

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of	)	
	)	
ENTERGY NUCLEAR OPERATIONS, INC.	)	Docket No. 50-255-LA
	)	
(Palisades Nuclear Plant)	)	

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NRC STAFF ANSWER TO APPEAL OF LBP-15-17 BY BEYOND NUCLEAR, DON'T WASTE  
MICHIGAN, MICHIGAN SAFE ENERGY FUTURE–SHORELINE CHAPTER, AND THE  
NUCLEAR ENERGY INFORMATION SERVICE

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June 29, 2015

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INTRODUCTION

Pursuant to 10 C.F.R. § 2.311(b), the staff of the U.S. Nuclear Regulatory Commission (“Staff” or “NRC Staff”) hereby files this brief in opposition to the appeal of the Memorandum and Order of the Atomic Safety and Licensing Board (“Board”) denying the petition to intervene and request for a hearing filed by Beyond Nuclear, Don’t Waste Michigan, Michigan Safe Energy Future – Shoreline Chapter, and the Nuclear Energy Information Service (“Petitioners”).<sup>1</sup> The Board’s Memorandum and Order (“LBP-15-17”) denied a proposed contention filed by the Petitioners concerning a license amendment request (“LAR”) submitted by Entergy Nuclear Operations, Inc. (“Entergy”) for the Palisades Nuclear Plant (“Palisades”).<sup>2</sup> Because the Petitioners have not shown that the Board committed an error of law or abused its discretion in finding that the petition to intervene did not meet the admissibility standards in 10 C.F.R. § 2.309(f)(1), the Commission should deny the appeal.

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<sup>1</sup> Brief in Support of Petitioners’ 10 C.F.R. § 2.311(c) Appeal of Atomic Safety and Licensing Board’s Denial of ‘Petition to Intervene and Request for a Hearing of Entergy License Amendment Request for Authorization to Implement 10 C.F.R. § 50.61a’ (June 2, 2015) (Agencywide Documents and Access Management System (“ADAMS”) Accession No. ML15153B263) (“Appeal”).

<sup>2</sup> *Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), LBP-15-17, 81 NRC \_\_ (May 8, 2015) (slip op.) (ADAMS Accession No. ML15128A489) (“LBP-15-17”).

## BACKGROUND

This proceeding involves a license amendment application submitted by Entergy on July 29, 2014, for Palisades, a nuclear power plant located in Covert, Michigan, five miles south of South Haven, Michigan, on the eastern shore of Lake Michigan. Therein, Entergy requested the NRC to approve its use of the alternate fracture toughness requirements for protection against pressurized thermal shock (“PTS”) events provided in 10 C.F.R. § 50.61a, in lieu of the requirements in 10 C.F.R. § 50.61.<sup>3</sup> The Petitioners timely requested a hearing and filed one proposed contention asserting that Palisades should not be permitted to utilize the methodology of 10 C.F.R. § 50.61a, but should instead be required to utilize the more conservative methodology of 10 C.F.R. § 50.61.<sup>4</sup> The Staff and Entergy filed responses opposing the Petitioners’ sole contention,<sup>5</sup> and the Petitioners filed a reply.<sup>6</sup> The Board held oral argument,<sup>7</sup>

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<sup>3</sup> Entergy letter PNP 2014-049, “License Amendment Request to Implement 10 CFR 50.61a, ‘Alternate Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events’”, at 3 (Jul. 29, 2014) (ADAMS Accession No. ML14211A524) (“LAR”). Entergy enclosed with its LAR a supporting analysis, WCAP-17628-NP, Rev. 1, “Alternate Pressurized Thermal Shock (PTS) Rule Evaluation for Palisades” (Jun. 2014) (ADAMS Accession No. ML14211A525) (“LAR Enclosure”). The LAR and the LAR Enclosure can be viewed in a “package” at ADAMS Accession No. ML14211A520.

<sup>4</sup> See “Amended Petition to Intervene and for a Public Adjudication Hearing of Entergy License Amendment Request for Authorization to Implement 10 CFR §50.61a, ‘Alternate Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events’” (Dec. 8, 2014) (ADAMS Accession No. ML14344A321) (“Initial Petition”). Among the attachments to the Initial Petition was the “Declaration of Arnold Gunderson” (Dec. 1, 2014) (ADAMS Accession No. ML14335A806) (“Gundersen Decl.”).

<sup>5</sup> “NRC Staff Answer to Petition to Intervene and Request for a Hearing Filed by Beyond Nuclear, Don’t Waste Michigan, Michigan Safe Energy Future–Shoreline Chapter, and the Nuclear Energy Information Service” (Jan. 12, 2014) (ADAMS Accession No. ML15012A611) (“Staff Answer”); (2) “Entergy’s Answer Opposing Petition to Intervene and Request for Hearing” (Jan. 12, 2015) (ADAMS Accession No. ML15012A532).

<sup>6</sup> “Petitioners’ Combined Reply in Support of Amended Petition to Intervene and for a Public Adjudication Hearing of Entergy License Amendment Request for Authorization to Implement 10 CFR §50.61a, ‘Alternate Fracture Toughness Requirements For Protection Against Pressurized Thermal Shock Events’” (Jan. 20, 2015) (ADAMS Accession No. ML15020A740).

<sup>7</sup> See Official Transcript of Proceedings (“Tr.”) (Mar. 25, 2015) (ADAMS Accession No. ML5086A540).

and subsequently allowed the Staff and Entergy to submit additional briefing regarding one issue raised by the Petitioners for the first time on reply.<sup>8</sup>

In LBP-15-17, the Board denied the Petitioners' contention. The Board found that the Petitioners had demonstrated representational standing to intervene, based on the proximity of their members' personal and property interests to Palisades.<sup>9</sup> The Board further held, however, that the Petitioners had not submitted an admissible contention pursuant to 10 C.F.R. § 2.309(f)(1) because their petition largely constituted an impermissible challenge to the Commission's alternate fracture toughness regulations in 10 C.F.R. § 50.61a;<sup>10</sup> that it was proper for Entergy to incorporate data from other plants whose reactor pressure vessel ("RPV") materials are a heat-specific match with the Palisades RPV materials;<sup>11</sup> and that the Petitioners' other assertions did not establish an admissible contention.<sup>12</sup>

Subsequently, the Petitioners filed the instant timely appeal with the Commission. In their appeal, the Petitioners argue that the Board inappropriately concluded that the Staff has no discretion to reject Entergy's LAR,<sup>13</sup> and that the Board erroneously found that the Petitioners failed to challenge the LAR.<sup>14</sup> The Petitioners also maintain that Palisades cannot use 10

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<sup>8</sup> Tr. at 98-99 (Chairman Spritzer) (allowing the Staff and Entergy the opportunity to respond to the Petitioners argument, raised for the first time on reply, that Dr. Gundersen argued that the surveillance materials from other reactor vessels were not a "heat-specific match" to those from the Palisades reactor vessel); *cf. id.* at 86-87 (Administrative Judge Dr. Arnold); NRC Staff Brief in Response to Petitioners' Statement Regarding Sister-Plant Data (Apr. 6, 2015) (ADAMS Accession No. ML15096A594); Entergy's Brief in Response to New Issue Raised in Petitioners' Reply (Apr. 6, 2015) (ADAMS Accession No. ML15096A590).

<sup>9</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_\_ (slip op. at 19 at 19-25).

<sup>10</sup> *Id.* at 32-34, 40-41.

<sup>11</sup> *Id.* at 40-41, 45-46.

<sup>12</sup> *Id.* at 43-44.

<sup>13</sup> Appeal at 18-20.

<sup>14</sup> *Id.* at 22-23; *see also id.* at 15-17.



C.F.R. § 50.61a instead of § 50.61 because § 50.61a cannot provide the plant with “reasonable assurance” of the adequate protection of public health and safety.<sup>15</sup>

In the following discussion, the Staff (1) notes the legal standards for the Commission’s appellate review and for contention admissibility; (2) provides a regulatory overview and explanation of the issue of fracture toughness and the related requirements that an applicant must meet in order to use 10 C.F.R. § 50.61a instead of § 50.61; and (3) demonstrates that the Petitioners have not shown that the Board’s decision was in error.

Rather, the Board correctly held that the Petitioners’ contention should be rejected because it constituted a challenge to the Commission’s regulations, and failed to provide sufficient information to show that a genuine dispute exists with respect to Entergy’s LAR.

## DISCUSSION

### I. Legal Standards

#### A. Standard for Commission Review

10 C.F.R. § 2.311(c) provides that an order denying a petition to intervene and/or request for hearing is appealable by the requestor/petitioner on the question as to whether the request and/or petition should have been granted. However, on appeal, the Commission defers to a Board’s contention admissibility rulings unless the appeal points to an “error of law or abuse of discretion” on the part of the Board.<sup>16</sup>

#### B. Contention Admissibility Criteria

In order to be admitted, a contention must meet all of the requirements of 10 C.F.R. § 2.309(f)(1)(i)-(vi). Under § 2.309(f)(1), an admissible contention must:

- (i) Provide a specific statement of the issue of law or fact to be raised or controverted. . .

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<sup>15</sup> *Id.* at 20-22.

<sup>16</sup> See, e.g., *Crow Butte Res., Inc.* (Marsland Expansion Area), CLI-14-2, 79 NRC 11, 13-14 (2014) (citations omitted).

- (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 [.]<sup>17</sup>

The Commission has strictly applied these contention admissibility requirements in NRC adjudications.<sup>18</sup> As the Commission and Atomic Safety and Licensing Boards have repeatedly held, "[a] failure to meet any of these criteria renders the contention inadmissible."<sup>19</sup> Additionally, challenges to NRC regulations are prohibited in an adjudicatory proceeding, unless a petition for waiver of the rules has been filed.<sup>20</sup>

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<sup>17</sup> 10 C.F.R. § 2.309(f)(1). A further provision, § 2.309(f)(1)(vii), applies only to COL applications submitted under 10 C.F.R. Part 52.

<sup>18</sup> *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 118-19 (2006).

<sup>19</sup> *N. States Power Co.* (Prairie Island Nuclear Generating Plant Independent Spent Fuel Installation), LBP-12-24, 76 NRC 503, 509 (2012); *South Carolina Elec. & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-10-1, 71 NRC 1, 7 & n.33 (2010), *quoting USEC Inc.* (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 437 (2006) ("requirements are deliberately strict, and we will reject any contention that does not satisfy the requirements.").

<sup>20</sup> 10 C.F.R. § 2.335(a). *See also Vermont Yankee Nuclear Power Corp. & AmerGen Vermont, LLC* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 165-66 (2000), *quoting N. Atlantic Energy Serv. Station* (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 217 n.8 (1999) (noting that a petitioner in an individual adjudication cannot challenge generic decisions made by the Commission in rulemakings). 10 C.F.R. § 2.309(f)(1)(iii) (requiring contention to be within the scope the proceeding to be admissible).

## II. Regulatory Overview

### A. Pressurized Thermal Shock and the Requirements of 10 C.F.R. §§ 50.61 and 50.61a

During nuclear reactor operation, nuclear fission occurs, through which uranium atoms are split and neutrons are emitted. Over time, neutron irradiation from the fission process can embrittle, or reduce the toughness of, the materials that make up the reactor vessel. This neutron embrittlement is cumulative in nature, increasing with each effective full-power year of operation.<sup>21</sup> Embrittlement of the reactor vessel is of concern for pressurized water reactors (“PWRs”), due to an embrittled vessel’s reduced ability to withstand a PTS event — *i.e.*, “an event or transient in pressurized water reactors [] causing severe overcooling (thermal shock) concurrent with or followed by significant pressure in the reactor vessel.”<sup>22</sup> During a PTS event, which could arise in certain rare accident situations, the hot interior surfaces of the reactor vessel are suddenly flooded with relatively colder water. The rapid cooling of the plates, forgings, axial welds, and circumferential welds that make up the reactor vessel produces stress in those materials. The reactor pressure vessel might then fracture, provided that there is both a sufficiently large, pre-existing flaw and the material’s toughness has been sufficiently lowered by neutron embrittlement.<sup>23</sup>

To address PTS, the NRC requires licensees to meet one of two regulatory provisions that have been codified in 10 C.F.R. Part 50 — either 10 C.F.R. § 50.61 or 10 C.F.R.

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<sup>21</sup> Alternate Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events, 75 Fed. Reg. 13 (Jan. 4, 2010) (Final Rule), as corrected or amended by 75 Fed. Reg. 5,495 (Feb. 3, 2010), 75 Fed. Reg. 10,410 (Mar. 8, 2010), and 75 Fed. Reg. 72,653 (Nov. 26, 2010).

<sup>22</sup> 10 C.F.R. § 50.61(a)(2).

<sup>23</sup> See *generally* 75 Fed. Reg. at 13.

§ 50.61a.<sup>24</sup> Section 50.61 was published in 1985,<sup>25</sup> and was followed 25 years later (in 2010), by the publication of § 50.61a.<sup>26</sup> The Commission's regulations permit certain reactor licensees to follow *either* of those regulations, provided they satisfy the criteria and requirements set forth in the specified regulation.

Sections 50.61 and 50.61a each require the licensee to use projected "reference temperatures" of the steel reactor vessel materials to assess how well those materials can resist fracturing during a PTS event.<sup>27</sup> The reference temperature relates to how much the steel can bend, and thereby absorb energy, prior to failure. If the steel's temperature is above the reference temperature, it will behave in a more ductile fashion, absorbing more energy before failure. However, if the steel's temperature is below the reference temperature, it will fail in a more brittle fashion, absorbing less energy before failure. If the reference temperature of the reactor vessel materials becomes very high due to exposure to neutron irradiation, then during a PTS event, when the reactor vessel is flooded with cold water, the steel could behave in a more brittle fashion, increasing the probability of fracture.<sup>28</sup> The amount by which the steel's reference temperature increases due to irradiation is influenced by the operating temperature of the reactor, the composition of the steel, and the amount of irradiation to which it is exposed.

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<sup>24</sup> 10 C.F.R. § 50.61(b)(1) ("...projected [reference temperature] values must be in accordance with this section or § 50.61a."); 10 C.F.R. § 50.61a(b) ("The requirements of this section may be implemented as an alternative to the requirements of 10 CFR 50.61").

<sup>25</sup> Analysis of Potential Pressurized Thermal Shock Events, 50 Fed. Reg. 29,937 (July 23, 1985) (Final Rule) (promulgating 10 C.F.R. § 50.61).

<sup>26</sup> 75 Fed. Reg. at 13.

<sup>27</sup> 10 C.F.R. § 50.61(b)(1) (requiring licensee to have projected reference temperature values accepted by the NRC); 10 C.F.R. § 50.61a(c)(3) (requiring licensee to compare the projected reference temperature values for plates, forgings, axial welds, and circumferential welds to the PTS screening criteria in Table 1 of § 50.61a).

<sup>28</sup> See generally NUREG-1806, Vol. 1, *Technical Basis for Revision of the Pressurized Thermal Shock (PTS) Screening Limit in the PTS Rule (10 CFR 50.61)*, at xix-xx (Aug. 2007), available at <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1806/>.

The amount of reference temperature increase that will occur over the reactor's operating lifetime is increased by a greater total radiation exposure, by exposure to radiation at lower temperatures, or by the use of steel that has higher concentrations of copper, nickel, phosphorus, or manganese.<sup>29</sup>

Both of the Commission's PTS rules (§§ 50.61 and 50.61a) require the licensee to compare predicted (*i.e.*, calculated) reference temperatures for the plates, forgings, and other reactor vessel materials with the regulatory screening criteria set forth in the rule (§ 50.61 or § 50.61a). If the reference temperatures predicted for the vessel materials exceed the screening criteria, the licensee must take the appropriate steps outlined in the regulations, *e.g.*, it must implement a flux reduction program<sup>30</sup> or obtain NRC approval of a safety analysis.<sup>31</sup> Under either rule, the plant may not operate when the screening criteria are exceeded unless the licensee obtains prior approval from the Director, Office of Nuclear Reactor Regulation ("Director of NRR").<sup>32</sup>

However, there are differences between § 50.61 and § 50.61a. Significantly, § 50.61a uses different reference temperature screening criteria than § 50.61. The screening criteria in § 50.61 depend only on material product form,<sup>33</sup> while the criteria in § 50.61a depend on both material product form and vessel wall thickness.<sup>34</sup> Additionally, § 50.61a differs from § 50.61 in

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<sup>29</sup> See *generally* 10 C.F.R. § 50.61a(g) Equations 5-7.

<sup>30</sup> 10 C.F.R. § 50.61(b)(3); 10 C.F.R. § 50.61a(d)(3).

<sup>31</sup> 10 C.F.R. § 50.61(b)(4); 10 C.F.R. § 50.61a(d)(4).

<sup>32</sup> 10 C.F.R. § 50.61(b)(6); 10 C.F.R. § 50.61a(d)(6).

<sup>33</sup> 10 C.F.R. § 50.61(b)(2) (providing screening criteria of 270° F for plates, forgings, and axial weld materials, and 300° F for circumferential weld materials).

<sup>34</sup> See 10 C.F.R. § 50.61a(g) Table 1 (setting out eighteen different reference temperature limits dependent on RPV wall thickness and the part of the RPV under consideration).

its requirements concerning how a licensee compares the predicted reference temperatures developed using an embrittlement trend curve to measured data from surveillance capsules.<sup>35</sup>

Notably, § 50.61a was developed based on many more years of operational experience than was available when the earlier rule (§ 50.61) was published.<sup>36</sup> Moreover, because of increased computer capabilities, the § 50.61a calculations better captured the details of a PTS event than was possible when § 50.61 was adopted. As a result, the technical basis document for § 50.61a concluded that the risks of through-wall cracking due to a PTS event were much lower than previously estimated, and the screening criteria in § 50.61 were found to be “unnecessarily conservative.”<sup>37</sup> In sum, the Commission found that the § 50.61a reference temperature limits provide a more accurate and realistic linkage between embrittlement and reactor vessel fracture risk than the limits established in § 50.61.<sup>38</sup> The NRC studied information from three operating PWRs, *including Palisades*, and concluded that the new screening criteria developed based on its studies could be applied to the entire fleet of operating PWRs.<sup>39</sup> Thus, certain licensees may seek approval to use § 50.61(a) instead of § 50.61 in establishing the fracture toughness of their reactor vessel provided they meet the requirements set forth in the rule.<sup>40</sup>

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<sup>35</sup> 10 C.F.R. § 50.61(c)(2)(i); 10 C.F.R. § 50.61a(f)(6)(i).

<sup>36</sup> *See, e.g.*, 75 Fed. Reg. at 14.

<sup>37</sup> *Id.* at 13.

<sup>38</sup> *See* Alternate Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events, 72 Fed. Reg. 56,275, 56,279 (Oct. 3, 2007) (Proposed Rule) (stating that “[t]he updated  $RT_{MAX-X}$  estimation procedures provide a more realistic (compared to the existing regulation) method for estimating the fracture toughness of reactor vessel materials over the lifetime of the plant.”).

<sup>39</sup> 75 Fed. Reg. at 14.

<sup>40</sup> 10 C.F.R. § 50.61a(b) (providing, “The requirements of this section apply to each holder of an operating license for a pressurized water nuclear power reactor whose construction permit was issued before February 3, 2010 and whose reactor vessel was designed and fabricated to the ASME Boiler and Pressure Vessel Code, 1998 Edition or earlier. The requirements of this section may be implemented as an alternative to the requirements of 10 C.F.R. § 50.61”).

B. Requirements for Use of 10 C.F.R. § 50.61a

Where an eligible licensee seeks to use § 50.61a as an alternative to § 50.61, the licensee must submit a license amendment request with the information required by § 50.61a(c).<sup>41</sup> According to § 50.61a(c), the licensee must: (1) submit projected reference temperatures for the reactor vessel beltline materials calculated using the embrittlement trend curve in 10 C.F.R. § 50.61a; (2) verify its calculations are correct by considering data from the available surveillance capsules already withdrawn from the reactor and other reactors with materials matching those from the applicant's reactor; (3) conduct an inspection of the reactor vessel beltline for flaws; (4) and compare its projected reference temperatures to the screening criteria in Table 1 of § 50.61a. Each of these requirements is discussed in greater detail below.

1. Calculation

First, in accordance with 10 C.F.R. § 50.61a(c)(1), the licensee must submit projected reference temperatures associated with the axial welds,<sup>42</sup> plates,<sup>43</sup> forgings,<sup>44</sup> and circumferential welds<sup>45</sup> located in the reactor vessel beltline. The projected reference temperature ( $RT_{MAX}$ ) is calculated by adding the projected change in reference temperature ( $\Delta T_{30}$ )<sup>46</sup> to the steel's original unirradiated reference temperature ( $RT_{NDT(U)}$ ).<sup>47</sup> The licensee must submit these calculations to the NRC for review, along with the sources of the inputs for the calculations.<sup>48</sup>

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<sup>41</sup> 10 C.F.R. § 50.61a(c).

<sup>42</sup> 10 C.F.R. § 50.61a(g) Equation 1.

<sup>43</sup> 10 C.F.R. § 50.61a(g) Equation 2.

<sup>44</sup> 10 C.F.R. § 50.61a(g) Equation 3.

<sup>45</sup> 10 C.F.R. § 50.61a(g) Equation 4.

<sup>46</sup> 10 C.F.R. § 50.61a(g) Equation 5.

<sup>47</sup> 10 C.F.R. § 50.61a(g) Equations 1-4.

<sup>48</sup> 10 C.F.R. § 50.61a(c)(1).

## 2. Verification

Second, § 50.61a(c)(1) requires licensees to ensure that their predicted reference temperatures provide an appropriate representation of available surveillance data.<sup>49</sup> Surveillance data is data obtained from steel coupons placed in surveillance capsules within the reactor vessel and monitored in accordance with 10 C.F.R. Part 50, Appendix H. These coupons are made from the same materials as the plates, forgings, and welds that make up the reactor vessel beltline, and are placed at varying distances from the fuel. The capsules are periodically removed from the reactor vessel, and the coupons are then tested to measure the reference temperature of the steel used in the reactor vessel beltline after varying degrees of irradiation exposure.<sup>50</sup> Because the surveillance capsules are placed closer to the core than is the reactor vessel itself, they accumulate irradiation damage faster than the reactor vessel. Testing the capsules as required by 10 C.F.R. Part 50, Appendix H therefore provides the NRC and the licensee with information about future reactor vessel embrittlement.

Section 50.61a defines “surveillance data” as “*any data* that demonstrates the embrittlement trends for the beltline materials, including, but not limited to, *surveillance programs at other plants* with or without a surveillance program integrated under 10 CFR part 50, appendix H.”<sup>51</sup> An applicant *must* evaluate surveillance data—which according to the definition above includes data from other plants (referred to as “sister-plant” data)—*if* (a) the surveillance data material is a “heat-specific” match for the materials in the applicant’s reactor vessel *and* (b) there are three or more surveillance data points.<sup>52</sup> If these criteria are met, the rule requires the applicant to use the surveillance data to verify that its predicted reference

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<sup>49</sup> See 10 C.F.R. §§ 50.61a(a)(10) (defining surveillance data) and (f)(6)(i)(B).

<sup>50</sup> See *generally* 10 C.F.R. Part 50 App. H(I).

<sup>51</sup> 10 C.F.R. § 50.61a(a)(10) (emphasis added).

<sup>52</sup> 10 C.F.R. § 50.61a(f)(6)(i)(A)-(B).



temperatures are appropriate.<sup>53</sup> However, if both criteria are not met, such that “fewer than three surveillance data points exist for a specific material, then the embrittlement model must be used without performing the consistency check.”<sup>54</sup>

Assuming that sufficient surveillance data matching the materials in the applicant’s reactor vessel is available, the applicant performs statistical analyses using 10 C.F.R. § 50.61a(g) Equations 8 through 12 and Tables 6 through 7, to compare the reference temperatures predicted by Equations 5 through 7 with the measured reference temperatures obtained from the surveillance data. If the predicted and measured reference temperatures fail to correspond, the licensee may propose to submit alternative reference temperatures to the Commission.<sup>55</sup>

### 3. Inspection

Third, 10 C.F.R. § 50.61a(c)(2) requires licensees to submit the results of non-destructive inspections of the vessel wall undertaken to reveal the presence of flaws that may exist in the reactor vessel beltline. These inspections must use procedures, equipment, and personnel that have been approved under the ASME Code, Section XI, Appendix VIII, Supplement 4 and Supplement 6.<sup>56</sup> The inspection quantifies the number and size of the flaws in the vessel, with the aim of ensuring that the flaws found by inspection of the vessel are represented well, or bounded, by the number and size of the flaws on which the reference

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<sup>53</sup> *Id.*

<sup>54</sup> 10 C.F.R. § 50.61a(f)(6)(i)(B).

<sup>55</sup> 10 C.F.R. § 50.61a(f)(6)(vi). The NRC has recently published draft regulatory guidance for § 50.61a. See Draft Regulatory Guide (DG)-1299, *Regulatory Guidance on the Alternative Pressurized Thermal Shock Rule* (Mar. 2015) (ADAMS Accession No. ML14056A011). Among other things, the draft guidance discusses methods the Staff finds acceptable by which licensees can adjust their reference temperatures if they fail the consistency checks. See *id.* at 11-13.

<sup>56</sup> 10 C.F.R. § 50.61a(e).

temperature limits of § 50.61a were based.<sup>57</sup> If the flaws found in the inspection do not correspond to those on which the rule was based, further analyses must be submitted.<sup>58</sup>

4. Comparison

Fourth, 10 C.F.R. § 50.61a(c)(3) requires licensees to compare the predicted reference temperatures associated with the axial welds, plates, forgings, and circumferential welds located in the reactor vessel beltline with the PTS limits located in Table 1 of § 50.61a. Licensees may propose mitigating strategies if any of the predicted reference temperatures are greater than these PTS limits.<sup>59</sup> The continued operation of the plant above the PTS screening criteria is subject to the approval of the Director of NRR.<sup>60</sup>

III. The Board Correctly Found the Petitioners' Contention Inadmissible

The Board did not commit an error of law or abuse its discretion in denying the Petitioners' hearing request; instead, its decision in LBP-15-17 was predicated on sound principles supported by Commission regulations and precedent. In ruling against the Petitioners, the Board properly found that the contention challenged § 50.61a itself, not the contents of the LAR.

On appeal, the Petitioners agree with the Staff's and Board's explanation of § 50.61a,<sup>61</sup> but argue that the rule cannot be applied to Palisades. Yet instead of demonstrating that the Board's ruling was in error, they simply raise the same issues that the Board determined

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<sup>57</sup> 10 C.F.R. § 50.61a(e)(1)-(3); 10 C.F.R. § 50.61a(g) Tables 2 & 3 (describing the allowable number of flaws in welds, plates, and forgings).

<sup>58</sup> 10 C.F.R. § 50.61a(e)(4)-(6).

<sup>59</sup> 10 C.F.R. § 50.61a(d)(3)-(7). These mitigation strategies include further analyses, flux reduction programs, plant modifications, and thermal annealing treatments.

<sup>60</sup> See, e.g., 10 C.F.R. § 50.61a(d)(5).

<sup>61</sup> See Appeal at 1-12 (relying on the Board's explanation of § 50.61a in LBP-15-17).

challenged the rule or failed to raise a genuine dispute with Entergy's application. Thus, the Petitioners have not shown that the Board was mistaken.

A. The Board Correctly Held that the Petitioners Do Not Challenge the LAR

In their appeal, the Petitioners argue that the Board improperly rejected portions of their contention challenging the LAR's use of sister-plant data, including their claims regarding the variability of neutron flux across the Palisades RPV and between RPVs at plants with different designs.<sup>62</sup> The Petitioners also allude to their earlier arguments that further testing of surveillance capsules should be required.<sup>63</sup> However, as discussed below, the Board properly held that none of these arguments raise a factual dispute with the LAR, and that several of them challenge the regulations.

1. The Petitioners' Arguments Concerning Sister-Plant Data Fail to Raise an Admissible Contention

The Petitioners raise concerns regarding Entergy's use of sister-plant data—surveillance capsules from other reactors—in verifying the predicted reference temperatures in the LAR.<sup>64</sup> The Petitioners argue that the Board should not have ruled that their arguments were a challenge to the regulations because the Petitioners' expert, Dr. Arnold Gundersen, stated that the materials compared were not a "heat-specific match."<sup>65</sup> As explained above, an applicant who wishes to use § 50.61a is required to submit surveillance data from other plants if there is a match between the materials in the surveillance capsules.<sup>66</sup> According to the Petitioners, because the materials did not match, the sister-plant data should not have been used.

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<sup>62</sup> *Id.* at 22-23.

<sup>63</sup> *Id.* at 22; *see also id.* at 15.

<sup>64</sup> In its LAR, Entergy stated that it verified that its calculated reference temperatures were appropriate by comparing the temperatures to surveillance data from Palisades, as well as data from Indian Point, H.B. Robinson, and Diablo Canyon. See LAR Enclosure at 6-1.

<sup>65</sup> Appeal at 22-23.

<sup>66</sup> See 10 C.F.R. § 50.61a(f)(6)(i).

However, the Board correctly found that the Petitioners misquoted their expert. The Board explained, “Mr. Gundersen did not raise the argument that the sister plant material samples are of different chemical composition compared to Palisades’ samples. Instead, Mr. Gundersen admits that the sister plant and Palisades samples are similar.”<sup>67</sup> This is indeed the case. Dr. Gundersen argued, “While it is true that the material used to weld the reactor plates together to create the reactor vessel *is similar among the four plants*, the dramatically different nuclear core design and operational power characteristics make an accurate comparison impossible.”<sup>68</sup> Thus, Dr. Gundersen did not allege that the materials used in the Palisades RPV are dissimilar from the materials used at the other plants referenced in the application. To the contrary, he acknowledged that the materials are “similar among the four plants” compared in the LAR.<sup>69</sup>

The Board also properly determined that the issue actually raised by Dr. Gundersen concerning the use of sister-plant data challenged the rule.<sup>70</sup> Dr. Gundersen maintained, as the Petitioners note in their appeal, that sister-plant data cannot be used because “the dramatically different nuclear core design and operational characteristics [of different reactors] make an accurate comparison impossible.”<sup>71</sup> However, as the Board accurately explained, § 50.61a *requires* the applicant to submit surveillance data from other reactors if the materials match and

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<sup>67</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_ (slip op. at 45-46). The Board also found that its review of the LAR “shows no reason to doubt that the sister plant material samples are the same ‘heat’ or composition compared to the materials in the Palisades RPV.” *Id.* at 46.

<sup>68</sup> Gundersen Decl. at 10, ¶ 27 (emphasis added). In addition, Dr. Gundersen stated that “Entergy has claimed that the Palisades plant has similar metallurgical characteristics in its welds to the three other aforementioned plants, and those similar sister plants have thus far shown relatively little embrittlement, unlike Palisades.” *Id.* at 11, ¶ 29.

<sup>69</sup> The Petitioners argue that neither the Staff nor Entergy provided any expert testimony to refute Dr. Gundersen’s assertion, see Appeal at 23, yet this assumes that Dr. Gundersen actually made the assertion in question. As the Board found, he did not.

<sup>70</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_ (slip op. at 40-41).

<sup>71</sup> Appeal at 15-16.

there are a sufficient number of data points.<sup>72</sup> The Board concluded that if it were to also consider other factors, such as nuclear core design and operational characteristics, it “would be adding a new requirement to 10 C.F.R. § 50.61a(f)(6)(i), which is prohibited by 10 C.F.R. § 2.335.”<sup>73</sup> Thus, the Board correctly held that Dr. Gundersen’s claims challenge the regulations.<sup>74</sup>

2. The Petitioners’ Claims Regarding Neutron Flux Variability Across the Reactor Core Do Not Raise an Admissible Contention

The Petitioners argue that the Board inappropriately rejected the portion of their contention which claimed that Entergy does meet the requirement that there only be a 20% deviation in neutron flux across different segments of the reactor core, and therefore, the LAR is deficient.<sup>75</sup> The Petitioners maintain that Entergy and the Staff failed to refute Dr. Gundersen’s assertion challenging the variability in neutron flux.<sup>76</sup> Dr. Gundersen had explained that because of a “flux variation of as much as 300% between the 45-degree segment and the 75-degree segment,” it was “mathematically implausible that a 20% deviation is possible.”<sup>77</sup>

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<sup>72</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_\_ (slip op. at 40); 10 C.F.R. § 50.61a(f)(6)(i)(A)-(B).

<sup>73</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_\_ (slip op. at 40-41).

<sup>74</sup> In any event, the radiation exposure differences between different plants—which are indeed affected by things such as reactor vessel design, core design, and operational characteristics—are accounted for by the exposure quantity called “fluence,” whose calculation is required by the rule. Once the applicant submits sufficient surveillance data points that are a heat-specific match, the rule then requires an applicant to perform certain statistical checks provided in the rule, including: (1) “estimate the mean deviation from the embrittlement model for the specific data set”; (2) “estimate the slope of the embrittlement model residuals”; and (3) “estimate the two largest positive deviations (*i.e.*, outliers) from the embrittlement model for the specific data set.” 10 C.F.R. § 50.61a(f)(6)(ii)-(iv). The embrittlement model (10 C.F.R. § 50.61a(g) Equations 5, 6, and 7) accounts for the irradiation environment (*i.e.*, the fluence, flux, and irradiation temperature), as well as the composition of the material (*i.e.*, copper, nickel, phosphorus, manganese), and accounts for the effects of these variables on embrittlement as quantified by  $\Delta T_{30}$ . This allows for comparisons between sister plants that quantitatively account for plant-to-plant differences in neutron exposure and irradiation environment, and for differences in material compositions between “sister plants.” Thus, differences in fluence are accounted for in the analysis.

<sup>75</sup> Appeal at 23.

<sup>76</sup> *Id.*

<sup>77</sup> *Id.* at 17; Gundersen Decl. at 12, ¶ 34.

Similarly, the Petitioners reassert their prior arguments that sister-plant data cannot be used because there is more than a 20% difference in neutron flux between the data from other reactors and the data from Palisades.<sup>78</sup>

However, as the Board explained, the Petitioners' argument concerning neutron flux lacks support.<sup>79</sup> The Board found that the 20% limit to which the Petitioners refer, which comes from Regulatory Guide ("RG") 1.190, is not related to flux variation across different portions of the Palisades reactor or differences in flux between Palisades' RPV and RPVs at other plants.<sup>80</sup> Rather, RG 1.190 explains that the 20% limit concerns comparing calculated fluence levels in the steel with measured fluence data obtained from dosimeters within the surveillance capsules.<sup>81</sup> RG 1.190 states that when using its methods to calculate fluence levels and to compare those levels to measured data, there should not be more than a 20% difference between the measured and the calculated fluence *at a specific location* on the inner-diameter of the reactor vessel.<sup>82</sup>

Indeed, RG 1.190's 20% limit only addresses uncertainty in fluence at a *fixed location* on the inner-diameter of the reactor vessel. Fluence at *different locations* on the vessel inner diameter will vary greatly because some locations are closer to the fuel while others are further away.<sup>83</sup> It is this variation in distance between the core and the vessel, and the material that lies

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<sup>78</sup> Appeal at 17.

<sup>79</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_\_ (slip op. at 41).

<sup>80</sup> *Id.* at 42.

<sup>81</sup> RG 1.190, *Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence* at 17 (Mar. 2001) (ADAMS Accession No. ML010890301) (stating that "fluence calculation methods must be validated against [] operating reactor measurements that provide in-vessel surveillance capsule dosimetry" and that "[d]ifferences between measurements and calculations should be consistent . . . within about 20% for in-vessel surveillance capsules.").

<sup>82</sup> *Id.* See also Tr. at 55-56 (Mr. Lindell); *id.* at 90-91 (Mr. Kuyler).

<sup>83</sup> See *Palisades*, LBP-15-17, 81 NC at \_\_\_ (slip op. at 41) (acknowledging that "neutron flux hitting a material will be different at different parts of the reactor").

between the core and the vessel (e.g., coolant water, shielding, etc.), that produces the large variations in fluence to which Dr. Gundersen refers.<sup>84</sup> The 20% limit of RG 1.190 does not address these variations, and therefore, the Board correctly found that the 20% limit referred to by the Petitioners is simply not relevant to differences in fluence levels within the Palisades RPV or differences in fluence levels between the Palisades RPV and sister-plants.<sup>85</sup>

In any event, the Petitioners have failed to explain how their concerns regarding differences in fluence levels challenge the LAR. The Petitioners do not point to any portion of § 50.61a indicating that such differences are problematic or need to be addressed in an application. Accordingly, the Board correctly held, “When the Commission has determined that compliance with a regulation is sufficient to provide for reasonable assurance of public health and safety, a licensing board cannot impose requirements that exceed those in the regulation.”<sup>86</sup>

3. The Petitioners’ Argument that Further Surveillance Capsule Testing Should be Required Fails to Raise an Admissible Contention

In their initial Petition, the Petitioners argued that the LAR was deficient because it does not propose to test further surveillance capsules, even though Entergy has not withdrawn and tested a capsule since 2003.<sup>87</sup> Although on appeal, the Petitioners do not specifically argue that the Board erred in rejecting their concerns about the need for further testing of surveillance capsules,<sup>88</sup> the Petitioners appear to challenge the Board’s ruling on this issue. For example, the Petitioners note that if the LAR is granted, Palisades will be operating “in disregard of the

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<sup>84</sup> See RG 1.190 at 4 (describing the “material and geometrical input data . . . used to define the physical characteristics that determine the attenuation of the neutron flux from the core to the locations of interest on the pressure vessel.”).

<sup>85</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_ (slip op. at 42).

<sup>86</sup> *Id.* (citing 75 Fed. Reg. at 22; *Detroit Edison Co.* (Fermi Nuclear Power Plant, Unit 3), LBP-09-16, 70 NRC 227, 255 (2009)).

<sup>87</sup> See, e.g., Initial Petition at 11-12, 14-15.

<sup>88</sup> See Appeal at 18-23; *Palisades*, LBP-15-17, 81 NRC at \_\_ (slip op. at 33-34).

destructive testing obligations of 10 C.F.R. § 50.61.”<sup>89</sup> The Petitioners also cite Dr. Gundersen’s opinion that without capsule sampling, “no accurate current assessment of Palisades’ severe embrittlement condition exists,”<sup>90</sup> and note that the “core objection” in their filing was that 10 C.F.R. § 50.61a “allows Entergy to substitute various estimates of the status of the RPV for actual data” from the surveillance capsules.<sup>91</sup>

However, the Board properly ruled that the Petitioners’ concerns challenge the rule, not Entergy’s application.<sup>92</sup> Under § 50.61a, an applicant must analyze data such as surveillance capsules that have been removed from the reactor to determine whether that data is consistent with the embrittlement model predicted by § 50.61a.<sup>93</sup> Nowhere does § 50.61a require the licensee to remove further specimens from the reactor, beyond those removed as part of its regular surveillance program, to qualify for implementation of the rule. Rather, surveillance data from the facility is obtained from capsules withdrawn under the withdrawal schedule for surveillance capsules established under a separate regulatory provision: 10 C.F.R. Part 50, Appendix H.<sup>94</sup> The Board correctly held that the Petitioners, “[B]y advocating that the Board

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<sup>89</sup> Appeal at 22. It is worth noting that § 50.61 does not require licensees to test *additional* surveillance capsules. See 10 C.F.R. § 50.61(c)(2) (requiring licensees to consider existing plant-specific surveillance program results in verifying calculated reference temperatures). Rather, the schedule for removing and testing surveillance capsules is submitted to the NRC in accord with 10 C.F.R. Part 50 App. H. Thus, the Petitioners’ statement regarding the “destructive testing obligations of 10 C.F.R. § 50.61” is incorrect.

<sup>90</sup> Appeal at 15.

<sup>91</sup> *Id.* at 15-16.

<sup>92</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_\_ (slip op. at 32-33).

<sup>93</sup> 10 C.F.R. §§ 50.61a(a)(10), (f)(6)(i)(B).

<sup>94</sup> Appendix H describes the requirements for a reactor’s material surveillance program, including the withdrawal schedule for surveillance capsules. 10 C.F.R. Part 50, App. H(III)(B)(1). In particular, Appendix H states that the design of the surveillance program and the capsule withdrawal schedule must meet the requirements of the edition of American Society for Testing and Materials (“ASTM”) E-185 that is current on the issue date of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (“ASME Code”) to which the reactor vessel was purchased. *Id.* In accordance with Appendix H, licensees must submit their capsule withdrawal schedules to the NRC for approval. 10 C.F.R. Part 50, App. H(III)(B)(3).



require the testing of additional samples . . . are asking the Board to demand more than Section 50.61a requires.”<sup>95</sup> Any argument that the rule itself is flawed is impermissible.<sup>96</sup>

B. Petitioners’ Arguments about Discretion and Reasonable Assurance Challenge the Regulations and Fail to Raise an Issue with the LAR

The Petitioners argue that the Board’s decision is flawed because it ignored the discretion vested in the Director of NRR to approve or deny an application to use § 50.61a.<sup>97</sup>

The Petitioners maintain that the Board “ruled, in essence, that if the paperwork is properly completed, the substantive issue—whether to allow Entergy to move to 10 C.F.R. § 50.61a—is essentially irrelevant” and “is to be automatically allowed.”<sup>98</sup>

However, the Board appropriately found that its discretion—and the Staff’s discretion—is cabined by the terms of the regulations.<sup>99</sup> Section 50.61a sets out with particularity what the licensee must demonstrate to use its criteria in lieu of those in § 50.61.<sup>100</sup> If, after review, the NRC determines that a licensee has met those requirements, the NRC will grant the amendment authorizing the plant to use § 50.61a.<sup>101</sup> To raise an admissible contention in such a license amendment proceeding, a petitioner must argue—with expert support—that the

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<sup>95</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_ (slip op. at 33).

<sup>96</sup> 10 C.F.R. § 2.335(a).

<sup>97</sup> Appeal at 18.

<sup>98</sup> *Id.*

<sup>99</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_ (slip op. at 42) (“the Board may only review the LAR to decide if it meets the rule’s requirements; it may not impose additional requirements that a petitioner believes would better protect public health and safety.”); see *id.* at n.237 (stating that the Staff also has no “authority to deviate from the agency’s regulations.”).

<sup>100</sup> 10 C.F.R. § 50.61a(c)(1)-(3). See also *Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), LBP-15-20, 81 NRC \_\_ (June 18, 2015) (slip op. at 22) (“Section 50.61a provides a comprehensive, step-by-step methodology for demonstrating fracture toughness at low temperatures.”).

<sup>101</sup> 10 C.F.R. § 50.61a(c) (“Before the implementation of this section, each licensee shall submit a request for approval in the form of an application for a license amendment in accordance with § 50.90 together with the documentation required by paragraphs (c)(1), (c)(2), and (c)(3) of this section for review and approval by the Director of the Office of Nuclear Reactor Regulation (Director).”).

applicant has failed to meet the requirements in § 50.61a and therefore the NRC should not approve the amendment. In other words, a contention cannot challenge the rule's requirements, but must argue that the applicant failed to *fulfill* those requirements.<sup>102</sup> The Board correctly determined that the Petitioners merely challenged the rule.<sup>103</sup>

The Petitioners note several provisions in § 50.61a which allow the Director of NRR discretion to determine whether to grant the amendment, and argue that when there is discretion, "differences of opinion, interpretation, and expert analyses are legitimate bases for challenging the decision[.]"<sup>104</sup> But while it is true that when § 50.61a addresses what the applicant must do if it cannot comply initially with the criteria in the rule, it provides the Staff with greater discretion to approve or deny the applicant's further requests,<sup>105</sup> the Petitioners have not advanced any such challenge to the LAR.

For example, § 50.61a(d), which discusses the requirements pertaining to licensees using § 50.61a who are projected to exceed its screening criteria, states that among other things, the licensee may be required to submit further analyses, implement a flux reduction program, or propose plant modifications.<sup>106</sup> The rule further states that the Director of NRR can approve the plant's operation with reference temperatures above the PTS screening criteria "on a case-by-case basis," or can deny such a request and require further analyses and modifications that demonstrate reasonable assurance of adequate protection.<sup>107</sup>

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<sup>102</sup> See 10 CFR § 2.335(a).

<sup>103</sup> *Palisades*, LBP-15-17, 81 NRC at \_\_\_ (slip op. at 32-33, 40-42).

<sup>104</sup> Appeal at 19.

<sup>105</sup> See, e.g., 10 C.F.R. § 50.61a(e)(4)-(6) (describing the additional analyses required when an inspection determines that the population of flaws in the RPV does not correspond to the number of flaws the rule's embrittlement curve assumes); 10 C.F.R. § 50.61a(f)(6)(vi) (providing that if an applicant's surveillance checks do not match its projected reference temperatures, the applicant can submit additional calculations for approval).

<sup>106</sup> 10 C.F.R. § 50.61a(d)(3)-(4).

<sup>107</sup> 10 C.F.R. § 50.61a(d)(5)-(6).

However, the subsections of the rule providing for greater discretion are not relevant to the Petitioners' contention. Although the Petitioners refer to § 50.61a(d),<sup>108</sup> they do not argue, for example, that Palisades is projected to exceed the revised PTS screening criteria in § 50.61a.<sup>109</sup> The fact that in some cases, an applicant will be required to do more does not mean that Entergy has failed to meet the regulations. Moreover, the mere fact that the regulations provide more discretion in certain scenarios does not mean that the Petitioners have identified any deficiency in Entergy's application. As the Board appropriately concluded, they did not.

The Petitioners' arguments concerning "reasonable assurance" similarly challenge the rule, not Entergy's application. The Petitioners maintain that since § 50.61a is less conservative than § 50.61, both rules cannot provide "reasonable assurance" of the adequate protection of public health and safety.<sup>110</sup> Rather, "a stronger regulation and a weaker one" cannot "be on the same footing when it comes to providing reasonable assurance."<sup>111</sup> The Petitioners assert that because "Palisades contains the worst-embrittled reactor pressure vessel in the United States," Entergy cannot choose to use a "less-protective" regulation.<sup>112</sup>

However, the Petitioners' characterization of § 50.61a as a "less-protective" or "weaker" regulation is an unsupported conclusion, and such characterizations confirm that the Petitioners' issues are with the rule and not Entergy's application. Furthermore, § 50.61a is a valid alternative to § 50.61. Section 50.61a was noticed in the *Federal Register*, and after an

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<sup>108</sup> See Appeal at 20 (referencing a slide from a presentation to the Advisory Committee on Reactor Safeguards which notes that specific criteria for the assessment required for plants that exceed the PTS screening criteria is not provided in the rule).

<sup>109</sup> Likewise, the Petitioners do not argue that the projected reference temperatures fail the consistency checks or that the population of flaws found in the reactor vessel do not correspond to those assumed in the rule. See 10 C.F.R. § 50.61a(f)(6)(vi); 10 C.F.R. § 50.61e(4)-(6).

<sup>110</sup> Appeal at 21.

<sup>111</sup> *Id.* at 22.

<sup>112</sup> *Id.*

opportunity for the public to provide comments, the Commission approved the regulation.<sup>113</sup> 10 C.F.R. § 50.61a(b) explicitly states, “The requirements of this section may be implemented as an alternative to the requirements of 10 CFR § 50.61.” As the Board explained, “When the Commission has determined that compliance with a regulation is sufficient to provide for reasonable assurance of public health and safety, a licensing board cannot impose requirements that exceed those in the regulation.”<sup>114</sup> Thus, the issue is whether Entergy can demonstrate that it meets the requirements of 10 C.F.R. § 50.61a.<sup>115</sup> The Board correctly concluded that the Petitioners did not point to any deficiency in Entergy’s LAR, and appropriately found that the Petitioners did not raise an admissible contention.<sup>116</sup> The Petitioners have not made any demonstration to the contrary.

### CONCLUSION

For the reasons set forth above, the Petitioners have failed to demonstrate that the Board’s decision in LBP-15-17 was in error. Rather, the Board correctly held that the Petitioners did not submit an admissible contention. The Petitioners present impermissible challenges to the Commission’s regulations and fail to demonstrate any inadequacy in the LAR. Therefore, the Commission should affirm LBP-15-17 and deny the Petitioners’ appeal.

Respectfully submitted,

**/Signed (electronically) by/**

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<sup>113</sup> 72 Fed. Reg. at 56,275 (Proposed Rule); 75 Fed. Reg. at 22 (stating that § 50.61a provides “reasonable assurance that licensees operating below the screening criteria could endure a PTS event without fracture of vessel materials, thus assuring integrity of the reactor pressure vessel.”).

<sup>114</sup> Palisades, LBP-15-17, 81 NRC at \_\_ (slip op. at 42).

<sup>115</sup> 10 C.F.R. § 50.61a(b)-(c).

<sup>116</sup> See, e.g., Palisades, LBP-15-17, 81 NRC at \_\_ (slip op. at 42); 10 C.F.R. § 2.309(f)(1).

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**Executed in Accord with 10 CFR 2.304(d)**

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of	)	
	)	
ENTERGY NUCLEAR OPERATIONS, INC.	)	Docket No. 50-255-LA
	)	
(Palisades Nuclear Plant)	)	

CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 2.305, I hereby certify that copies of the foregoing “NRC STAFF ANSWER TO APPEAL OF LBP-15-17 BY BEYOND NUCLEAR, DON’T WASTE MICHIGAN, MICHIGAN SAFE ENERGY FUTURE–SHORELINE CHAPTER, AND THE NUCLEAR ENERGY INFORMATION SERVICE,” dated June 29, 2015, have been served upon the Electronic Information Exchange, the NRC’s E-Filing System, in the above-captioned proceeding, this 29th day of June, 2015.

**/Signed (electronically) by/**

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