because accepting that thesis, the probability of a spent fuel pool fire at Pilgrim would be 5 in ten million which is in the range that the Commission has found to be highly remote. Entergy Decl. at ¶ 65.

understanding or other agreements with governmental agencies to provide specific support, as requested, under the direction of Pilgrim personnel. Id. at ¶ 69.

d) Dr. Thompson's Hydrogen Control Claims are Unfounded and Do Not Materially Dispute Pilgrim's SAMA Analysis

Dr. Thompson's claims in Issue #4 with respect to hydrogen explosions are insignificant and immaterial. Entergy Decl. ¶¶ 70-91. Dr. Thompson claims that hydrogen explosions experienced at Fukushima could be replicated at the Pilgrim plant, and that the potential for such explosions has not been adequately considered in Pilgrim's SAMA analysis. Thompson Report at 24-25. He further suggests that containment venting and other hydrogen control systems at Pilgrim should be upgraded, and should use passive mechanisms as much as possible. Id. at 25-26. Not only are none of Dr. Thompson's claims justified in light of what actually occurred at Fukushima, Dr. Thompson nowhere references or addresses the Pilgrim SAMA analysis's extensive consideration of hydrogen explosions, let alone provide any explanation of how any of it is inadequate.

Dr. Thompson overstates the significance of the hydrogen explosions at Fukushima Units 1 and 3, which did not occur in the primary containments of those units. Id. at ¶ 72. Rather, as demonstrated in a report prepared by the Government of Japan on the Fukushima accident,⁷⁸ and confirmed by a report prepared by the International Atomic Energy Agency,⁷⁹ it is clear that those hydrogen explosions occurred in the reactor buildings, or secondary containments, of Units 1 and 3. Id. This distinction is important because the primary containment is the robust

⁷⁸ Report of Japanese Government to the IAEA Ministerial Conference on Nuclear Safety – The Accident at TEPCO's Fukushima Nuclear Power Stations, Nuclear Emergency Response Headquarters, Government of Japan (June 2011) ("Fukushima Report"), which is attached to the Entergy Declaration as Exhibit 4.

⁷⁹ Mission Report: The Great East Japan Earthquake Expert Mission, IAEA International Fact Finding Expert Mission of the Fukushima Daiichi NPP Accident Following the Great East Japan Earthquake and Tsunami (May 24-June 2, 2011) ("IAEA Report"). The relevant portions of the IAEA Report summarizing the sequence of events leading to the accident at Fukushima Daiichi are attached to the Entergy Declaration as Exhibit 5.

concrete-reinforced steel structure designed to contain radioactive releases from any damage to the reactor vessel. Id. at ¶ 73. At Fukushima Units 1 and 3, although the leakage pathways have not been identified, hydrogen and radioactive material leaked into the secondary containment and then exploded. Id. The result is that some gases that were intended to be released into the environment first collected in the reactor building and then were released into the environment with the explosion. Id. This sequence of events stands in stark contrast to what could have occurred had the primary containments themselves suffered catastrophic failures from hydrogen explosions. Id.

Further, the potential for hydrogen explosions is not new information, thus both design features and regulations are in place at Pilgrim to control hydrogen generation and to prevent hydrogen explosions within the primary containment. Id. at ¶ 76. In particular, the primary containment is inert, i.e., filled with non-combustible nitrogen gas. Id. Also, Pilgrim's procedures for containment venting assure that sufficient hydrogen does not accumulate within the primary containment. Id. at ¶ 77. For example, based on the data from Fukushima, Entergy's venting procedures would require venting of the primary containment long before that action was undertaken at Fukushima. Id. And at Pilgrim the authority to vent the containment rests with the control room Shift Manager, rather than a government official, as appears to have been the case at Fukushima. Id. at ¶ 78.

Moreover, the potential for hydrogen explosions within either the primary or secondary containments has been fully considered in the Pilgrim SAMA analysis. Id. at ¶¶ 79-88. Specifically, hydrogen explosion within the primary containment is considered a credible mechanism for early primary containment failure, which considers the potential loss of containment integrity at or before reactor pressure vessel failure. Id. at ¶ 85. Table E.1-5 of the

Environmental Report specifically identifies a functional event node that considers failure of the primary containment vessel due to hydrogen explosion. Id. Several collapsed accident progression bins (“CAPBs”), which represent the consequence radioactive source terms that are used to evaluate postulated accident consequences in the SAMA analysis, include accident sequences in which early containment failure occurs. Id. at ¶¶ 83, 86. Thus, hydrogen explosion is considered in these CAPBs. Similarly, the potential for hydrogen explosion in the reactor building has been considered, because the SAMA analysis considers the ability of the reactor building to retain fission products released from containment. Id. at ¶ 87. Dr. Thompson nowhere references, discusses, or otherwise disputes the means by which hydrogen explosion are already considered in the Pilgrim SAMA analysis. Id. at ¶ 88.

Finally, Dr. Thompson’s Fukushima-based, hydrogen-related concerns would not make any difference in the SAMA analysis because the analysis performed for Pilgrim bounds the events at Fukushima. Entergy Decl. at ¶ 89. A comparison of the radiological releases assumed in the single-unit Pilgrim SAMA analysis shows that the Pilgrim SAMA analysis accounts for severe accident releases that are much larger than, and which bound, the reported releases from all of the Fukushima units. Id. at ¶¶ 89-90. It is therefore not necessary to redo the Pilgrim SAMA analysis to take account of the Fukushima radioactive releases. Id. at ¶ 91.

e) Dr. Thompson’s Filtered Direct Torus Vent Claims are Unfounded and Do Not Materially Dispute Pilgrim’s SAMA Analysis

Dr. Thompson’s claim that a filtered DTV is needed and should be considered in a revised SAMA analysis has no basis in fact and fail to materially dispute the Pilgrim SAMA analysis. Entergy Decl. at ¶¶ 92-99. Any radioactive releases that would pass through the DTV would first be “scrubbed” or partially filtered by the water in the plant’s suppression chamber.

Id. at ¶ 97. Further, Pilgrim’s SAMA analysis considered the installation of a filtered DTV and, as in many other U.S. nuclear plants’ SAMA analyses, such a mechanism it was found not to be cost beneficial. Id. at ¶¶ 95-96, 99. Dr. Thompson makes no showing, in light of the Fukushima accident, that filtered venting under accident conditions may have been inadequately considered in the Pilgrim SAMA analysis. Id. at ¶ 99. Indeed, he nowhere references or disputes the Pilgrim SAMA analysis’s consideration of the DTV.

B. THE COMMONWEALTH FAILS TO MEET THE STANDARDS FOR WAIVER UNDER 10 C.F.R. § 2.335

The Commonwealth fails to meet the Commission’s standards for waiving application of a rule in an individual licensing proceeding. Among other fatal flaws, the Commonwealth fails to raise issues unique to Pilgrim. For example, the Commonwealth claims that the probability of a reactor accident, the precursor to a spent fuel pool fire, is higher than originally assumed by an order of magnitude. However, the Commonwealth’s basis for claiming that reactor accident probability has increased by that amount is based on an analysis that inherently must apply to every operating nuclear power plant in the world. Also fatal to the Waiver Petition is the fact that the Fukushima accident has revealed no special circumstances or new information about the likelihood of a spent fuel pool fire or applicable mitigation measures. Indeed, the experience of Fukushima further confirms the Commission’s longstanding determination that the risk of a spent fuel pool fire is low. Consequently, the Waiver Petition must be denied.⁸⁰

⁸⁰ The Commonwealth asserts that its Waiver Petition must be granted because a supplemental EIS is required to address its purportedly new and significant information, and in order to provide it “with the hearing to which it is entitled regarding all issues material to the relicensing of” Pilgrim under the Atomic Energy Act (“AEA”). Waiver Petition at 3, 26-29. This assertion, however, is not pertinent to the Commission’s standards for granting a waiver. It will therefore be addressed separately, infra.

1. Overview of Legal Standards for Rule Waiver

The Commission's Rules of Practice provide that a party to an adjudicatory licensing proceeding may petition that the application of a specific Commission rule or regulation be waived, or an exception be made, for the particular proceeding. 10 C.F.R. § 2.335(b) (formerly Section 2.758(b)). The rule provides that:

The sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted.

10 C.F.R. § 2.335(b) (emphasis added). The waiver of or exception to a Commission rule pursuant to 10 C.F.R. § 2.335(b) is an “exceptional action”⁸¹ that “can be granted only in unusual and compelling circumstances.”⁸² These “extremely high standards”⁸³ “are intended to ensure that duly promulgated regulations are not lightly discarded.”⁸⁴

The Commission has established a four-prong test for certification of a waiver petition pursuant to 10 C.F.R. § 2.335(b), as follows:

- (i) the rule's strict application would not serve the purposes for which it was adopted;
- (ii) the movant has alleged special circumstances that were not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived;

⁸¹ Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-89-20, 30 N.R.C 231, 234 (1989) (“Seabrook II”).

⁸² Northern States Power Co. (Monticello Nuclear Generating Plant, Unit 1), CLI-72-31, 5 AEC 25, 26 (1972) (emphasis added); accord Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-89-3, 29 N.R.C 234, 239 (1989).

⁸³ Seabrook II, CLI-89-20, 30 N.R.C. at 245.

⁸⁴ Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-895, 28 N.R.C. 7, 16 (1988) (emphasis added).

(iii) those circumstances are unique to the facility rather than common to a large class of facilities; and

(iv) a waiver of the regulation is necessary to reach a significant safety problem.⁸⁵

The use of “and” in this list of requirements is both intentional and significant because all four factors must be met.⁸⁶

The Commission has explained each prong through substantial case law, only a portion of which is summarized here. The first prong of the test requires a prima facie showing by the petitioner that “application of the rule . . . would not serve the purposes for which the rule or regulation was adopted.”⁸⁷ The statement of considerations for the underlying rule is the primary source for determining the “purposes for which the rule or regulation was adopted.”⁸⁸ In addition, the purpose of the underlying rule also includes future events that “would logically have been anticipated by NRC when it [promulgated] its rules.”⁸⁹ On the other hand, “merely conjectural statements that do nothing more than highlight the current uncertainty surrounding” future events do not “undercut the rationale for which the rule was enacted.”⁹⁰

⁸⁵ Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 N.R.C. 551, 559-560 (2005) (quotations and citations omitted).

⁸⁶ Millstone, 62 N.R.C. at 560.

⁸⁷ Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-88-10, 28 N.R.C. 573, 597 (1988) (“Seabrook I”) (emphasis added).

⁸⁸ See, e.g., Seabrook I, CLI-88-10, 28 N.R.C. at 597-98; Seabrook, ALAB-895, 28 N.R.C. at 12.

⁸⁹ Houston Lighting & Power Co. (South Texas Project, Units 1 and 2), LBP-83-37, 18 N.R.C. 52, 59 (1983).

⁹⁰ See Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), LBP-89-10, 29 N.R.C. 297, 301 (1989) (quotation and citations omitted).

The second prong requires a prima facie showing of “special circumstances . . . that were not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived.”⁹¹

This is related to the third prong, which requires a prima facie showing that the special circumstances established in the second prong “are unique to the facility rather than common to a large class of facilities.”⁹² This requirement is not met where the circumstances pled by the petitioner are “generic.”⁹³ Where the issue to be raised is generic, the proper mechanism for such a challenge is a petition for rulemaking under 10 C.F.R. § 2.802.⁹⁴

The fourth prong requires a prima facie showing “from the petition and other allowed papers [that] . . . a waiver is necessary to address, on the merits, a significant safety problem related to the rule sought to be waived,”⁹⁵ even if the other prongs are met.⁹⁶ A waiver petition “must be denied” where it “is not needed to resolve any significant safety problem.”⁹⁷ To establish a “significant safety problem” a petitioner do more than allege a “conceivable” or “theoretical” safety issue.⁹⁸ For waiver of non-safety environmental regulations, this would

⁹¹ Millstone, CLI-05-24, 62 N.R.C. at 560 (quotation and citation omitted); see also Pacific Gas & Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-653, 16 N.R.C. 55, 72-73 (1981).

⁹² Millstone, CLI-05-24, 62 N.R.C. at 560 (quotation and citations omitted).

⁹³ Id. at 562; see also Connecticut Yankee Atomic Power Co. (Haddam Neck Plant), CLI-03-7, 58 N.R.C. 1, 8 (2003) (“Waiver of a Commission rule is simply not appropriate for a generic issue.”).

⁹⁴ Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit No. 1), CLI-80-16, 11 N.R.C. 674, 675 (1980) (“The proper response . . . is not waiver of the rule under 10 C.F.R. 2.758 because this case presents no ‘special circumstances,’ but rulemaking to either amend or suspend the present rule”); accord Cleveland Electric Illuminating Power Co. (Perry Nuclear Power Plant, Units 1 and 2), LBP-81-57, 14 N.R.C. 1037, 1039 (1981).

⁹⁵ Seabrook II, CLI-89-20, 30 N.R.C. at 235 (emphasis added).

⁹⁶ See, e.g., Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-920, 30 N.R.C. 120, 129 (waiver denied where no “significant safety problem” was established, even though both “special circumstances” and “undercut the rationale for rule” prongs were established).

⁹⁷ Seabrook I, CLI-88-10, 28 N.R.C. at 579-80, 601 (emphasis added).

⁹⁸ Seabrook II, CLI-89-20, 30 N.R.C. at 243-44.

require a showing of a significant, concrete environmental matter that required resolution for the waiver to be granted.

2. The Commonwealth's Waiver Petition Fails The Standards for Waiver

The Commonwealth fails to meet all four prongs of the waiver standards. We first analyze and show that the Commonwealth has not presented any special circumstances, i.e., new and significant information not considered during the promulgation of the rule, concerning a significant environmental issue such that strict application would not serve the purpose for which the rule was adopted (which addresses prongs 1, 2, and 4.). We then show that any allegedly new and significant information raised by the Commonwealth is not unique to Pilgrim and thus the Commonwealth fails to meet the third prong as well. Consequently, the Board should deny the Waiver Petition.

a) Failure to Identify any Special Circumstances Involving a Significant Environmental Issue that Would Undercut the Purpose of the Rule

The Commonwealth and Dr. Thompson fail to demonstrate, in light of Fukushima, the existence of special circumstances (i.e., new information raising a significant environmental impact) such that the purpose of the Commission's Category 1 determination would not be served by the application of the rule. The particular rule that the Commonwealth seeks to have waived here is a generic determination by the Commission that the environmental impacts of spent fuel storage, including accident risk, are "SMALL" for all plants. 10 C.F.R. Part 51, App. B, Table B-1. The purpose of this SFP Category 1 determination is

to allow the NRC to comply with NEPA by identifying and evaluating certain environmental impacts (in this instance, relating to the storage of spent fuel) that are generic to reactor license renewal proceedings, and then allowing the Applicant and NRC to dispense with site-specific evaluations of such environmental impacts in situations covered by the generic analysis.

See Pacific Gas & Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 & 2), LBP-10-15, 72 N.R.C. ___, slip op. at 41 (Aug. 4, 2010); see also GEIS at 1-1. Part 51 treats all spent fuel accidents, whatever their cause, as generic, Category 1 events “not suitable for case-by-case adjudication.” Turkey Point, CLI-01-17, 54 N.R.C. at 22.

Here, neither the Commonwealth nor Dr. Thompson proffer any new and significant information that would undercut the purpose of the rule. They have provided no new and significant information to show that the Commission’s generic determination that the environmental impacts of spent fuel for all plants are “SMALL” is mistaken, either on a generic basis or for Pilgrim specifically as discussed below. As articulated by the Commission in its Rulemaking Denial, for new information to be significant with respect to an issue addressed in the GEIS, the new information must be “[i]nformation that was not considered in the analyses summarized in NUREG-1437 and that leads to an impact finding different from that codified in 10 CFR Part 51.”⁹⁹ The Commonwealth does not meet this criterion.

At the outset, the Commonwealth readily admits that there has been no “affirmative evidence” of a spent fuel pool fire at Fukushima, and rather asserts only that the accident confirms the validity of its previously raised (and rejected) claims. Contention at 2. Similarly, Dr. Thompson acknowledges that “no full scale [spent fuel pool] fire of the type discussed in the Thompson 2006 report” has occurred at Fukushima. Thompson Report at 26. Rather, like the Commonwealth’s Contention, he raises issues previously considered and rejected, such as the capability of operators to implement mitigative measures in an accident environment and the claim of a 50% conditional probability of spent fuel fire assuming a severe reactor accident with an early release. See, e.g., Thompson Report at 20, 27. These same concerns were previously

⁹⁹ Rulemaking Denial, 73 Fed. Reg. 46,208.

raised by Dr. Thompson in 2006,¹⁰⁰ but were rejected by the Commission in the previous Rulemaking Denial.

As set forth at length above in the discussion showing that no materially different outcome would have been likely if the information had been previously considered, nothing about Fukushima undercuts the Category 1 determination of “SMALL” impacts for all plants and the Commission’s prior Rulemaking Denial of the Commonwealth’s rulemaking petition. Neither Dr. Thompson nor the Commonwealth point to any information from Fukushima that suggests the series of extensive studies relied upon by the Commission in its Rulemaking Denial as showing a “very low likelihood” of a zirconium fuel fire are incorrect. Even with the prolonged delay at Fukushima in implementing mitigative measures, no zirconium fire occurred at Fukushima. See Entergy Decl. at ¶¶ 38, 44-46, 56.

In fact, Fukushima supports the Commission’s position because it illustrates the extended, allowable time during which mitigative measures may be implemented to prevent a spent fuel pool zirconium fire. There, the initiation of SFP cooling and spraying of water did not begin until many days after the accident occurred. Entergy Decl. at ¶ 56. The Unit 4 SFP was the subject of concern, as it had the highest heat load, but inspections of the pool have revealed minimal damage, if any, to the Unit 4 spent fuel even though mitigative cooling measures were not initiated until nine days after normal cooling was lost. Id. Thus, the events at Fukushima corroborate the Commission’s determination in the Rulemaking Denial that there would be “a significant amount of time” from the initiating event to the possible onset of a zirconium fire,

¹⁰⁰ See 2006 Thompson Report at 21 (“the spread of hot gases and radioactive material throughout the pool building . . . would preclude access by operating personnel”); 27 (“In practice, the high radiation field surrounding the pool would preclude the approach of firefighters”).

“thereby providing a substantial opportunity for both operator and system event mitigation.” 73 Fed. Reg. at 46,208.

Accordingly, Fukushima presents no special circumstances that would undercut the rational of the SFP Category 1 determination.

b) No Unique Circumstances Applicable to the Pilgrim Plant

Even if a demonstration of special circumstances undercutting the rational of the rule had been made, grounds for waiver would still not exist because nothing about the Fukushima accident applies uniquely to Pilgrim. None of the Commonwealth’s and Dr. Thompson’s claims are unique to the Pilgrim plant.

First, Dr. Thompson erroneously claims that he raises issues that are “site-specific” because spent fuel storage risks are “integrally related” to the core melt accident risks discussed in the SAMA analysis, and the analyses of core melt accident risks and SAMAs are specific to Pilgrim. Thompson Decl. at ¶ 17. This argument fails to demonstrate unique circumstances because uniqueness does not depend on what site-specific analyses the petitioner seeks to challenge. Rather, the issue is whether the alleged special circumstances that the petitioner raises apply only to a specific site. There is no showing of unique special circumstances where the information raised applies to all facilities under the regulation. See Mississippi Power & Light Co. (Grand Gulf Nuclear Station, Unit 1), LBP-84-19, 19 N.R.C. 1076, 1081 (1984).

Otherwise, there would be no purpose in promulgating a rule in the first place. For example, all or almost all U.S. commercial nuclear plants have performed a site-specific SAMA analysis. Under Dr. Thompson’s rationale, every U.S. nuclear power plant’s SAMA analysis would be vulnerable to any spent fuel pool risk-related challenge. Surely the Commission did

not intend that its generic Category 1 SFP determination could be so easily challenged. Indeed, the Commission has rejected analogous challenges as bypassing and defeating the purpose of resolving generic issues by rule.¹⁰¹

Nor do the Commonwealth or Dr. Thompson explain why any Fukushima-related information would apply only to Pilgrim. They do not and can not explain why the Fukushima events that they rely upon apply only to the potential for a spent fuel pool fire at Pilgrim. Any lessons learned from Fukushima would presumably apply not only to Pilgrim but to any other operating plant, or to all plants that have GE Mark 1 boiling water reactors.

Also absent is any explanation as to why Dr. Thompson's concerns about mitigative measures would apply only to Pilgrim. Dr. Thompson focuses on the extensive damage mitigative guidelines ("EDMGs") prepared by the Nuclear Energy Institute ("NEI"), a nuclear industry trade association, for use by the entire U.S. commercial nuclear power industry. Contrary to Dr. Thompson's claim, the mitigation strategies were not separately devised for Pilgrim. The EDMGs provide the generic requirements that are to be met by each plant's mitigative measures. Entergy Decl. at ¶ 54. While Dr. Thompson claims that, "there are several factors that could render" the EDMGs "unworkable," (Thompson Report at 19-20), nowhere does Dr. Thompson assert, let alone demonstrate, that his concerns about the workability of the NEI industry mitigative measure apply only to Pilgrim. As recognized by the Second Circuit, the mitigation measures are "mandated" to be "implemented at all nuclear power plants." New

¹⁰¹ In this proceeding the Commission previously held, and was affirmed by the U.S. Court of Appeals for the First Circuit, that adjudicating Category 1 environmental issues site by site based merely on a claim of new and significant information would defeat the purpose of resolving generic issues by a rule. Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-10-14, 71 N.R.C. ___ slip op. at 36 (June 17, 2010), citing Massachusetts v. NRC, 522 F.3d 115, 120-21 & 125-27 (2008) ("CLI-10-14"). Accepting Dr. Thompson's thesis would similarly defeat the purpose of generic determination by rule.

York, 589 F.3d at 555 (emphasis in original). Therefore, his concerns that they might be unworkable would also apply to all plants.

Further, Dr. Thompson's basis for claiming a purportedly higher likelihood of a core accident – the precursor event to a spent fuel pool fire – would also apply to every single commercial nuclear power plant operating in the world today, thus belying any unique application to Pilgrim. Dr. Thompson calculated his CDF based on “the cumulative direct experience of [nuclear power plant] accidents including the Fukushima accident,” as well as the Three Mile Island and Chernobyl accidents. Thompson Report at 29. In Dr. Thompson's own words, “[t]hese five events occurred in a worldwide fleet of commercial [nuclear power plants], of which 440 plants are currently operable,” and he finds that confidence in his calculation “is enhanced by noting that the five events occurred in three different countries at three different types of [nuclear power plants], involved different initiating events, and happened on three distinct occasions over a period of 32 calendar years.” Id. at 16. It must necessarily follow that, if the alleged likelihood of the necessary precursor to a spent fuel pool fire is derived from an analysis considering every single commercial nuclear power plant operating in the world today, then the resultant likelihood must also apply to all such plants. Consequently, Dr. Thompson's direct experience CDF is hardly unique to Pilgrim.

Thus, the Waiver Petition is not based on any issue unique to Pilgrim. The Commonwealth apparently recognizes the generic applicability of its concerns, for it has

conditionally requested a rulemaking proceeding (Waiver Petition at 30), the proper venue for generic concerns.¹⁰²

In summary, the Commonwealth's showing falls far short of the mark required by the Commission for rule waiver in an individual proceeding, and its Waiver Petition should be denied.

C. THE COMMONWEALTH'S CONTENTION FAILS THE LATE FILING STANDARDS IN 10 C.F.R. § 2.309(c)

The Commonwealth's late-filed Contention is inadmissible because it has shown no good cause for its extreme tardiness, and a balancing of the remaining factors in § 2.309(c) does not outweigh this failure.

Section 2.309(c)(1) provides that non-timely contentions will not be entertained absent a determination by the Board that the contentions should be admitted based upon a balancing of the following factors:

- (i) Good cause, if any, for the failure to file on time;
- (ii) The nature of the requestor's/petitioner's right under the Act to be made a party to the proceeding;
- (iii) The nature and extent of the requestor's/petitioner's property, financial or other interest in the proceeding;
- (iv) The possible effect of any order that may be entered in the proceeding on the requestor's/petitioner's interest;
- (v) The availability of other means whereby the requestor's/petitioner's interest will be protected;
- (vi) The extent to which the requestor's/petitioner's interests will be represented by existing parties;

¹⁰² Three Mile Island, CLI-80-16, 11 N.R.C at 675 ("The proper response . . . is not waiver of the rule under 10 C.F.R. 2.758 because this case presents no 'special circumstances,' but rulemaking to either amend or suspend the present rule"); accord Perry Nuclear Power Plant, LBP-81-57, 14 N.R.C at 1039.

- (vii) The extent to which the requestor's/petitioner's participation will broaden the issues or delay the proceeding; and
- (viii) The extent to which the requestor's/petitioner's participation may reasonably be expected to assist in developing a sound record.

10 C.F.R. § 2.309(c)(1)(i)-(viii). In keeping with the Commission's disfavor of contentions submitted after the initial filing, these factors are "stringent." Oyster Creek, CLI-09-7, 69 N.R.C. at 260 (citing Calvert Cliffs, CLI-06-21, 64 N.R.C. at 33). "Late petitioners properly have a substantial burden in justifying their tardiness." West Valley Reprocessing Plant, CLI-75-4, 1 N.R.C. at 275.

Commission case law places most importance on whether the petitioner has demonstrated sufficient good cause for the untimely filing.¹⁰³ "Good cause" has been consistently interpreted to mean that a proposed new contention be based on information that was not previously available, and was timely submitted in light of that new information. Millstone, CLI-09-5, 69 N.R.C. at 125-26 (citing Pacific Gas & Electric Co. (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-08-1, 67 N.R.C. 1, 6 (2008)).

For the same reasons that the Contention is not timely under Sections 2.326(a)(1) and 2.309(f)(2), the Commonwealth has failed to demonstrate good cause for its very late-filed Contention. The purported lessons learned from the Fukushima Daiichi accident identified by the Commonwealth are not sufficient grounds to submit a late contention here.

Because it has failed to demonstrate good cause, the Commonwealth must make a "compelling" showing with respect to the other factors. Comanche Peak, CLI-93-4, 37 N.R.C. at 165. In other words,

¹⁰³ Watts Bar, CLI-10-12 at 4; Private Fuel Storage, CLI-00-02, 51 N.R.C. at 79.

A petitioner's showing must be highly persuasive; it would be a rare case where [the Commission] would excuse a non-timely petition absent good cause.

Watts Bar, CLI-10-12, at 4 (footnote omitted).

In balancing the remaining late-filed contention factors, the Commission grants considerable weight to factors seven and eight.

We regard as highly important the intervenor's ability to contribute to the development of a sound record on a particular contention. We also are giving significant weight to the potential delay, if any, which might ensue from admitting a particular contention.

Consumers Power Co. (Midland Plant, Units 1 and 2) LBP-82-63, 16 N.R.C. 571, 577 (1982) (citations omitted) (citations omitted); see also Commonwealth Edison Co. (Braidwood Nuclear Power Station, Units 1 and 2), CLI-86-8, 23 N.R.C. 241, 246-47 (1986). Both the seventh and eighth factors weigh heavily against admitting the Commonwealth's new Contention.

With regard to the seventh factor, adding a new contention will, without a doubt, significantly delay and broaden this proceeding, which is already into its sixth year. Indeed, the Commonwealth concedes the point. Contention Motion at 8. The Commonwealth seeks to deflect this heavily-weighted criteria by raising irrelevant arguments as to why the seventh factor should not be relied on to reject its late-filed Contention. First, the Commonwealth claims that "the NRC has a non-discretionary duty to consider new and significant information." Id. This claim, however, inappropriately challenges the Commission's discretion on how to implement NEPA by claiming that the Commission's procedural requirements for late-filed contentions and reopening a closed record cannot be applied here. The DC Circuit has expressly rejected this argument. Union of Concerned Scientists v. NRC, 920 F.2d 50, 55 (D.C. Cir. 1990) ("UCS II") ("it [is] unreasonable to suggest that the NRC must disregard its procedural timetable every time a party realizes based on NRC environmental studies that maybe there was something after all to

a challenge it either originally opted not to make or which simply did not occur to it at the outset”) (footnote omitted).¹⁰⁴

Second, the Commonwealth argues that its Contention is evidence that the Commonwealth’s previous attempts to challenge spent fuel pool issues were “improperly dismissed” by the Commission. This reasoning, however, would negate the holding of the Second Circuit, (New York, 589 F.3d 551), which upheld the Commission’s decision and found the Commonwealth’s claims to be meritless. Moreover, the Commonwealth’s claim does not change the fact that its Contention would, without a doubt, broaden and delay this proceeding.

Concerning the eighth factor, the Commonwealth has failed to demonstrate that it will assist in the development of a sound record for two reasons. First, as previously discussed, its witness, Dr. Thompson, is not qualified to opine on the issues raised concerning nuclear operations and PRA analysis. Second, Entergy has demonstrated no materially different result would be likely were the Commonwealth’s claims considered.

Thus, factors one, seven and eight – the three most significant factors – count heavily against the Commonwealth. The other factors in 10 C.F.R. § 2.309(c)(1) are less important (see, e.g., Diablo Canyon, CLI-08-1, 67 N.R.C. at 6; Comanche Peak, CLI-93-04, 37 N.R.C. at 165), and therefore cannot outweigh the Commonwealth’s failure to demonstrate good cause or meet factors seven and eight.

D. THE COMMONWEALTH’S NEW CONTENTION DOES NOT MEET THE STRICT CONTENTION ADMISSIBILITY REQUIREMENTS

Even if the Commonwealth had met the standards for reopening a closed record, waiving application of a rule, and the standards for a late contention (which it has not), its Contention

¹⁰⁴ See also Discussion in Entergy Answer Opposing Commonwealth of Massachusetts Conditional Motion to Suspend License Renewal Proceeding (June 13, 2011) at 6-8.

would still be inadmissible because it does not satisfy the pleading requirements in 10 C.F.R. § 2.309(f)(1). Even if a proponent of a new contention satisfies the requirements of 10 C.F.R. § 2.309(f)(2) and 10 C.F.R. § 2.309(c), it must still demonstrate that its new contention satisfies the admissibility standards in 10 C.F.R. § 2.309(f)(1)(i)-(vi). Sacramento Municipal Utility District (Rancho Seco Nuclear Generating Station), CLI-93-12, 37 N.R.C. 355, 362-63 (1993).

10 C.F.R. § 2.309(f)(1) requires that a hearing request for any contention be set forth with particularity and:

- (i) Provide a specific statement of the issue of law or fact to be raised or controverted...;
- (ii) Provide a brief explanation of the basis for the contention;
- (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
- (iv) Demonstrate that the issue raised in the contention 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 which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing, together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue; and
- (vi) ...[P]rovide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information must include references to specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief.

10 C.F.R. § 2.309(f)(1)(i)-(vi). The Commonwealth's Contention does not meet these standards.

1. The Late Filed Contention is Not Supported by Facts or Opinion

The Commonwealth proffers Dr. Thompson's report as support for its Contention, however, Dr. Thompson's Report fails to satisfy the requirements of 10 C.F.R § 2.309(f)(1)(v).

First, as previously discussed, the Commonwealth has failed to meet its burden to demonstrate that Dr. Thompson is competent to address the claims raised in his Report concerning nuclear operations, SAMAs, and PRA analysis. Without expert support for its assertions, the Commonwealth's Contention is not viable.

Further, the Thompson Report lacks reference to any source or support for the factual assertions and opinions contained therein. Specifically, Dr. Thompson's "direct experience" CDF calculation is not supported by any source or reference. Despite Dr. Thompson's proclamation that "[t]he probability of severe core damage and an accompanying radioactive release can be estimated in two ways" (Thompson Report at 15), he provides no reference or citation to any scientific report, study, analysis, peer-reviewed scientific journal article, or any other document of any type to support his bald claim. Dr. Thompson's methodology has never been used for calculating a CDF for PRA applications and is not a scientifically accepted approach. Under well-established NRC precedent, practice and regulatory guidance, PRAs are based on specific reactor and containment design, operating procedures, and site considerations for evaluating overall vulnerabilities, establishing prioritization of potential improvements, and for purposes of making risk-informed decisions. Entergy Decl. at ¶ 25. Dr. Thompson's methodology is novel, fails to adhere to any NRC practice and regulatory guidance, fails to account for operating procedures, and fails to take into account site and design differences.¹⁰⁵ In

¹⁰⁵ Dr. Thompson claim that his "direct experience" methodology "is supported by a technical literature describing the limitations of PRA techniques." Thompson Report at 17 n.35, referencing Hirsch et. al. IAEA Safety Targets and Probabilistic Risk Assessment (Aug. 1989). However, this article has been reviewed by the IAEA and

fact, the Report fails to rely on or cite to any legitimate support, practice or procedure whatsoever.

As such, the Thompson Report itself fails to provide adequate support for the Commonwealth's Contention. The Commission has made clear that conclusory statements, even when provided by an expert, are insufficient to demonstrate that further inquiry is appropriate. USEC Inc., (American Centrifuge Plant), CLI-06-10, 63 N.R.C. 451, 472 (2006) (“[A]n expert opinion that merely states a conclusion (e.g., the application is ‘deficient,’ ‘inadequate,’ or ‘wrong’) without providing a reasoned basis or explanation for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion”) (quotation and footnote omitted).

2. Portions of the Late Filed Contention Are Not Within the Scope of the Proceeding

a) The Commonwealth Impermissibly Challenges NRC Regulations

That part of the Commonwealth's Contention which alleges that the ER is inadequate because it fails to address “new and significant information revealed by the Fukushima accident” regarding the “probability of a spent-fuel-pool fire during a reactor accident at Pilgrim” (Contention at 5-6) is inadmissible because issues associated with the environmental impacts of spent fuel storage, including accident risk and mitigation, are Category 1 issues beyond the scope of this proceeding. See Turkey Point, CLI-01-17, 54 N.R.C. at 21. To the extent the Commonwealth's Contention also challenges mitigation measures (Contention at 6-7) the Commission in Turkey Point emphasized that the GEIS covers mitigation of accidents as well as their environmental impacts. Id. at 21-22 (“[T]he GEIS deals with spent fuel storage risks

provides no scholarly support for the “direct experience” methodology in as much as it generically attacks the use of PRA. Entergy Decl. at ¶ 29.

(including accidents) generically, and concludes that ‘regulatory requirements already in place provide adequate mitigation.’”) (citations omitted). Moreover, the Commonwealth agrees that spent fuel pool issues are beyond the scope of this proceeding. Waiver at 2 (“Waiver of the spent fuel pool exclusion regulations is necessary in order to allow full consideration of the issues raised in the Commonwealth’s new contention.”). As previously analyzed, the Commonwealth has failed to demonstrate grounds for waiver.

Because the NRC's rules may not be challenged in individual licensing proceedings (10 C.F.R. § 2.335(a)), the claims challenging the environmental impacts of storage of spent fuel in the spent fuel pool are inadmissible.

b) Challenges to the Current Licensing Basis are Beyond the Scope of License Renewal

In addition, Dr. Thompson raises issues that are beyond the scope of license renewal because they concern Pilgrim’s current licensing basis. As discussed above in addressing the Commonwealth’s failure to meet the standards for reopening the record, these beyond-scope issues include the Commonwealth’s demands that potentially cost beneficial SAMAs be incorporated into the plant’s design basis; Pilgrim’s spent fuel pool be equipped with low-density, open-framed racks; and Pilgrim’s DTV be equipped with filtered venting using passive mechanisms. Thompson Report at 17-18, 25-26, 28, 29.

The Commission stressed in the license renewal rulemaking that litigated issues must be “unique to the license renewal” period:

[T]he final rule amends § 2.758 [now § 2.335] to also make clear that challenges to the ... rule could be made in the formal hearing so that certain other issues claimed to be necessary to ensure adequate protection only during the renewal term could be admitted in a formal hearing Issues that have relevance and could be completely resolved during the term of operation under the exiting

operating license as well as license renewal would not be admissible under the new provision of § 2.758 [now § 2.335] because there is no unique relevance of the issue to the renewal term.

56 Fed. Reg. at 64,961 (emphasis added). Accordingly, these current licensing basis or everyday operational issues are beyond the scope of this proceeding and thus are inadmissible. 10 C.F.R. § 2.309(f)(1)(iii).¹⁰⁶

3. The Commonwealth's Secrecy Claims Fail to Raise an Issue Material to the Findings the NRC Must Make

The Commonwealth fails to demonstrate how public disclosure of the mitigative measures put in place after September 11 (referred to also as the EDMG's) is material to the findings the NRC must make to support renewal of the Pilgrim License. 10 C.F.R. § 2.309(f)(1)(iv). The Commonwealth cites no regulation or other basis showing that public disclosure of EDMGs is material to license renewal. Indeed, public disclosure of the EDMG's is irrelevant to NEPA¹⁰⁷ and certainly has no impact on the outcome of the SAMA analysis. Accordingly, the Commonwealth's challenge to their public release is irrelevant to the findings the NRC must make. 10 C.F.R. § 2.309(f)(1)(iv).

4. The Late Filed Contention Fails to Provide Sufficient Information Showing that a Genuine Dispute Exists On a Material Issue of Law or Fact

The Commonwealth's Contention is also inadmissible because it is not supported by sufficient information to show that a genuine dispute exists with the Applicant on a material issue of law or fact, as required by 10 C.F.R. §§ 2.309(f)(1)(vi). The Commonwealth's arguments are insufficient to demonstrate a genuine material dispute with the Pilgrim's SAMA analysis. Despite its numerous claims that the SAMA analysis needs to be redone, the

¹⁰⁶ For these same reasons, the design and operational issues that the Commonwealth impermissibly seeks to raise cannot provide any basis for waiver of the SFP Category 1 determination.

¹⁰⁷ See San Luis Obispo Mothers for Peace v. NRC, 635 F.3d at 1117-118.

Contention makes no reference or citation to the Pilgrim LRA and the SAMA analysis purportedly challenged here. Under the NRC’s Rules of Practice, “a protestant does not become entitled to an evidentiary hearing merely on request, or on a bald or conclusory allegation that such a dispute exists. The protestant must make a minimal showing that material facts are in dispute, thereby demonstrating that an ‘inquiry in depth’ is appropriate.” Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,171 (Aug. 11, 1989) (quoting Conn. Bankers Ass’n v. Bd. of Governors, 627 F.2d 245, 251 (D.C. Cir. 1980)).

For example, the Commonwealth claims that the Pilgrim SAMA analysis needs to consider, in light of Fukushima, hydrogen explosions. Contention at 7 (“hydrogen explosions similar to those experienced at Fukushima could occur at Pilgrim NPP, and therefore should be considered in the SAMA analysis.”). But the potential for hydrogen explosions are fully considered in the Pilgrim SAMA analysis. As described in the ER (and explained in the Entergy Decl. at ¶¶ 82-86) the Level 2 PSA containment event tree Early Containment Failure node considers that the containment may fail soon after failure of the reactor pressure vessel due to overpressure or hydrogen explosion. See ER, Attachment E, Table E.1-5. In addition, hydrogen explosion is considered a credible mechanism for early primary containment failure and therefore contributes to the Early Containment Failure event node. Entergy Decl. at ¶ 85. Neither the Commonwealth nor Dr. Thompson mention, let alone materially dispute, this analysis.

Likewise, the Contention states that the SAMA should be “re-done” so “filtered venting of containment” may be “considered.” Contention at 7-8. But neither the Commonwealth nor

Dr. Thompson addresses the portions of the SAMA analysis that explicitly considers this issue.

Addition of a filtered DTV was considered and found not cost-beneficial:

Filtered Vent

This analysis case was used to evaluate the change in plant risk from installing a filtered containment vent to provide fission product scrubbing. A bounding analysis was performed by reducing the successful torus venting accident progression source terms by a factor of 2 to reflect the additional filtered capability.

ER, Attachment E, E.2-5. The evaluation of the filtered vent SAMA (SAMA 2) concluded that adding a filtered vent was not cost-effective by more than a factor of 3. Entergy Decl. at ¶¶ 98-99; see also Entergy Response to Request for Additional Information Regarding Severe Accident Mitigation Alternatives for Pilgrim Nuclear Power Station (TAC No. MC9676) (July 5, 2006) (Exhibit No. ENT000007), Table RAI-3-2, Revised Summary of Phase II SAMA Analysis. Therefore, the Contention must be rejected because the allegedly missing analysis is included in the ER.

Accordingly, the Contention fails to raise a genuine dispute with the Application. 10 C.F.R. § 2.309(f)(1)(vi).

E. THE COMMISSION HAS FULFILLED ITS AEA AND NEPA OBLIGATIONS

In rejecting the Contention and Waiver Petition on the grounds stated throughout this Answer, the Commission will have met all of its AEA and NEPA obligations. The Commonwealth contends that it has complied with all of the NRC's procedural requirements for admitting a contention at this stage of a proceeding, and thus believes the Commission should grant its Waiver Petition in order to provide it with the hearing to which it claims it is entitled under the Atomic Energy Act ("AEA"), so that its purportedly new and significant information

can be considered in a supplemental EIS. Waiver Petition at 26-29. The Commonwealth puts the cart before the horse, to say the least.

As discussed throughout this Answer, the Commonwealth has failed to meet the Commission's standards for reopening a hearing record, granting a waiver request, considering a late-filed contention, and admitting a contention. It is therefore not entitled to an adjudicatory hearing on its Contention. The Commonwealth has not, however, been denied any right under the AEA. Rather, consideration of the Commonwealth's Contention and Waiver Petition against the Commission's standards satisfies the Commonwealth's AEA hearing right.

Although the AEA provides a right to a hearing on nuclear plant license renewal applications, the Commonwealth itself is not guaranteed an adjudicatory hearing on its allegedly new and significant information merely by raising that information, as it seems to claim. Rather, "the courts are 'obliged to defer to the operating procedures employed by an agency when the governing statute requires only that a 'hearing' be held.'"¹⁰⁸ Therefore, the Commonwealth must satisfy the applicable Commission procedural requirements for raising new information in an ongoing licensing proceeding. UCS II, 920 F.2d at 55. The Commission fulfills its AEA obligations with respect to the Commonwealth's purportedly new and significant information by applying, *inter alia*, its procedural requirements for reopening a record, waiver of a rule (for those aspects of the Contention requiring such a waiver), late-filed contentions, and contention admissibility to the purportedly new and significant information that the Commonwealth claims the Commission must consider. *Id.* Were this not the case, the NRC would be required to hold a

¹⁰⁸ Kelly v. Selin, 42 F.3d 1501, 1511 (6th Cir. 1995), quoting USC II, 920 F.2d at 54.

formal adjudicatory hearing every time someone alleged the existence of new and significant information.¹⁰⁹

Similarly flawed is the Commonwealth's claim concerning the Commission's NEPA obligations, specifically that a supplemental EIS is required. NEPA does not require that an agency "supplement an EIS every time new information comes to light after the EIS is finalized" because to require otherwise "would render agency decisionmaking intractable."¹¹⁰ Rather, supplementation of an EIS on the basis of new information is required only where the new information "paint[s] a 'seriously different picture of the environmental landscape.'"¹¹¹ The courts have allowed agencies to employ many different approaches for determining whether allegedly new and significant impacts are sufficiently significant to warrant supplemental analysis and formal supplementation of existing NEPA documents. Among other examples, Federal Courts have approved (1) an agency's internal reevaluation of projected impacts from new information;¹¹² (2) use of an agency-requested expert analysis;¹¹³ (3) an agency record of decision based on review of previous NEPA documents;¹¹⁴ (4) an agency supplemental information report based on agency-requested expert analysis;¹¹⁵ and (5) review of scientific literature to conclude that adverse impacts were unlikely.¹¹⁶ In short, neither a supplemental EIS nor an environmental assessment is required to document an agency's determination that new information does not have a significant environmental impact.

¹⁰⁹ In the context of this proceeding, the Commission has made clear that such is not the case. See CLI-10-14 at 36.

¹¹⁰ Marsh v. Oregon Natural Res. Council, 490 U.S. 360, 373 (1989) (footnote omitted).

¹¹¹ PFS, CLI-06-3, 63 N.R.C. at 28 (citations omitted) (emphasis in original).

¹¹² North Idaho Community Action Network, 545 F.3d 1147, 1154 (9th Cir. 2008).

¹¹³ Highway J Citizens Group v. Mineta, 349 F.3d 938, 959-60 (7th Cir. 2003), cert. denied, 541 U.S. 974 (2004).

¹¹⁴ Hodges v. Abraham, 300 F.3d 432, 446, 448 (4th Cir. 2002), cert. denied, 537 U.S. 1105 (2003).

¹¹⁵ Marsh, 490 U.S. at 383-85.

¹¹⁶ NRDC v. FAA, 564 F.3d 549, 562 (2d Cir. 2009).

Here, the Commonwealth's claims have received the "hard look" required under NEPA as a result of the NRC's application of its procedural requirements to the purportedly new and significant information. Long standing precedent holds that NEPA does not require that the NRC abandon its procedures every time someone alleges new and significant information.¹¹⁷ Those procedures have been duly applied here. The Commission equates the standard that governs whether supplementation of an EIS is required with the standard for raising a significant environmental issue under 10 C.F.R. § 2.326.¹¹⁸ This rationale would also apply to waiver petitions, which require a demonstration of a significant safety or environmental issue before application of a rule could be waived.¹¹⁹ As set forth in Entergy's Declaration, none of the Commonwealth's claims as any merit, and none of them identify a new or significant environmental issue revealed by Fukushima that would impact the Pilgrim plant. Entergy Decl. at ¶¶ 14, 100. Accordingly, a determination that the Commonwealth has failed to raise a significant environmental issue fulfills the Commission's NEPA obligation to take a hard look at the information raised by the Commonwealth.

In sum, the Commission has fulfilled both its AEA and NEPA obligations here.

¹¹⁷ UCS II, 920 F.2d at 55 ("it [is] unreasonable to suggest that the NRC must disregard its procedural timetable every time a party realizes based on NRC environmental studies that maybe there was something after all to challenge it either originally opted not to make or which simply did not occur to it at the outset") (footnote omitted).

¹¹⁸ PFS, CLI-06-03, 63 N.R.C. at 29 (2006) (holding that claimed additional environmental impacts were "not so significant or central to the FEIS's discussion of environmental impacts that an FEIS supplement (and the consequent reopening of our adjudicatory record) is reasonable or necessary").

¹¹⁹ Millstone, CLI-05-24, 62 N.R.C at 559-560.

V. CONCLUSION

For all of the foregoing reasons, the Commonwealth's Contention and Waiver Petition should be denied.

Respectfully submitted,

/s/ signed electronically by Paul A. Gaukler

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Dated: June 27, 2011

Counsel for Entergy

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
Entergy Nuclear Generation Company and	)	Docket No. 50-293-LR
Entergy Nuclear Operations, Inc.	)	ASLBP No. 06-848-02-LR
	)	
(Pilgrim Nuclear Power Station)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of Entergy's Answer Opposing Commonwealth Contention and Petition for Waiver Regarding New and Significant Information Based on Fukushima, and the Declaration of Joseph R. Lynch, Lori A. Potts, and Dr. Kevin R. O'Kula in Support of Entergy Answer Opposing Commonwealth Claims of New and Significant Information Based on Fukushima, both dated June 27, 2011, were provided to the Electronic Information Exchange for service on the individuals below, this 27th day of June, 2011.

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