

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	Docket Nos. 50-247-LR and
)	50-286-LR
ENTERGY NUCLEAR OPERATIONS, INC.)	
)	
(Indian Point Nuclear Generating Units 2 and 3))	
)	March 10, 2015

**ENTERGY'S CONSOLIDATED ANSWER OPPOSING INTERVENORS'
MOTIONS TO AMEND CONTENTIONS NYS-25 AND NYS-38/RK-TC-5**

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I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(i)(1) and in accordance with the Atomic Safety and Licensing Board’s (“Board”) Scheduling Order of July 1, 2010¹ (“Scheduling Order”) and Order of August 8, 2012,² Entergy Nuclear Operations, Inc. (“Entergy”) submits this consolidated Answer opposing both the State of New York’s (“NYS” or “the State”) Motion for Leave to Supplement Previously-Admitted Contention NYS-25 (“NYS-25 Motion”),³ and NYS and Riverkeeper (“Intervenors”) Motion for Leave to Supplement Previously-Admitted Joint

¹ Licensing Board Scheduling Order (July 1, 2010) (unpublished) (“Scheduling Order”).

² See Licensing Board Order (Concerning Recent Changes to 10 C.F.R. Part 2) (Aug. 8, 2012) (unpublished) (“2012 Part 2 Order”) (recognizing that the changes to the Rules of Practice promulgated in 2012 govern all obligations and disputes that arise after Sept. 4, 2012, absent a subsequent order from the Board).

³ Along with the NYS-25 Motion, the State also filed the: (1) New York State February 2015 Supplement to Previously-Admitted Contention NYS-25 (Feb. 13, 2015) (“NYS-25 Supplement”), *available at* ADAMS Accession No. ML15044A91; (2) Declaration of Lisa S. Kwong (Feb. 13, 2015) (“Kwong Declaration”), attaching three documents, *available at* ADAMS Accession No. ML15044A495; and (3) Declaration of Richard T. Lahey, Jr. (Feb. 13, 2015) (“2015 Lahey Declaration”), *available at* ADAMS Accession No. ML15044A492 (collectively, “Amended Contention NYS-25”). The State filed both public (redacted) and non-public (proprietary) versions of the Kwong and Lahey Declarations. On February 17, 2015, the State filed corrected proprietary versions of these declarations with the markings specified in the Licensing Board Protective Order (Sept. 4, 2009) (unpublished) (“Protective Order”).

Contention NYS-38/RK-TC-5 (“NYS-38/RK-TC-5 Motion,”)⁴ (collectively with the NYS-25 Motion, “Motions”). Both Motions were filed on February 13, 2015. Both proposed Amended Contentions proffered in the Motions largely address Entergy’s aging management program (“AMP”) for reactor vessel internals (“RVIs”).

The Board provided Intervenors with an opportunity to file new contentions or amend their existing Track 2 safety contentions⁵ following the publication of the second supplement to the safety evaluation report for Indian Point Nuclear Generating Units 2 and 3 (“Indian Point”) license renewal (“SSER 2”).⁶ This opportunity is reasonable, as the existing contentions are now all more than three years old and there have been substantial developments since they were last amended.⁷ Yet, despite the availability of considerable new information developed by the Electric Power Research Institute (“EPRI”) Materials Reliability Program (“MRP”), Westinghouse, Entergy, and the U.S. Nuclear Regulatory Commission (“NRC” or “Commission”)—directly relevant to the issues raised in the proposed Amended Contentions—the Intervenors have passed up this opportunity by simply repackaging and restating their prior claims without adequately addressing the new information the NRC Staff evaluated and documented in SSER 2. Thus, the proposed

⁴ Along with the NYS-38/RK-TC-5 Motion, Intervenors filed a partially-overlapping set of documents: (1) New York State and Riverkeeper February 2015 Supplement to Previously-Admitted Contention NYS-38/RK-TC-5 (Feb. 13, 2015) (“NYS-38/RK-TC-5 Supplement”), *available at* ADAMS Accession No. ML 15044A498; (2) Declaration of Dr. Joram Hopenfeld (Feb. 12, 2015) (“Hopenfeld Declaration”), *available at* ADAMS Accession No. ML15044A502; and (3) a separate copy of the 2015 Lahey Declaration (collectively, “Amended Contention NYS-38/RK-TC-5” and, collectively with Amended Contention NYS-25, the “Amended Contentions”). Intervenors filed both public (redacted) and non-public (proprietary) versions of the Hopenfeld and Lahey Declarations. On February 17, 2015, the Intervenors also filed corrected proprietary versions of these declarations, with the markings specified in the Protective Order.

⁵ *See* Licensing Board Revised Scheduling Order at 2 (Dec. 9, 2014) (unpublished) (“Revised Scheduling Order”). The Track 2 safety contentions are NYS-25 concerning reactor vessel internals, NYS-26B/RK-TC-1B concerning metal fatigue, and NYS-38/RK-TC-5 concerning certain safety commitments, collectively referred to as “Contentions.”

⁶ NUREG-1930, Supp. 2, Safety Evaluation Report Related to the License Renewal of Indian Point Nuclear Generating Unit Nos. 2 and 3 (Nov. 2014) (“SSER 2”), *available at* ADAMS Accession No. ML14310A803.

⁷ Accordingly, Entergy and the NRC Staff did not object to this opportunity.

Amended Contentions fail to address, much less dispute, the most current technical documentation related to these contentions.

In addition, Intervenor make various claims that attack Commission rules, contrary to 10 C.F.R. §§ 2.335 and 2.309(f)(1)(iii). The Amended Contentions also are based on unsupported speculation, contrary to 10 C.F.R. §§ 2.309(f)(1)(v) and (vi). Finally, Amended Contention NYS-25 makes untimely claims regarding fatigue analyses of non-RVI components that were not even considered in SSER 2, contrary to the Scheduling Order and 10 C.F.R. § 2.309(c). Accordingly, the Motions should be denied in their entirety.⁸

Moreover, the Intervenor have not addressed—with only very limited exceptions addressed specifically below—the technical basis for the RVI AMP as developed by the EPRI MRP, Westinghouse, Entergy, and reviewed by the NRC Staff. As a result, the Board should clarify that any new arguments and bases not already pled in NYS-25 and NYS-38/RK-TC-5 are outside the scope of the contentions. Specifically, consistent with binding Commission precedent, the Board should make clear that Intervenor’s testimony on these contentions cannot raise new arguments or challenges to the technical bases for the RVI AMP that they failed to address in the Amended Contentions.⁹

⁸ Entergy recognizes that the currently-admitted Track 2 safety contentions would remain in place. Under the Revised Scheduling Order, it may file dispositive motions for the Track 2 safety contentions within 20 days of the Board’s ruling on the pending Motions.

⁹ See, e.g., *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 310, n.50 (Mar. 8, 2012) (“an admitted contention is defined by its bases”); *S. Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), CLI-10-5, 71 NRC 90, 100-01 (2010) (excluding testimony that strayed beyond the scope of the bases as pled and admitted, because those bases “defined the scope of the . . . contention.”); *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 309 (2010) (explaining that the “reach of a contention necessarily hinges upon its terms coupled with its stated bases”) (citing *Pub. Serv. Co. of N. H.* (Seabrook Station, Units 1 & 2), ALAB-899, 28 NRC 93, 97 (1988)); *Nuclear Mgmt. Co., LLC* (Palisades Nuclear Plant), CLI-06-17, 63 NRC 727, 732 (2006) (“New bases for a contention cannot be introduced in a reply brief, or any other time after the date the original contentions are due, unless the petitioner meets the late-filing criteria . . .”).

II. BACKGROUND

A. Procedural History

1. Procedural History of NYS-25

NYS first proffered Contention NYS-25 in 2007, as part of its initial Petition to Intervene.¹⁰ The Contention alleged that: “Entergy’s License Renewal Application does not include an adequate plan to monitor and manage the effects of aging due to embrittlement of the reactor pressure vessels (“RPVs”) and the associated internals.”¹¹ The Board admitted NYS-25 in 2008.¹²

Two years later, in 2010, NYS filed a motion to submit “additional bases” for NYS-25.¹³ The amended NYS-25 focused on Entergy’s 2010 amendment of its license renewal application¹⁴ (“LRA”) to include a detailed AMP for RVIs. The amended contention alleged, among other things, that Entergy’s RVI AMP did not consider “synergistic” aging effects or potential “shock loads,” did not provide sufficient details on baseline and periodic inspections, did not provide sufficient details on corrective actions, including repair or replacement, “disavow[ed]” preventive actions, and relied on vague future commitments.¹⁵ On July 6, 2011, the Board admitted the

¹⁰ New York State, Notice of Intention to Participate and Petition to Intervene at 223 (Nov. 30, 2007), *available at* ADAMS Accession No. ML073400187.

¹¹ *Id.*

¹² *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-08-13, 68 NRC 43, 131 (2008).

¹³ *See* State of New York’s Motion for Leave to File Additional Bases for Previously-Admitted Contention NYS-25 in Response to Entergy’s July 14, 2010 Proposed Aging Management Program for Reactor Pressure Vessels and Internal Components (Sept. 15, 2010), *available at* ADAMS Accession No. ML103050402.

¹⁴ Entergy, License Renewal Application, Indian Point Energy Center (Apr. 23, 2007) (“LRA”), *available at* ADAMS Accession No. ML071210517.

¹⁵ *See* State of New York’s Motion for Leave to File Additional Bases for Previously-Admitted Contention NYS-25 in Response to Entergy’s July 14, 2010 Proposed Aging Management Program for Reactor Pressure Vessels and Internal Components at 2 (Sept. 15, 2010), *available at* ADAMS Accession No. ML103050402; Declaration of Richard T. Lahey, Jr., ¶¶ 13-15 (Sept. 15, 2010) (attached to motion).

amended NYS-25.¹⁶ Subsequently, the Board placed NYS-25 on the schedule for the second set of hearings in this proceeding (*i.e.*, “Track 2”).¹⁷

Since NYS last sought to amend NYS-25 in 2010, the NRC Staff issued its safety evaluation for MRP-227, Revision 0.¹⁸ As discussed further below, over more than a decade, a team of EPRI experts developed the technical basis for the standardized AMP for pressurized water reactor (“PWR”) RVIs documented in MRP-227, Revision 0. EPRI then issued its NRC-approved RVI aging management guidance, MRP-227-A, in December 2011.¹⁹ Entergy submitted a revised RVI AMP and inspection plan based on MRP-227-A on February 17, 2012.²⁰ Following Entergy’s submission of significant additional technical information in response to NRC requests for additional information (“RAI”), the NRC Staff approved Entergy’s revised RVI AMP and Inspection Plan as documented in SSER 2 issued on November 6, 2014.²¹

¹⁶ Licensing Board Order (Ruling on Pending Motions for Leave to File New and Amended Contentions) at 27 (July 6, 2011) (unpublished).

¹⁷ See Licensing Board Order (Granting NRC Staff’s Unopposed Time Extension Motion and Directing Filing of Status Updates) at 2 (Feb. 16, 2012) (unpublished).

¹⁸ See Letter from R. Nelson, Deputy Director, Division of Policy and Rulemaking, NRC, to N. Wilmshurst, Vice President and Chief Nuclear Officer, EPRI, Final Safety Evaluation of EPRI Report, Materials Reliability [Program] Report 1016596 (MRP-227), Revision 0, “Pressurized Water Reactor (PWR) Internals Inspection and Evaluation Guidelines” (TAC No. ME0680) (June 22, 2011) (“SE for MRP-227, Revision 0”), *available at* ADAMS Accession No. ML111600498.

¹⁹ EPRI, Materials Reliability Program: Pressurized Water Reactor Internal Inspection and Evaluation Guidelines (MRP-227-A) (Dec. 2011) (“MRP-227-A”), *available at* ADAMS Accession No. ML120170453. The NRC updated its SE for MRP-227, Revision 0 with a safety evaluation for MRP-227-A, which is published within the MRP-227-A document. See MRP-227-A at first thirty-nine pages following iii (Dec. 16, 2011) (“SE for MRP-227-A”).

²⁰ NL-12-037, Letter from F. Dacimo, Vice President, Entergy, to NRC Document Control Desk, License Renewal Application – Revised Reactor Vessel Internals Program and Inspection Plan Compliant with MRP-227-A (Feb. 17, 2012) (“NL-12-037”), *available at* ADAMS Accession No. ML12060A312.

²¹ See SSER 2 at A-11.

2. Procedural History of NYS-38/RK-TC-5

On September 30, 2011, following the NRC Staff's August 2011 publication of SSER 1, NYS and Riverkeeper moved to admit new contention NYS-38/RK-TC-5,²² which alleged that Entergy:

is not in compliance with the requirements of 10 C.F.R. §§ 54.21(a)(3) and (c)(1)(iii) and the requirements of 42 U.S.C. §§ 2133(b) and (d) and 2232(a) because Entergy *does not demonstrate that it has a program* that will manage the affects [sic] of aging of several critical components or systems and thus NRC does not have a record and a rational basis upon which it can determine whether to grant a renewed license to Entergy as required by the Administrative Procedure Act.²³

Intervenors, in essence, claimed Entergy was seeking to evade adjudicatory review of its AMPs—including its RVI AMP—by allegedly vague commitments to develop full AMPs at a later date, rather than “present[ing]” AMPs for review in this proceeding.²⁴ Specifically, Intervenors focused on Entergy's commitments related to RVIs, metal fatigue, and potential primary water stress corrosion cracking (“PWSCC”) in steam generator components.²⁵ On November 20, 2011, the Board admitted NYS-38/RK-TC-5, finding that the Intervenors raised a genuine dispute over the adequacy of Entergy's “recent commitments.”²⁶ The Board ultimately moved the hearing on this contention to Track 2 as well.²⁷ As noted in the summary of the

²² See State of New York and Riverkeeper's Joint Motion for Leave to File a New Contention Concerning Entergy's Failure to Demonstrate That It Has All Programs That Are Required to Effectively Manage the Effects of Aging of Critical Components or Systems (Sept. 30, 2011), *available at* ADAMS Accession No. ML11273A195; State of New York and Riverkeeper's New Joint Contention NYS-38/RK-TC-5 (“Original Proposed NYS-38/RK-TC-5”), *available at* ADAMS Accession No. ML11273A196.

²³ Original Proposed NYS-38/RK-TC-5 at 1 (emphasis added).

²⁴ See *id.* at 1, 3.

²⁵ See *id.* at 1-3.

²⁶ Licensing Board Memorandum and Order (Admitting New Contention NYS-38/RK-TC-5) at 11 (Nov. 10, 2011) (unpublished).

²⁷ See Licensing Board Order (Evidentiary Hearing Administrative Matters) (Sept. 14, 2012) (unpublished). The Board also held testimony in abeyance for RVI-related matters in NYS-38/RK-TC-5, but the parties submitted prefiled testimony on the remaining issues raised in the contention. See Licensing Board Order (Denying NRC Staff's Motion for Partial Reconsideration and State of New York/Riverkeeper's Cross-Motion to NRC Staff's Motion for Reconsideration) (Apr. 23, 2012) (unpublished).

procedural history of NYS-25, above, in the three and one-half years since the Intervenor proffered NYS-38/RK-TC-5, the industry, Entergy, and the NRC Staff have significantly developed the record on Entergy's AMPs addressed in NYS-25 and NYS-38/RK-TC-5. But this is the first time the Intervenor has sought to amend this contention, and has only done so with respect to the RVI AMP—not with respect to the metal fatigue or steam generator-related commitments addressed in NYS-38/RK-TC-5. Accordingly, those aspects of the contention remain unchanged.

B. Technical Background

1. Development of the NRC-Approved Aging Management Program for Reactor Vessel Internals for Pressurized Water Reactors

Based on considerable safety research and operating experience, the EPRI MRP developed the guidance that appears in MRP-227-A, which provides a comprehensive, risk-prioritized inspection program for managing the effects of aging for RVI components in a PWR.

The development of MRP-227-A proceeded in four steps: (1) development of screening criteria for the applicable aging mechanisms; (2) screening of RVI components based on susceptibility to degradation; (3) functionality analysis and failure modes, effects, and criticality analyses (“FMECA”), which resulted in the “binning” of components into different risk severity and inspection categories; and (4) development of the inspection and evaluation guidelines and flaw evaluation methodology.²⁸ MRP-227-A is supported by numerous underlying EPRI MRP technical studies, covering topics from aging degradation mechanisms, categorization of components, aging management strategies, acceptance criteria, and other topics.²⁹ Based on this process and on the supporting MRP reports, MRP-227-A provides comprehensive aging

²⁸ See SE for MRP-227-A at 4; *see also id.* at 1-1.

²⁹ *See id.* at 8-1 to 8-2 (References).

management guidelines, detailing inspections to detect the effects of aging, methods to evaluate such aging effects, and considerations for repair or replacement of degraded components.³⁰

To monitor the potential effects of aging on PWR RVIs caused by known age-related degradation mechanisms, including the potential combined effects of such mechanisms,³¹ MRP-227-A divides RVI components into four groups with different aging management activities specified for each group (Primary, Expansion, Existing Programs, and No Additional Measures) depending on: (1) the relative susceptibility to and tolerance of applicable aging effects, and (2) the existence of other programs that manage the effects of aging on those components.³² MRP-227-A also contains specific, conservative examination acceptance criteria in Section 5 that can be used to determine when a particular examination result must be entered into the plant corrective action program.³³ Section 6 of MRP-227-A describes the corrective action program options and a methodology to develop engineering acceptance criteria.³⁴

As previously noted, the NRC Staff issued its Safety Evaluation for MRP-227, Revision 0, in June 2011.³⁵ The NRC Staff identified seven Topical Report Conditions and eight Applicant/Licensee Action Items (“A/LAI”) that must be addressed by applicants and licensees on

³⁰ See *id.* at 1-1 to -2, 8-1 to 8-2 (References); see also Materials Reliability Program: Inspection Standard for PWR Internals (MRP-228) at 2-1 to 2-19 (July 2009); Materials Reliability Program: PWR Internals Material Aging Degradation Mechanism Screening and Threshold Values (MRP-175) (2005) (NYS000319); Materials Reliability Program: Screening, Categorization and Ranking of Reactor Internals of Westinghouse and Combustion Engineering PWR Designs (MRP-191) (2006) (NYS000321) (“MRP-191”); Materials Reliability Program: Functionality Analysis for Westinghouse and Combustion Engineering Representative PWR Internals (MRP-230) (2008); Materials Reliability Program: Aging Management Strategies for Westinghouse and Combustion Engineering PWR Internals (MRP-232) (2008); Materials Reliability Program: Fracture Toughness Evaluation of Highly Irradiated PWR Stainless Steel Internal Components (MRP-210) (2007) (all referenced in MRP-227-A). Entergy disclosed all of these documents to Intervenor through the mandatory disclosure process on or before November 7, 2011, so they have been available for Intervenor review for over three years.

³¹ See MRP-227-A at 3-12 to 3-14.

³² See *id.* at 3-15 to 3-16.

³³ See *id.* at 5-1 to 5-23.

³⁴ See *id.* at 6-1 to 6-11. The corrective action program considers several potential disposition paths, including more detailed examination, engineering evaluation, repair or replacement. See *id.* at 6-2 to 6-3; NL-12-037, Attach. 1 at 8 (referencing Section 6 of MRP-227-A).

³⁵ See SE for MRP-227-A.

a plant-specific basis.³⁶ In the Safety Evaluation for MRP-227, Revision 0, the Staff requested that EPRI publish an “accepted” version of MRP-227 (*i.e.*, a version addressing the Topical Report Conditions, A/LAIs, RAIs, and RAI responses in a single document), to be designated “MRP-227-A.”³⁷ EPRI did so on December 2011.³⁸ In the Safety Evaluation for MRP-227-A, the Staff concluded that:

Any applicant may reference MRP-227 as modified by this [Safety Evaluation] and approved by the NRC, in a LRA or other licensing action to satisfy the requirements of 10 CFR 54.21(a)(3) for demonstrating that the effects of aging on the RVI components, within the scope of MRP-227, will be adequately managed.³⁹

2. Background on the Indian Point Plant-Specific Aging Management Program

Consistent with its commitment in the original LRA to participate in, evaluate, and implement industry programs regarding the aging management of RVIs and submit an inspection plan for NRC review and approval,⁴⁰ Entergy submitted its RVI Inspection Plan on September 28, 2011, two years prior to entering the period of extended operation (“PEO”) for Indian Point Nuclear Generating Unit 2 (“IP2”).⁴¹ Due to this timing, the Inspection Plan was based on the original MRP-227, but also addressed the NRC Staff’s action items and conditions in the Safety Evaluation for MRP-227, Revision 0.⁴²

³⁶ *Id.* at 24-30.

³⁷ *Id.* at 1.

³⁸ *See* MRP-227-A at second page following cover.

³⁹ SE for MRP-227-A at 35.

⁴⁰ NL-07-039, Letter from F. Dacimo, Vice President, Entergy, to NRC Document Control Desk, License Renewal Application, Attachment at 12 (Apr. 23, 2007), *available at* ADAMS Accession No. ML071210512.

⁴¹ *See* NL-11-107, Letter from F. Dacimo, Vice President, Entergy, to NRC Document Control Desk, License Renewal Application – Completion of Commitment # 30 Regarding the Reactor Vessel Internals Inspection Plan (Sept. 28, 2011), *available at* ADAMS Accession No. ML11280A121.

⁴² *See id.*

Following EPRI's issuance of MRP-227-A, Entergy revised its RVI AMP and Inspection Plan to conform to the new, NRC Staff-approved guidance.⁴³ The NRC Staff issued follow-up RAIs on several topics, and Entergy provided significant additional technical information in its responses.⁴⁴ The NRC Staff documented its review and approval of the Indian Point RVI AMP and Inspection Plan in SSER 2 on November 6, 2014, making Indian Point the first PWR with an NRC-approved RVI program.⁴⁵ The NRC Staff concluded that Entergy demonstrated that the effects of aging on RVI components will be adequately managed, as required under 10 C.F.R. § 54.21(a)(3).⁴⁶ The Staff also concluded that Entergy's RVI Inspection Plan "implements the elements of the RVI AMP in an acceptable manner."⁴⁷ In short, the Staff found that Entergy's program is consistent with the RVI inspection and evaluation guidelines in MRP-227-A, and that Entergy adequately addressed all of the A/LAIs and Topical Report Conditions.⁴⁸

C. Intervenor's Proposed Amended Contentions

1. New York State's Proposed Amendments to NYS-25

On February 13, 2015, the State filed its proposed Amended Contention NYS-25. The State's principal claims, which are largely unchanged from those made in 2010, are as follows:

- (1) The Indian Point RVI AMP remains "inadequate under 10 C.F.R. § 54.21(c)(1)(iii) because it does not address or manage the combined synergistic aging effects of embrittlement, fatigue, and other aging mechanisms on RVI components."⁴⁹ Further,

⁴³ See NL-12-037.

⁴⁴ See SSER 2 at 3-13 to 3-59; SSER 2 at App'x B (showing chronology of correspondence between Entergy and NRC Staff).

⁴⁵ *Id.* at 6-1.

⁴⁶ *Id.* at 3-26.

⁴⁷ *Id.* at 3-59.

⁴⁸ *See id.*

⁴⁹ NYS-25 Supplement at 2 ¶ 3.8; *see also id.* 2 ¶ 3.9 & 6-7 ¶ 7.14. The Intervenor has not identified the correct regulation. The overall RVI AMP is intended to meet the requirements of 10 C.F.R. § 54.21(a)(3), governing AMPs in general, not Section 54.21(c)(1)(iii), which addresses the option to resolve time-limited aging analyses through an AMP.

Entergy has purportedly “reaffirmed that it will not take preventative actions,” and that the RVI AMP “fails to address the possibility that a shock load will cause highly fatigued and degraded RVI components to fail entirely prior to the appearance of cracks or other detectable signs of wear.”⁵⁰ The State also asserts that the “regulatory and scientific communities”⁵¹ and the federal government are beginning to recognize the validity of Dr. Lahey’s concerns regarding the RVI AMP.⁵²

- (2) “It is important to maintain safety margins” during the period of extended operation.⁵³ In support of this claim, the State raises the possibility of “calculational or modeling mistakes,”⁵⁴ and concludes that the solution is “repair or replacement” of the RVIs, in lieu of an AMP.⁵⁵
- (3) Certain aging management activities are inadequate, including the failure to submit acceptance criteria for the baffle-former bolt inspections.⁵⁶
- (4) The Westinghouse environmentally-assisted fatigue (“EAF”) calculations prepared for Indian Point allegedly: (a) do not adequately account for all combined factors affecting component life and functionality; (b) often conclude that there are environmentally-corrected cumulative usage factors (“CUF_{ens}”) close to the limit of 1.0, without an “error analysis”; and (c) will not be completed for Indian Point Nuclear Generating Unit 3 (“IP3”) until later this year.⁵⁷

2. Intervenor’s Proposed Amendments to NYS-38/RK-TC-5

The proposed amendments to NYS-38/RK-TC-5, also filed on February 13, 2015, largely overlap the proposed amendments to NYS-25. Specifically, the supplemental bases for NYS-

⁵⁰ *Id.* at 2 ¶ 3.8.

⁵¹ NYS-25 Motion at 9.

⁵² NYS-25 Supplement at 7 ¶ 7.16.

⁵³ *Id.* at 7 ¶ 7.15.

⁵⁴ *Id.*

⁵⁵ NYS-25 Motion at 10; *see also* 2015 Lahey Declaration at 16 ¶ 23.

⁵⁶ NYS-25 Supplement at 5 ¶ 7.12; *see also id.* at 3 ¶ 3.10(b), 5 ¶ 7.13.

⁵⁷ *Id.* at 4-5 ¶ 7.11; *see also id.* at 3 ¶¶ 3.10(a), (c).

38/RK-TC-5 raise similar claims about the need to address synergistic aging effects,⁵⁸ the alleged lack of preventive actions,⁵⁹ and the need to address potential shock loads on “highly fatigued and embrittled RVI components.”⁶⁰ Second, the proposed amended NYS-38/RK-TC-5 argues that Entergy should dispense with the RVI AMP in favor of “pre-emptive part replacement.”⁶¹ Third, the filings on NYS-38/RK-TC-5 raise similar concerns regarding the baffle-former bolts and other specific RVI components.⁶² Finally, the supplemental bases for NYS-38/RK-TC-5 raise essentially the same concerns regarding the Westinghouse EAF analyses,⁶³ although these claims are supported by the Hopensfeld Declaration in addition to Dr. Lahey’s Declaration.

As previously noted, given these similarities, Entergy is filing this consolidated Answer. Throughout this Answer, Entergy identifies where each particular claim is raised in both contentions, or in only one.

* * * * *

As explained in the following sections, none of these claims raise any new admissible issue with respect to the already-admitted contentions. In fact, few, if any, of these claims are new. Intervenors have largely disregarded the substantial technical basis for the RVI AMP contained in MRP-227-A, its supporting technical reports spanning over a decade, and the plant-specific technical analyses submitted by Entergy for Indian Point and reviewed by the Staff in SSER 2—despite the availability of this substantial information through the mandatory disclosure process.⁶⁴

⁵⁸ See NYS-38/RK-TC-5 Supplement at 1 ¶ 5.1.

⁵⁹ See *id.* at 3 ¶ 12.1.

⁶⁰ See *id.* at 2 ¶ 5.3. The claim that the regulatory and scientific community supports Dr. Lahey’s claims regarding the RVI AMP does not appear to be specifically raised in NYS-38/RK-TC-5.

⁶¹ See *id.*

⁶² See, e.g., *id.* at 3 ¶ 12.1.

⁶³ See, e.g., *id.* at 3-4 ¶ 12.2.

⁶⁴ The Intervenors have routinely requested and received copies of documents disclosed by Entergy related to the Contentions.

As a result, the claims in the Amended Contentions are: (a) out of date; (b) untimely; (c) represent impermissible challenges to the license renewal rule; (d) fail to challenge the technical bases for the RVI AMP; (e) rely upon mischaracterizations of key supporting documents; and (f) misconstrue the purpose of EAF evaluations and the associated ASME Code requirements. Therefore, the proposed Amended Contentions are inadmissible, and the Motions should be denied.

In addition, given the clear similarities between the Amended Contentions, if the Board admits any portion of the proposed amendments to NYS-38/RK-TC-5, then the Board should separate the RVI-related claims in NYS-38/RK-TC-5 from the remainder of that contention and consolidate those claims with NYS-25. As now proposed, both contentions raise overlapping challenges to the RVI AMP, with no discernible distinction between the two contentions.

III. LEGAL STANDARDS

Although variously styled as “motion[s] to supplement”⁶⁵ and “request[s] to add additional bases,”⁶⁶ the Intervenor’s Motions are correctly viewed as motions to amend the contentions.⁶⁷

A. Timeliness Requirements for New or Amended Contentions

In general, petitioners must act promptly to move for leave to file new or amended contentions under 10 C.F.R. § 2.309(c)(1).⁶⁸ Pursuant to the Board’s July 1, 2010 Scheduling

⁶⁵ NYS-25 Motion at 1; NYS-38/RK-TC-5 Motion at 1.

⁶⁶ NYS-25 Motion at 7 n.4; NYS-38/RK-TC-5 Motion at 6 n.3.

⁶⁷ Neither the Commission’s Rules of Practice and Procedure in 10 C.F.R. Part 2, nor the Scheduling Order, provide for a “motion to supplement” or “add bases” to a contention outside the strict admissibility requirements for new or amended contentions in 10 C.F.R. § 2.309. *Accord* Unopposed Motion by State of New York and Riverkeeper for a Four Day Extension of the February 9, 2015 Filing Deadline at 1 (Feb. 5, 2015) (seeking additional time “to file new or amended contentions”), *available at* ADAMS Accession No. ML15036A251.

⁶⁸ In August 2012, the Commission amended the timeliness requirements in 10 C.F.R. Part 2, effective September 4, 2012. Amendments to the Adjudicatory Process Rules and Related Requirements, 77 Fed. Reg. 46,562 (Aug. 3, 2012). The Commission stated that the updated regulations “will be effective and govern all obligations and disputes that arise after [September 4, 2012].” *Id.*; *see also* 2012 Part 2 Order at 1 (imposing the same requirements in this proceeding, absent a subsequent order). The Motions were filed February 13, 2015, well after September 4, 2012, so the 2012 amendments to Part 2 apply here.

Order, a motion for a new or amended contention shall be deemed timely “if it is filed within thirty (30) days of the date when the new and material information on which it is based first becomes available.”⁶⁹ On December 9, 2014, the Board set February 9, 2015, as “[t]he deadline for the submission of new or amended contentions arising from the publication of [SSER 2].”⁷⁰ The Revised Scheduling Order did not alter or extend any deadlines for proposed new or amended contentions addressing issues that did not arise from the publication of SSER 2.

B. Substantive Contention Admissibility Requirements

A proposed contention also “must satisfy, without exception, each of the criteria set out in 10 C.F.R. § 2.309(f)(1)(i) through (vi).”⁷¹ Failure to meet each of the criteria is grounds for dismissal of a proposed new or amended contention.⁷²

Of particular relevance here is the longstanding principle that a contention that challenges an NRC rule is outside the scope of adjudicatory proceedings under 10 C.F.R. § 2.309(f)(1)(iii) and, therefore, inadmissible. This is because, absent a waiver, “no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding.”⁷³ This includes contentions that advocate stricter requirements than agency rules impose, or that otherwise seek to litigate a generic determination established by a Commission rulemaking.⁷⁴

With respect to factual information or expert opinion proffered in “support” of a contention, as required by 10 C.F.R. §§ 2.309(f)(1)(v), “the Board is not to accept uncritically the

⁶⁹ Scheduling Order at 6.

⁷⁰ Revised Scheduling Order at 2.

⁷¹ *S.C. Elec. & Gas Co. (Virgil C. Summer Nuclear Station, Units 2 & 3)*, LBP-10-06, 71 NRC 350, 358-59 (2006); *see* 10 C.F.R. §§ 2.309(c)(4), (f)(1).

⁷² *See* Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2221 (Jan. 14, 2004); *see also* *Private Fuel Storage (Indep. Spent Fuel Storage Installation)*, CLI-99-10, 49 NRC 318, 325 (1999).

⁷³ 10 C.F.R. § 2.335(a).

⁷⁴ *See, e.g., Calvert Cliffs 3 Nuclear Project, LLC, and Unistar Nuclear Operating Servs., LLC (Calvert Cliffs Nuclear Power Plant, Unit 3), et al.*, CLI-14-08, 80 NRC ___, slip op. at 9 (Aug. 26, 2014); *Private Fuel Storage LLC (Indep. Spent Fuel Storage Installation)*, CLI-04-4, 59 NRC 31, 38-39 (2004).

assertion that a document or other factual information or an expert opinion supplies the basis for a contention.”⁷⁵ “[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” as it is alleged to provide a basis for the contention.⁷⁶

A petitioner’s imprecise reading of a document cannot be the basis for a litigable contention.⁷⁷ Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to Board scrutiny, “both for what it does and does not show.”⁷⁸ Moreover, vague references to documents do not suffice—the petitioner must identify specific portions of the documents on which it relies.⁷⁹

To raise a sufficiently-supported genuine dispute on a material issue of law or fact under 10 C.F.R. § 2.309(f)(1)(vi), a petitioner must “read the pertinent portions of the license application . . . state the applicant’s position and the petitioner’s opposing view”; *i.e.*, explain why it disagrees with the applicant.⁸⁰ If a petitioner believes the license application fails to adequately address a

⁷⁵ *Private Fuel Storage, LLC* (Indep. Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181 (1998), *aff’d* CLI- 98-13, 48 NRC 26, 37 (1998).

⁷⁶ *USEC, Inc.* (Am. Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) (quoting *Private Fuel Storage LLC*, LBP-98-7, 47 NRC at 181) (emphasis added).

⁷⁷ *See Ga. Inst. of Tech.* (Ga. Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 300 (1995), *aff’d*, CLI-95-12, 42 NRC 111, 124 (1995).

⁷⁸ *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90 (1996), *rev’d in part on other grounds*, CLI-96-7, 43 NRC 235 (1996).

⁷⁹ *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-89-3, 29 NRC 234, 240-41 (1989) (further stating that the mere incorporation of massive documents by reference is unacceptable).

⁸⁰ Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,170 (Aug. 11, 1989); *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001).

relevant issue, then the petitioner is to “explain why the application is deficient.”⁸¹ Generalized assertions are insufficient.⁸²

IV. CHALLENGES TO THE FATIGUE CALCULATIONS FOR NON-REACTOR VESSEL INTERNALS COMPONENTS ARE OUTSIDE THE SCOPE OF SSER 2 AND THEREFORE UNTIMELY

Intervenors propose to amend NYS-25 and NYS-38/RK-TC-5 with a claim that “Entergy never conducted an ‘error analysis’ to quantify the accuracy of the CUF_{en} values, some of which were very close to the threshold value of 1.0.”⁸³ In the context of NYS-25, the State cites Dr. Lahey’s declaration⁸⁴ which, in turn, cites three Westinghouse reports as the source of this information.⁸⁵ Entergy disclosed these reports to the State between 2010 and 2013.⁸⁶

For both proposed amended contentions, Intervenors rely on a blanket claim of timeliness because all filings related to “Entergy’s Amended and Revised RVI Plan,” and the NRC Staff’s associated review in SSER 2, were held in abeyance pending the release of SSER 2.⁸⁷ However, the calculations referenced by Dr. Lahey are neither part of Entergy’s RVI AMP, nor were they reviewed by the NRC Staff as part of SSER 2. In fact, none of the fatigue calculations Dr. Lahey

⁸¹ Final Rule, Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *see also Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, & 3), CLI-91-12, 34 NRC 149, 156 (1991). This is because the Commission “reserve[s] [its] hearing process for genuine, material controversies between knowledgeable litigants.” *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 416 (internal citations and quotations omitted).

⁸² *U.S. Dep’t of Energy* (High Level Waste Repository), CLI-09-14, 69 NRC 580, 588 (2009).

⁸³ NYS-25 Supplement at 5 ¶ 7.11; NYS-38/RK-TC-5 Supplement at 4.

⁸⁴ *See* NYS-25 Motion at 10 (citing 2015 Lahey Declaration at 15 ¶¶ 21-22). The Motion and Supplement for NYS-38/RK-TC-5 do not specify whether the Intervenors are relying on Dr. Lahey’s Declaration or Dr. Hopfenfeld’s Declaration on this issue.

⁸⁵ 2015 Lahey Declaration at 15 ¶¶ 21-22 (citing Westinghouse reports CN-PAFM-13-40, CN-PAFM-13-32, and CN-PAFM-09-77).

⁸⁶ Entergy’s Twenty-Second Update to Disclosures Pursuant to 10 C.F.R. § 2.336; Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 and 3), Docket Nos. 50-247-LR and 50-286-LR, Encl. 3 at 1 (Dec. 1, 2010) (ENT000198) (disclosing CN-PAFM-09-77); Entergy’s Fifty-seventh Update to Disclosures to 10 C.F.R. § 2.336; Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 & 3), Docket Nos. 50-247-LR and 50-286-LR Encl. 3 at 1 (Nov. 3, 2013) (disclosing CN-PAFM-13-32); Entergy’s Fifty-eighth Update to Disclosures to 10 C.F.R. § 2.336; Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 & 3), Docket Nos. 50-247-LR and 50-286-LR Encl. 3 at 2 (Dec. 4, 2013) (disclosing CN-PAFM-13-40).

⁸⁷ NYS-25 Motion at 5; *see also* NYS-38/RK-TC-5 Motion at 5-6.

criticizes as “extremely close to the threshold” pertain to RVIs. Specifically, Dr. Lahey identifies concerns with analyses for the pressurizer spray nozzle, regenerative heat exchanger, reactor vessel control rod housing, control rod drive mechanism (“CRDM”) upper joint canopy, and RHR/accumulator nozzles.⁸⁸ None of these components are RVIs, nor are they addressed in SSER 2.⁸⁹

Additionally, the State’s claim that “the release of SSER 2 revealed that NRC would accept Entergy’s [calculations] . . . without conducting an error analysis” is plainly incorrect.⁹⁰ SSER 2 contains conclusions regarding Entergy’s RVI AMP, but does not evaluate or approve any CUF_{en} calculations, much less consider the alleged absence of an error analysis in such calculations.⁹¹

As noted above, the Scheduling Order requires new or amended contentions to be filed within 30 days of the date when new and material information first becomes available.⁹² Thus, to the extent the Intervenors seek to amend NYS-25 and NYS-38/RK-TC-5 based on this previously-available information unrelated to the RVI AMP or SSER 2, the Motions are late and should be denied.⁹³

⁸⁸ 2015 Lahey Declaration at 15 ¶¶ 21-22.

⁸⁹ See LRA at 4.3.1 (showing the pressurizer spray nozzle, regenerative heat exchanger, reactor vessel control rod housing, CRDM upper joint canopy, and RHR/accumulator nozzles are not RVIs). Intervenors make a similar error when they attempt to include control rods in their list of “RVI components at issue here.” NYS-38/RK-TC-5 Motion at 7; NYS-25 Supplement at 1. As Entergy has previously explained, control rods are not RVI components.

⁹⁰ NYS-25 Motion at 7.

⁹¹ See generally SSER 2.

⁹² Scheduling Order at 6.

⁹³ In any event, NYS has already made similar claims in the context of its testimony on the metal fatigue and safety commitments contentions (NYS-26B/RK-TC-1B and NYS-38/RK-TC-5, respectively), and provides no reason for the Board to expand the scope of NYS-25 beyond questions involving RVIs to overlap these other contentions.

V. THE PROPOSED AMENDMENTS ARE SUBSTANTIVELY INADMISSIBLE

A. Intervenors and Their Experts Disregard, Rather than Dispute, the Extensive Technical Analyses Underpinning the Reactor Vessel Internals Program Approved in SSER 2

As previously noted, the Indian Point RVI AMP is based on MRP-227-A, which is supported by numerous underlying EPRI MRP technical studies.⁹⁴ The NRC Staff has endorsed MRP-227-A as a topical report and concluded that it “provides for the development of an AMP for PWR RVI components . . . which will adequately manage their aging effects such that there is reasonable assurance that they will perform their intended functions in accordance with the CLB [current licensing basis] during the [PEO].”⁹⁵ This endorsement as a topical report, and in the Generic Aging Lessons Learned (“GALL”) Report, is entitled to special weight before the Board in this adjudicatory proceeding.⁹⁶

The crux of the proposed Amended Contentions is the claim that the Indian Point RVI AMP is merely an “inspection-based program”⁹⁷ which does not consider synergistic aging effects on RVIs, includes no preventive actions, and does not account for “shock loads.”⁹⁸ Relatedly, Intervenors criticize a few specific aspects of the RVI AMP, such as Entergy’s alleged failure to submit acceptance criteria for the baffle-former bolt inspections.⁹⁹ As a threshold matter,

⁹⁴ See *supra* note 30 (listing the technical studies underlying MRP-227-A).

⁹⁵ SE for MRP-227-A at 35. The NRC has also endorsed the generic program in the GALL Report and interim Staff guidance. LR-ISG-2011-04, Interim Staff Guidance, Updated Aging Management Criteria for Reactor Vessel Internal Components for Pressurized Water Reactors (June 3, 2013), *available at* ADAMS Accession No. ML12270A436; *see also* RIS-2011-07, Regulatory Issue Summary, License Renewal Submittal Information for Pressurized Water Reactor Internals Aging Management (July 21, 2011), *available at* ADAMS Accession No. ML111990086.

⁹⁶ See *Seabrook*, CLI-12-5, 75 NRC at 315; *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), CLI-15-6, 81 NRC __ (slip op. at 19, 21 n.85, 22) (Mar. 9, 2015).

⁹⁷ NYS-25 Motion at 10; *see also* NYS-25 Supplement at 2 ¶ 3.8; NYS-38/RK-TC-5 Motion at 9; NYS-38/RK-TC-5 Supplement at 2 ¶ 5.3.

⁹⁸ See, e.g., NYS-25 Supplement at 2 ¶ 3.8; NYS-25 Motion at 10; NYS-38/RK-TC-5 Motion at 9; NYS-38/RK-TC-5 Supplement at 2 ¶¶ 5.2, 5.3.

⁹⁹ NYS-25 Supplement at 5 ¶ 7.12; *see also id.* at 3 ¶ 3.10(b), 6 ¶ 7.13; NYS-38/RK-TC-5 Motion at 6; NYS-38/RK-TC-5 Supplement at 4 ¶ 12.3; NYS-25 Motion at 10.

Intervenors do not even mention, much less dispute, the relevant technical information contained in MRP-227-A and its numerous supporting reports. Similar to Dr. Gundersen’s declaration supporting the recently-rejected contention CW-SC-4, the Intervenors provide no specific information about any unique characteristics of the facility that could tend to show that the Indian Point RVI AMP is deficient.¹⁰⁰ As explained in the following sections, the Indian Point RVI AMP addresses the pertinent aging effects on RVIs, including combinations of effects, provides appropriate preventive actions, and accounts for all appropriate loads, contrary to the Intervenors’ claims. Ultimately, Intervenors’ imprecise reading of reference documents “cannot serve to generate an issue suitable for litigation.”¹⁰¹ For example, many of the documents mentioned by Dr. Lahey involve discussions of second—not first—license renewal, and are therefore irrelevant to the RVI AMP and fall outside the scope of this proceeding.¹⁰²

As previously noted, given that Intervenors in most cases do not acknowledge or dispute the relevant technical information supporting the RVI AMP, the Board should clarify that evidence and arguments on issues not raised in the existing bases for NYS-25 and NYS-38/RK-TC-5 are outside the scope of the contentions.¹⁰³

1. “Synergistic” Effects

Intervenors claim that the Indian Point RVI AMP “continues to ignore the potentially synergistic effects of irradiation-induced embrittlement and other aging mechanisms on reactor

¹⁰⁰ See Licensing Board Order (Dismissing Contentions NYS-39/RK-EC-9/CW-EC-10 and CW-SC-4) at 4 (Nov. 10, 2014) (unpublished).

¹⁰¹ See *Ga. Tech*, LBP-95-6, 41 NRC at 300.

¹⁰² In particular, the documents associated with the U.S. Department of Energy’s Light Water Reactor Sustainability Program and the NRC’s Expanded Materials Degradation Assessment address questions of reactor operation beyond 60 years, not beyond 40 years, as Dr. Lahey incorrectly states. See 2015 Lahey Declaration at 7 ¶ 11. In addition, Intervenors have failed to attach any of the technical documents cited in Dr. Lahey’s Declaration, contrary to the Scheduling Order. See 2015 Lahey Declaration at 27-29 (listing twenty-eight “reference documents,” none of which are attached). Accordingly, the claim that the federal government is beginning to recognize the validity of Dr. Lahey’s concerns regarding the RVI AMP is wholly unsupported.

¹⁰³ See *supra* note 9.

vessel internals.”¹⁰⁴ In doing so, the Intervenor disregards MRP-227-A and its supporting reports, which directly address this issue. The effect of disregarding, rather than disputing the technical analyses underlying Entergy’s program, is the failure to raise a genuine dispute.¹⁰⁵

As described in MRP-227-A, during its technical review, the NRC requested additional information on how the program accounts for “synergistic” effects of multiple aging mechanisms.¹⁰⁶ EPRI responded by explaining that:

potential susceptibility to the effects from multiple degradation mechanisms was considered by: (1) identifying such combinations during the initial screening based on known interactions (e.g., irradiation-induced stress relaxation of bolt pre-load combined with either wear or fatigue); (2) FMECA expert elicitation of combined effects that resulted in greater consequences; and (3) recommending examinations capable of detecting relevant conditions caused by more than one degradation mechanism or effect.¹⁰⁷

Thus, as EPRI explained in 2010 and as the NRC Staff approved in 2011, the RVI AMP specifies inspections that address the underlying aging mechanisms and, more importantly, the resulting aging effects—such as cracking, loss of material, loss of fracture toughness, dimensional changes, and loss of preload—regardless of the particular underlying aging mechanism or *combination of mechanisms*.¹⁰⁸

The Intervenor and their experts do not explain or justify their present claims to the contrary. They simply assert that the RVI AMP fails to consider synergistic effects.¹⁰⁹ This is

¹⁰⁴ NYS-25 Motion at 9; *see also* NYS-38/RK-TC-5 Motion at 8.

¹⁰⁵ *See, e.g., Millstone*, CLI-01-24, 54 NRC at 358 (a petitioner must read the pertinent portions of the license application, state the applicant’s position and the petitioner’s opposing view).

¹⁰⁶ MRP-227-A, Attachment, Request for Additional Information (RAI) # 4 at 4 (Aug. 30, 2010).

¹⁰⁷ MRP-227-A, Attachment, RAI Set 4 Final Responses at 20 (Oct. 29, 2010).

¹⁰⁸ *See* SE for MRP-227-A at 4 (noting that EPRI considered potential degradation mechanisms, including various forms of cracking, “individual *or synergistic*” effects of thermal aging or neutron irradiation embrittlement, and “loss of preload due to either individual *or synergistic* contributions from thermal and irradiation-enhanced stress relaxation . . .”) (emphasis added).

¹⁰⁹ *See, e.g.,* NYS-25 Supplement at 1 ¶ 3.7; NYS-38/RK-TC-5 Supplement at 1 ¶ 5.1; 2015 Lahey Declaration at 13 ¶ 19; Hopenfeld Declaration at 3 ¶ 13.

insufficient to raise a genuine dispute on a material issue of law or fact under 10 C.F.R. § 2.309(f)(1)(vi).

2. Preventive Actions

In general, the RVI AMP is a condition monitoring program focused on inspections for the effects of aging.¹¹⁰ But, contrary to the Intervenor’s allegation, Entergy has not “reaffirmed that it will not take preventative actions” to address the effects of aging on RVIs.¹¹¹ In fact, Entergy explicitly credits the Water Chemistry Control—Primary and Secondary Program (“Water Chemistry Program”) for preventive actions.¹¹² As noted in SSER 2:

Under “Preventive Actions,” LR-ISG-2011-14 states that MRP-227-A relies on PWR water-chemistry control to prevent or mitigate aging effects that can be induced by corrosive aging mechanisms (e.g., loss of material induced by general, pitting corrosion, crevice corrosion, or stress corrosion cracking or any of its forms [SCC, PWSCC, or IASCC]), and that reactor coolant water chemistry is monitored and maintained in accordance with the Water Chemistry Program as described in GALL AMP XI.M2, “Water Chemistry.”¹¹³

The RVI AMP includes other actions to prevent specific aging effects. For example, Entergy will replace the IP2 “split pins” during the 2016 refueling outage.¹¹⁴ To address one of the plant-specific action items in the Safety Evaluation for MRP-227-A, Entergy will also use the Fatigue Monitoring Program (“FMP”) to manage the effects of fatigue on specified RVI components.¹¹⁵ The FMP, in turn, includes preventive actions by tracking plant transients and cycles, thereby assuring that fatigue usage from actual plant transients does not exceed ASME

¹¹⁰ See NL-12-037, Attach. 1 at 5; SSER 2 at 3-15.

¹¹¹ NYS-25 Supplement at 2 ¶ 3.8; see also NYS-25 Motion at 7; NYS-38/RK-TC-5 Motion at 5-6; NYS-38/RK-TC-5 Supplement at 4 ¶ 12.4.

¹¹² See NL-12-037, Attach. 1 at 5; SSER 2 at 3-15 to 3-16.

¹¹³ SSER 2 at 3-66.

¹¹⁴ See *id.* at A-15.

¹¹⁵ See *id.* at 3-51.

Code design limits.¹¹⁶ Thus, Intervenor's fail to accurately describe the RVI AMP or the entirety of Entergy's LRA. As a petitioner's imprecise reading of a document cannot be the basis for a litigable contention, Intervenor's claims are unsupported and fail to raise a genuine dispute on a material issue of law or fact under 10 C.F.R. §§ 2.309(f)(1)(v) and (vi).¹¹⁷

3. Shock Loads

Intervenor's claim that Entergy fails to consider the possibility that a shock load (*e.g.*, due to a loss-of-coolant accident, or "LOCA") may cause the sudden failure of RVI components.¹¹⁸ But again, the Indian Point RVI AMP addresses this issue through its reliance on MRP-227-A. The Intervenor's disregard of the record fails to raise a genuine dispute.

Specifically, the conditions addressed in MRP-227-A include significant transients and design basis accidents, and are designed to provide reasonable assurance that the RVIs will continue to perform their intended functions, consistent with the CLB—including the consideration of accident loads—through the end of the PEO.¹¹⁹ This process of considering design loads was documented in MRP-191, one of the supporting reports for MRP-227-A. As the NRC Staff explained, in MRP-191 the MRP "explicitly considered whether the aging effects considered in the FMECA process would result in more severe consequences if a design basis accident occurred."¹²⁰

The Intervenor's do not mention, much less challenge, the substance of the technical analyses in MRP-191, other supporting reports, or the Staff's evaluation of design basis loads on

¹¹⁶ See NUREG-1801, Rev. 2, Generic Aging Lessons Learned (GALL) Report at XI M1-2 (Dec. 2010) ("NUREG-1801"), available at ADAMS Accession No. ML103490041.

¹¹⁷ See *Ga. Tech.*, LBP-95-6, 41 NRC at 300.

¹¹⁸ 2015 Lahey Declaration at 20; see also NYS-25 Supplement at 2 ¶ 3.8, 6 ¶ 7.13; NYS-38/RK-TC-5 Supplement at 2 ¶ 5.3, 5 ¶ 12.4.

¹¹⁹ See MRP-191 at 6-6 (defining component failure as degradation that "causes the component to lose its ability to perform its intended design function either during normal operation or under accident conditions").

¹²⁰ SE for MRP-227-A at 12.

RVIs. Instead, they merely state, without support, that MRP-227-A fails to address such issues.¹²¹ The State’s conclusory assertions on this subject are unsupported and fail to show that a genuine dispute exists, contrary to 10 C.F.R. §§ 2.309(f)(1)(v) and (vi).

4. Specific Components

Beyond the generalized concerns discussed in the foregoing sections, the Intervenor’s proffer a few specific criticisms regarding the consideration of certain components in Entergy’s RVI AMP: (a) the examination acceptance criteria for the baffle-former bolts;¹²² (b) the inspection requirements for clevis insert bolts;¹²³ and (c) the potential combined aging effects on the cast austenitic stainless steel (“CASS”) lower support column caps (“LSCCs”).¹²⁴ None of these criticisms, however, raises a genuine dispute.

a. Baffle-Former Bolts

The Intervenor’s assert that “Entergy has merely committed to develop acceptance criteria for baffle former bolts sometime prior to 2019 for IP2 and 2021 for IP3.”¹²⁵ Both Dr. Lahey and Dr. Hopenfeld raise this issue in the declarations.¹²⁶ But neither the Intervenor’s nor their experts identify a requirement that this specific information be provided in the RVI AMP. “[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

¹²¹ See, *e.g.*, 2015 Lahey Declaration at 13 ¶ 19.

¹²² See NYS-25 Supplement at 5 ¶ 7.12; see also NYS-38/RK-TC-5 Supplement at 1, ¶ e, 4 ¶ 12.3.

¹²³ See NYS-25 Supplement at 6 ¶ 7.13; see also NYS-38/RK-TC-5 Supplement at 4-5, ¶ 12.4.

¹²⁴ See NYS-25 Supplement at 6 ¶ 7.14. This particular issue does not appear to have been raised in Amended Contention NYS-38/RK-TC-5.

¹²⁵ NYS-25 Supplement at 5 ¶ 7.12; see also NYS-38/RK-TC-5 Supplement at 1, ¶ e, 4 ¶ 12.3. Entergy has scheduled its baffle-former bolt inspections for March 2016 at IP2 and March 2019 for IP3.

¹²⁶ See 2015 Lahey Declaration at 19 ¶ 27; Hopenfeld Declaration at 8 ¶ 25.

because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion” as it is alleged to provide a basis for the contention.¹²⁷

As explained in SSER 2, the ultrasonic testing (“UT”) examination acceptance criteria for the baffle-former bolts will be developed as part of the technical justification (“TJ”) for the inspections. The TJ must be developed by six months prior to the first inspections at each unit.¹²⁸ As the Staff stated in SSER 2, this is acceptable because, as Entergy explained: (1) the Staff’s Safety Evaluation for MRP-227-A does not specify that TJs must be submitted to the Staff for review and approval; (2) UT examinations of baffle-former bolts have been performed since the 1990s, so there is reasonable assurance that these examinations can be effectively implemented at Indian Point; and (3) finalizing the TJ closer to the date of inspections will allow the latest UT technology to be used and lessons learned to be incorporated.¹²⁹

The Intervenors fail to dispute Entergy’s evaluation of this issue. Accordingly, they have failed to raise a genuine dispute on a material issue of law or fact under contrary to 10 C.F.R. § 2.309(f)(1)(vi).

b. Clevis Insert Bolts

The Intervenors next take exception to the fact that Entergy “proposes to manage the aging degradation of clevis insert bolts with visual (VT-3) inspections rather than pre-emptive replacement.”¹³⁰ To support this claim, Dr. Lahey cites the detection of damaged clevis insert bolts at a Westinghouse-designed reactor in 2010, as discussed in the operating experience

¹²⁷ USEC, CLI-06-10, 63 NRC at 472 (emphasis added) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181).

¹²⁸ See SSER 2 at 3-20 (citing NL-12-089, Letter from F. Dacimo, Vice President, Entergy, to NRC Document Control Desk, “Reply to Request for Additional Information Regarding the License Renewal Application, Indian Point Nuclear Generating Unit Nos. 2 & 3, Docket Nos. 50-247 and 50-286, License Nos. DPR-26 and DPR-64 (June 14, 2012), available at ADAMS Accession No. ML12184A037).

¹²⁹ See *id.*

¹³⁰ 2015 Lahey Declaration at 19-20 ¶ 28; NYS-25 Supplement at 6 ¶ 7.13; NYS-38/RK-TC-5 Supplement at 4-5, ¶ 12.4.

summary in MRP-227-A.¹³¹ Neither the Intervenors nor Dr. Lahey raise a genuine dispute with the information Entergy provided to address this operating experience.

SSER 2 explains that Entergy demonstrated the plant-specific adequacy of MRP-227-A inspection requirements for clevis insert bolts. These requirements are based on: (a) inherent design redundancy and the overall ability of the lower radial support system to perform its intended function, even under seismic and LOCA conditions; and (b) the fact that the adverse operating experience Dr. Lahey cites involved bolts that were more susceptible to cracking than those used at Indian Point.¹³² Dr. Lahey fails to challenge the basis for Entergy's disposition of this operating experience.

Instead of raising a challenge to this information Entergy provided in support of the RVI AMP, Dr. Lahey incorrectly asserts that (1) Entergy “analyze[d] the effect of clevis bolt failures on various other components,” and (2) that the Indian Point analysis “assumes that all other components will be functioning according to their design specifications.”¹³³ Nothing in the record supports these interpretations of the information in the SSER 2. Moreover, Dr. Lahey simply disregards the record when he asserts that Entergy failed to “consider the possibility” of clevis bolt failure under LOCA conditions.¹³⁴ Thus, Intervenors' claims are unsupported and fail to demonstrate a genuine dispute on a material issue of law or fact, as required by 10 C.F.R. §§ 2.309(f)(1)(v) and (vi).

¹³¹ See 2015 Lahey Declaration at 19 ¶ 28 (citing MRP-227-A, Appendix A, at A-2).

¹³² See SSER 2 at 3-24.

¹³³ See 2015 Lahey Declaration at 20 ¶ 28.

¹³⁴ See SSER 2 at 3-24 (summarizing Entergy's consideration of LOCA conditions).

c. Lower Support Column Caps

Finally, Dr. Lahey speculates that Entergy “assumed” that only a limited number of the lower support column caps (“LSCCs”) contain flaws of significant size,¹³⁵ and that the LSCCs “undergo a range of [unspecified] aging degradation mechanisms” that Entergy has allegedly failed to consider.¹³⁶ Dr. Lahey also criticizes the NRC-approved linkage between inspections of the core barrel girth weld (a “Primary” component under MRP-227-A, as explained in Section II.B.1, above) and lower support column caps (an “Expansion” component) because, he speculates, “these components are very different and they *may* be exposed to different degradation mechanisms and shock loads.”¹³⁷

As a threshold matter, Entergy did not “assume” that only a limited number of the LSCCs contain flaws of significant size. Entergy reached this conclusion based on original component inspections using dye penetrant and radiography.¹³⁸ These inspections concluded that all columns met applicable standards and were considered defect-free, with zero surface-breaking flaws.¹³⁹ Dr. Lahey does not address this information provided in Entergy’s RAI response and referenced in SSER 2. Given the Intervenors failure to read and explain their disagreement with the pertinent Entergy documents, they have failed to show a genuine dispute.¹⁴⁰

As to Dr. Lahey’s remaining assertions regarding unspecified additional aging mechanisms which allegedly could affect the LSCCs, Entergy presented a detailed plant-specific technical evaluation of the susceptibility of LSCCs to thermal embrittlement, irradiation embrittlement

¹³⁵ See 2015 Lahey Declaration at 21 ¶ 29.

¹³⁶ See *id.*

¹³⁷ 2015 Lahey Declaration at 13 ¶ 18 (emphasis added).

¹³⁸ See NL-13-122, Attach. 1 at 2.

¹³⁹ See *id.*

¹⁴⁰ See *Millstone*, CLI-01-24, 54 NRC at 358.

(“IE”), and irradiation-assisted stress corrosion cracking (“IASCC”) in support of its RVI AMP.¹⁴¹ Dr. Lahey presents only unsupported speculation when he challenges this information. He only speculates that other aging mechanisms may be present,¹⁴² and that the core barrel girth weld “may” be exposed to different aging mechanisms and shock loads than the LSCCs.¹⁴³ The only document Dr. Lahey cites in support of his speculation is NUREG/CR-7184,¹⁴⁴ which the State did not attach.¹⁴⁵ In any event, Entergy does not dispute that LSCCs are susceptible to IE and IASCC, as stated in NUREG/CR-7184. Nothing in NUREG/CR-7184 supports Dr. Lahey’s criticisms of the treatment of the LSCCs in the RVI AMP.

“[T]he mere posing of questions does not provide sufficient support to admit a contention.”¹⁴⁶ Intervenors’ claims regarding the LSCCs are unsupported and fail to demonstrate a genuine dispute under 10 C.F.R. § 2.309(f)(1)(v) and (vi).

B. The Demand for Repair or Replacement of Reactor Vessel Internals and Maintaining Safety Margins Are Unsupported and Are Challenges to the License Renewal Rule

The proposed Amended Contention NYS-25 broadly demands that, instead of using the MRP-227-A program and the other established aging management methods endorsed in the GALL Report,¹⁴⁷ Entergy should repair or replace the RVIs.¹⁴⁸ Intervenors make a similar request in

¹⁴¹ See SSER 2 at 3-40 to -47.

¹⁴² See 2015 Lahey Declaration at 21 ¶ 29.

¹⁴³ See *id.* at 13 ¶ 18.

¹⁴⁴ NUREG/CR-7184, Crack Growth Rate and Fracture Toughness Tests on Irradiated Cast Stainless Steels (Dec. 2014), available at ADAMS Accession No. ML14356A136.

¹⁴⁵ Scheduling Order at 17 ¶ M.1.

¹⁴⁶ See *PPL Susquehanna, LLC* (Susquehanna Steam Electric Station, Units 1 &2), LBP-07-4, 65 NRC 281, 324 (2007).

¹⁴⁷ NUREG-1801.

¹⁴⁸ NYS-25 Motion at 10-11 (generally demanding “repair or replacement of aging parts prior to the end of a plant’s design life as a means to restore safety margins and guard against accidents or unexpected non-conservatism in flawed safety evaluations”); see also 2015 Lahey Declaration at 16 ¶ 23 (“in many cases it appears that the easiest and most cost-effective way to resolve [age-related safety issues] is to simply repair or replace degraded” components). Dr. Lahey claims “this approach is what NYS has been proposing for some time.” *Id.* But, he

NYS-38/RK-TC-5.¹⁴⁹ The State also requests that Entergy be required to maintain unspecified additional “safety margins.”¹⁵⁰ The State rests both of these demands on a conclusion that, due to “potential calculational or modeling mistakes,”¹⁵¹ it “is important to maintain safety margins when a reactor operates in a period of extended operation.”¹⁵² Such demands are unsupported and are also collateral attacks on the license renewal rule and, therefore, outside the scope of this proceeding.

First, such broad generalizations do not, in any way, support the rejection of an NRC-approved AMP based on decades of research and operating experience. For example, MRP-227-A explains that its underlying technical evaluations and assumptions are “a conservative representation of U.S. PWR operating plants.”¹⁵³ The NRC Staff has conducted independent reviews to confirm these conservatisms.¹⁵⁴ Here, the State and its expert merely offer a generalized desire for additional “safety margins” without identifying any particular inadequacy in the Indian Point LRA. But, such generalized grievances lack support and are insufficient to raise a genuine dispute.¹⁵⁵

Second, the license renewal rule requires the applicant to show that there is reasonable assurance that the effects of aging will be adequately managed—not that aging effects are

does not identify where this broad demand for repair or replacement of unspecified RVIs has been made previously.

¹⁴⁹ NYS-38/RK-TC-5 Supplement at 2 ¶ 5.3. Amended Contention NYS-38/RK-TC-5, however, does not appear to articulate any technical basis for this demand.

¹⁵⁰ NYS-25 Motion at 10.

¹⁵¹ NYS-25 Supplement at 7 ¶ 7.15 (referring to the “potential” that certain fracture toughness calculations under NRC Branch Technical Position (BTP) 5-3 for reactor pressure vessels (not RVIs) “may be nonconservative”); *see also* 2015 Lahey Declaration at 23-24 ¶ 33.

¹⁵² NYS-25 Supplement at 7 ¶ 7.15; 2015 Lahey Declaration at 23-24 ¶ 33.

¹⁵³ MRP-227-A at viii.

¹⁵⁴ *See, e.g.*, SSER 2 at 3-38 (noting the Staff conducted an “independent review confirming the conservatism of the applicant’s life prediction for the split pins”).

¹⁵⁵ *See Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, & 3), CLI-99-11, 49 NRC 328, 334-35 (1999).

precluded.¹⁵⁶ Contentions that advocate stricter requirements than agency rules impose, or otherwise seek to litigate generic determinations inherent in the rule, impermissibly challenge regulations and are outside the scope of adjudicatory proceedings.¹⁵⁷ For example, at the outset of this proceeding, the Board held that the State’s far-reaching demand for comprehensive baseline inspections of plant components was outside the scope of this proceeding because it was a challenge to the license renewal rule.¹⁵⁸

Accordingly, the claim that the effects of aging should generally be precluded through repair or replacement of RVIs, rather than managed through an AMP, effectively seeks to replace the governing regulatory standard under 10 C.F.R. § 54.21(a)(3) to “adequately manage” aging effects with a standard requiring the preclusion of aging effects. Such claims are outside the scope of this proceeding under 10 C.F.R. § 2.309(f)(1)(iii).

Finally, the technical basis for the State’s replacement demand cites material property calculations for certain reactor pressure vessel—not RVI—materials.¹⁵⁹ Amended Contention NYS-25 does not identify any specific alleged “calculational or modeling mistakes” associated with the RVI AMP. It therefore fails to raise a genuine dispute with the RVI AMP or any other aspect of the LRA.¹⁶⁰

In sum, the demand that the NRC-approved AMP be replaced by a program that maintains safety margin through repair or replacement of RVIs is an improper challenge to the license

¹⁵⁶ See *Seabrook*, CLI-12-5, 75 NRC at 315.

¹⁵⁷ See, e.g., *Calvert Cliffs*, CLI-14-08, 80 NRC ___, slip op. at 9; *Private Fuel Storage*, CLI-04-4, 59 NRC at 38-39.

¹⁵⁸ See *Indian Point*, LBP-08-13, 68 NRC at 126 (rejecting proposed contention NYS-23); see also *Seabrook*, CLI-12-5, 75 NRC at 315 (rejecting a similar contention).

¹⁵⁹ NYS-25 Supplement at 7 ¶ 7.15 (referring to the “potential” that certain fracture toughness calculations for reactor pressure vessels “may be nonconservative”); see also Kwong Declaration, Attach. 1-3.

¹⁶⁰ To raise a genuine material dispute, a petitioner must “read the pertinent portions of the license application . . . state the applicant’s position and the petitioner’s opposing view,” and explain why it disagrees with the applicant. See *Millstone*, CLI-01-24, 54 NRC at 358.

renewal rule, barred under 10 C.F.R. §§ 2.335 and 2.309(f)(1)(iii). Furthermore, the State fails to support its demand or raise a genuine dispute, contrary to 10 C.F.R. §§ 2.309(f)(1)(v) and (vi).

C. The Challenges to Environmentally-Assisted Fatigue Calculations Are Inadmissible

In addition to its claims regarding the RVI AMP itself, the Intervenors also raise a series of challenges to the EAF analyses prepared by Westinghouse for Entergy to meet Entergy’s commitments under the FMP.¹⁶¹ The State’s claims in this area are nothing new—the parties have filed testimony on all of these issues in the context of contentions NYS-26B/RK-TC-1B and, on the non-RVI-related topics, NYS-38/RK-TC-5. As explained below, the Board should reject this effort to recycle old claims and expand the scope of NYS-25.

1. Intervenors’ Challenge to the Schedule for Completing the IP3 Environmentally-Assisted Fatigue Calculations Is Inadmissible

During the NRC Staff’s review of the RVI AMP, Entergy agreed, in Commitment 49, to “recalculate each of the limiting CUFs provided in Section 4.3 of the LRA for the reactor vessel internals” in IP3 prior to December 12, 2015.¹⁶² The IP3 license expires December 12, 2015, thus, these calculations will be completed *prior* to the PEO—and also, in this case, prior to the NRC’s approval of the renewed license.¹⁶³ In the Amended Contentions, Intervenors criticize this approach,¹⁶⁴ but they do not explain how this Commitment renders the LRA deficient under any regulatory requirement.¹⁶⁵

¹⁶¹ See NYS-25 Motion at 7, 10; NYS-35/RK-TC-5 Motion at 6, 9; NYS-25 Supplement at 3 ¶ 3.10(c), 4-5 ¶ 7.11; NYS-35/RK-TC-5 Supplement at 2 ¶ 5.2, 3-4 ¶ 12.2.

¹⁶² See SSER 2 at A-15.

¹⁶³ In any event, the Commission has clearly held that the completion of CUF_{en} calculations is not a prerequisite for obtaining a renewed license. See *Entergy Nuclear Vermont Yankee, LLC, et al.* (Vermont Yankee Nuclear Power Station), CLI-10-17, 72 NRC 1, 18-20, 34 (2010).

¹⁶⁴ See NYS-25 Supplement at 5 ¶ 7.11; NYS-38/RK-TC-5 Supplement at 1 ¶ e.

¹⁶⁵ Cf. *Oconee*, CLI-99-11, 49 NRC at 334-35 (to be a material, a dispute must make a difference in the outcome of the proceeding).

In the NYS-38/RK-TC-5 Supplement, the Intervenor speculates that Entergy “may not complete them [the IP3 CUF_{en} calculations] prior to the end of IP3’s initial license term.”¹⁶⁶ Contentions cannot be admitted based on an assumption or speculation that the applicant or licensee will not meet its obligations.¹⁶⁷ As such, this claim is unsupported and inadmissible.

2. Intervenor Remaining Claims Are Not New and Lack Support

The Amended Contentions also claim that the Westinghouse EAF calculations for RVI components do not account for the effects of neutron embrittlement and other degradation mechanisms, and that Westinghouse concluded that there are CUF_{en}s close to the limit of 1.0, without an “error analysis.”¹⁶⁸ Dr. Hopenfeld and Dr. Lahey both address these issues,¹⁶⁹ and, in addition, Dr. Hopenfeld claims that the Westinghouse calculations do not properly account for variations in dissolved oxygen and potential “surface discontinuities” that can allegedly develop over time as components age.¹⁷⁰

With the exception of the issue described in the next paragraph, these issues have been extensively briefed in the prefiled testimony associated with the metal fatigue contention (NYS-26B/RK-TC-1B) and, therefore, present nothing new.¹⁷¹ The Intervenor cite no authority for the proposition that they must be afforded the opportunity to litigate the same issue under multiple contentions. Therefore, the Intervenor’s attempts to introduce these issues into NYS-25 and NYS-38/RK-TC-5 should be rejected.

¹⁶⁶ NYS-38/RK-TC-5 Supplement at 1 ¶ e.

¹⁶⁷ *See, e.g., Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-03-2, 57 NRC 19, 29 (2003).

¹⁶⁸ *See* NYS-25 Supplement at 4-5 ¶ 7.11; NYS-38/RK-TC-5 Supplement at 2 ¶ 5.2, 4 ¶ 12.2;

¹⁶⁹ *See* 2015 Lahey Declaration at 14-16; Hopenfeld Declaration at 3-4.

¹⁷⁰ *See* Hopenfeld Declaration at 5 ¶ 17-18.

¹⁷¹ *See* Testimony of Entergy Witnesses Nelson F. Azevedo, Alan B. Cox, Jack R. Strosnider, Robert E. Nickell, and Mark A. Gray Regarding Contention NYS-26B/RK-TC-1B (Metal Fatigue) (Mar. 29, 2012) (ENT000183).

The only arguably new issue is Dr. Hopenfled’s concern regarding potential “surface discontinuities” that could impact fatigue evaluations. These claims are unsupported, as none of the documents Dr. Hopenfled relies upon are clearly cited or attached.¹⁷² He also provides no support for his apparent assumption that any Indian Point RVI components have “undergone a change in geometry and surface structure due to erosion corrosion, stress corrosion, swelling, pitting, and cavitation,” or that the CUF calculations fail to conservatively account for potential surface defects.¹⁷³ Indeed, these claims appear similar to Dr. Hopenfled’s allegations in the flow-accelerated corrosion contention (RK-TC-2), where the Board rejected Dr. Hopenfled’s “gut feeling” that there was a potential undetected, non-linear wear mechanism at work in the Indian Point plant.¹⁷⁴

¹⁷² *See id.* (citing S. McKelvey & A. Fatemi (undated) and P. Fluck (1951)). In fact, Riverkeeper only disclosed these documents under the mandatory disclosure process to the other parties to the proceeding on March 2, 2015, more than two weeks after the Motions were filed.

¹⁷³ *Id.*

¹⁷⁴ *See Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-13-13, 78 NRC 246, 301 (2013).

VI. CONCLUSION

For all of these reasons, the Motions should be denied in their entireties.

Respectfully submitted,

Signed (electronically) by Raphael P. Kuyler

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Dated in Washington, D.C.
this 10th day of March 2015

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	Docket Nos. 50-247-LR and
ENTERGY NUCLEAR OPERATIONS, INC.)	50-286-LR
(Indian Point Nuclear Generating Units 2 and 3))	March 10, 2015

ANSWER CERTIFICATION

Counsel for Entergy certifies that he has made a sincere effort to make himself available to listen and respond to the moving parties, and to resolve the factual and legal issues raised in the motion, and that his efforts to resolve the issues have been unsuccessful.

*Executed in Accord with 10 C.F.R. § 2.304(d) by
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**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of) ENTERGY NUCLEAR OPERATIONS, INC.) (Indian Point Nuclear Generating Units 2 and 3))	Docket Nos. 50-247-LR and 50-286-LR March 10, 2015
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CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 2.305 (as revised), I certify that, on this date, copies of “Entergy’s Consolidated Answer Opposing Intervenors’ Motions to Amend Contentions NYS-25 and NYS-38/RK-TC-5” were served upon the Electronic Information Exchange (the NRC’s E-Filing System), in the above-captioned proceeding.

Signed (electronically) by Raphael P. Kuyler

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