

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD PANEL

Before Administrative Judges:

Michael M. Gibson, Chair  
Dr. Gary S. Arnold  
Dr. Arielle J. Miller

In the Matter of:

HOLTEC PALISADES, LLC  
(Palisades Nuclear Plant)

Docket No. 50-255-LA-4

ASLBP No. 25-988-01-LA-BD01

August 5, 2025

MEMORANDUM AND ORDER

(Denying Petitioners' Hearing Request and Terminating Proceeding)

Before this Licensing Board is a petition to intervene and request for adjudicatory hearing (Petition) by Beyond Nuclear, Don't Waste Michigan, Michigan Safe Energy Future, Three Mile Island Alert, and Nuclear Energy Information Service (collectively Petitioners).<sup>1</sup> This Petition concerns a February 11, 2025 license amendment request (LAR) by Holtec Palisades, LLC (Holtec) that seeks to obtain the Nuclear Regulatory Commission's (NRC) approval for Holtec to utilize sleeving as an acceptable type of repair to defective steam generator tubes at the Palisades Nuclear Plant (Palisades).<sup>2</sup>

The Petition responds to the NRC Staff's publication of a Federal Register notice on April 15, 2025, that announced the opportunity to request a hearing on Holtec's proposed license

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<sup>1</sup> See Petition to Intervene and Request for Adjudicatory Hearing by [Petitioners] (June 16, 2025) (ADAMS Accession No. ML25167A334) [hereinafter Petition].

<sup>2</sup> See Letter from Jean A. Fleming, Vice President of Licensing and Regulatory Affairs, Holtec International, to NRC Document Control Desk at 1 (Feb. 11, 2025) (ADAMS Accession No. ML25043A348) [hereinafter LAR].

amendment (LAR).<sup>3</sup> On June 16, 2025, Petitioners timely submitted their Petition in which they proffered one contention opposing the LAR.<sup>4</sup>

On June 24, 2025, the Secretary of the Commission referred the Petition to the Chief Administrative Judge of the Atomic Safety and Licensing Board Panel for further action.<sup>5</sup> The next day, this Licensing Board was established to rule on standing and contention admissibility matters and, if necessary, to preside at any hearing.<sup>6</sup> On July 11, 2025, Holtec and the NRC Staff timely filed Answers to the Petition, and on July 18, 2025, Petitioners timely filed their Reply to the Answers of Holtec and of the NRC Staff.<sup>7</sup>

We conclude that Petitioners have established representational standing, but they have not proffered an admissible contention. Accordingly, and for the reasons set forth below, we deny the relief sought in the Petition and terminate this proceeding. In making this ruling, we address standing first, and then the admissibility of Petitioners' contention.

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<sup>3</sup> 90 Fed. Reg. 15,722, 15,722 (Apr. 15, 2025).

<sup>4</sup> See Petition.

<sup>5</sup> See Memorandum from Carrie M. Safford, Secretary of the Commission, to E. Roy Hawken, Chief Administrative Judge (June 24, 2025) (ADAMS Accession No. ML25175A330).

<sup>6</sup> See Establishment of Atomic Safety and Licensing Board (June 25, 2025) (ADAMS Accession No. ML25176A152).

<sup>7</sup> Holtec's Answer Opposing Beyond Nuclear et al.'s Petition to Intervene and Request for Hearing (July 11, 2025) (ADAMS Accession No. ML25192A253) [hereinafter Holtec Answer]; NRC Staff's Answer Opposing the Petition to Intervene Filed by [Petitioners] (July 11, 2025) (ADAMS Accession No. ML25192A242) [hereinafter NRC Staff Answer]; Petitioning Organizations' Combined Reply to Answers Filed by NRC Staff and Holtec to the Petition to Intervene (July 18, 2025) (ADAMS Accession No. ML25199A243) [hereinafter Reply]. Between the filing of the Petition and the Answers, the Board held a status conference with the parties principally to address the treatment of certain nonpublic information that had been referenced by the parties. The parties conferred and filed a status report in which they advised that, in their estimation, nothing in their pleadings would need to be treated as nonpublic. See Joint Status Report in Response to Board's Direction During July 2, 2025 Telephonic Conference (July 9, 2025) (ADAMS Accession No. ML25190A645).

## I. STANDING

### A. Legal Standard for Standing

To participate in a licensing adjudication, a petitioner must first demonstrate standing.<sup>8</sup> NRC regulations on standing require that a hearing request include information regarding (1) the name, address, and telephone number of the petitioner; (2) the “nature of the [petitioner’s] right under [the Atomic Energy Act (AEA) or the National Environmental Policy Act (NEPA)] to be made a party to the proceeding”; (3) the “nature and extent of the [petitioner’s] property, financial, or other interest in the proceeding”; and (4) the possible effect on the petitioner’s interest of any decision or order that may be issued in the proceeding.<sup>9</sup> “The petitioner bears the burden to provide facts sufficient to establish standing,”<sup>10</sup> although “we construe the petition in favor of the petitioner.”<sup>11</sup>

An organization seeking to represent the interests of its members must establish representational standing.<sup>12</sup> To do so, the organization must show that (1) “at least one member has standing and has authorized the organization to represent [them] and to request a hearing on [their] behalf,” (2) “the interests that the representative organization seeks to protect [are] germane to its own purpose,” and (3) “neither the asserted claim nor requested relief must require an individual member to participate in the organization’s legal action.”<sup>13</sup>

To determine whether a petitioner meets the first requirement for representational standing, the Commission has instructed licensing boards to apply “contemporaneous judicial

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<sup>8</sup> See 10 C.F.R. § 2.309(a).

<sup>9</sup> See id. § 2.309(d)(1).

<sup>10</sup> PPL Bell Bend, LLC (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC 133, 139 (2010).

<sup>11</sup> Ga. Inst. of Tech. (Georgia Tech Research Reactor), CLI-95-12, 42 NRC 111, 115 (1995).

<sup>12</sup> Entergy Nuclear Operations, Inc. (Palisades Nuclear Plant), CLI-08-19, 68 NRC 251, 266, 268 (2008).

<sup>13</sup> Southern Nuclear Operating Co., Inc. (Vogtle Electric Generating Plant, Unit 3), CLI-20-6, 91 NRC 225, 238 (2020).

concepts of standing” that require a showing of a concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision.<sup>14</sup> For proceedings involving a power reactor construction permit or operating license, the Commission evaluates a party’s injury by applying a “proximity presumption.”<sup>15</sup> This presumption generally encompasses a radius of fifty miles from the facility in question, based on a “finding . . . that persons living within [that radius] ‘face a realistic threat of harm’ if a release from the facility of radioactive material were to occur.”<sup>16</sup> However, the instant proceeding concerns neither a construction permit nor an operating license but rather a license amendment, and so the proximity presumption does not necessarily apply here.<sup>17</sup> In those instances where the proximity presumption does not attach, licensing boards are called upon to ascertain whether the petitioners have met their burden to allege that the proposed action could pose an obvious potential for offsite consequences.<sup>18</sup>

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<sup>14</sup> Sequoyah Fuels Corp. and General Atomics (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 71–72 (1994).

<sup>15</sup> Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Services, LLC (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915 (2009).

<sup>16</sup> Id. at 917 (quoting Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Services, LLC (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-09-4, 69 NRC 170, 182–83 (2009)).

<sup>17</sup> Southern Nuclear Operating Co., Inc. (Vogtle Electric Generating Plant, Units 3 and 4), LBP-16-5, 83 NRC 259, 268 (2016) (finding that “for the proximity presumption to apply in license amendment proceedings, the proposed amendment must ‘obvious[ly]’ entail[] an increased potential for offsite consequences”). It should be noted that in a previous case involving license amendments for Palisades, another Board concluded that because the four amendments at issue there were needed to restart the plant and load fuel, that case should be treated as the functional equivalent of the types of proceeding where the proximity presumption is applied. See Holtec Decommissioning International, LLC, and Holtec Palisades, LLC (Palisades Nuclear Plant), LBP-25-4, 101 NRC 133, 153 (2025). In the somewhat unique circumstances here, it is not altogether clear whether this not unassociated LAR falls into the same category. See 90 Fed. Reg. at 15,723 (“This [LAR] will support the return to service of the steam generators as part of the potential resumption of power operations at the Palisades facility.”). But we need not reach that issue here because, as we find below, Petitioners have made an adequate showing of offsite consequences to establish their standing.

<sup>18</sup> Sequoyah Fuels Corp., CLI-94-12, 40 NRC at 75 n.22. See also Northern States Power Co. (Pathfinder Atomic Plant, Byproduct Material License No. 22–08799–02), LBP–90–3, 31 NRC 40, 45 (1990) (“The inapplicability of the ‘fifty-mile radius’ rule to these type of proceedings

The initial [standing] question we need to address is whether the kind of action at issue, when considered in light of the radioactive sources at the plant, justifies a presumption that the licensing action 'could plausibly lead to the offsite release of radioactive fission products from . . . the . . . reactors.' The burden falls on the petitioner to demonstrate this. If the petitioner fails to show that a particular licensing action raises an 'obvious potential for offsite consequences,' then our standing inquiry reverts to a 'traditional standing' analysis of whether the petitioner has made a specific showing of injury, causation, and redressability.<sup>19</sup>

Although Petitioners fail to allege in the standing section of their Petition that granting the LAR could plausibly result in the offsite release of radioactive fission products, they do include such allegations in the contention section of their Petition.<sup>20</sup> Consequently, as we must construe in Petitioners' favor the materials they have filed,<sup>21</sup> we conclude that Petitioners have made an adequate showing of offsite consequences and thereby have established standing.

B. Analysis

The NRC Staff considers Petitioners to have properly established representational standing to intervene in this proceeding.<sup>22</sup> On the other hand, Holtec maintains that Petitioners have not established standing, arguing that Petitioners erroneously base their standing on "the restart and operations of Palisades."<sup>23</sup> Holtec also claims that Petitioners have failed to allege or

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does not bar the application of a similar kind of presumption as long as it is based upon the circumstances of the case . . .").

<sup>19</sup> Exelon Generation Company, LLC and PSEG Nuclear, LLC, (Peach Bottom Atomic Power Station, Units 2 & 3), CLI-05-26, 62 NRC 577, 581 (2005).

<sup>20</sup> Petition at 20. See also Vogtle, LBP-16-5, 83 NRC at 272 ("The Board may review [Petitioner's] standing declarations, its Petition, and relevant documents cited by the participants to decide whether standing requirements have been met.").

<sup>21</sup> See Vogtle, CLI-20-6, 91 NRC at 238; see also Georgia Tech, CLI-95-12, 42 NRC at 115.

<sup>22</sup> NRC Staff Answer at 2, 8, 12–17.

<sup>23</sup> Holtec Answer at 56.

demonstrate “that the LAR, which only requests approval to sleeve steam generator tubes, presents an obvious potential for offsite consequences.”<sup>24</sup>

As the duly authorized representatives for their respective members, each of the petitioning organizations assert they have standing to intervene in this proceeding.<sup>25</sup> Each petitioning organization has also provided a description of its purpose as either opposing nuclear power in general or opposing the restart of the Palisades Nuclear Plant in particular.<sup>26</sup> Additionally, each petitioning organization has provided declarations from its respective members who state that they (1) reside within fifty “straight-line” miles of Palisades, (2) are concerned about risks to their health and safety from the operation of Palisades’s steam

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<sup>24</sup> Id. at 55.

<sup>25</sup> See Petition at 3–15.

<sup>26</sup> Beyond Nuclear describes itself as a “not-for-profit public policy, research, education organization based in Takoma Park, Maryland that advocates the immediate expansion of renewable energy sources to replace commercial nuclear power generation.” Petition at 3. Michigan Safe Energy Future describes itself as a grassroots association that “advocate[s] for the permanent shutdown of Palisades Nuclear Plant and replacement of nuclear and natural gas power generation with safe and renewable nonnuclear energy technologies.” Id. at 5. Don’t Waste Michigan describes itself as a grassroots organization that “works to shut down aging, dangerous nuclear power plants in the Great Lakes Basin; to halt or block the construction of new nuclear power plants; to educate the public about the dangers of nuclear power and nuclear waste, its deadly by-product; and to block the practice of landfilling nuclear waste.” Id. at 6–7. Three Mile Island Alert describes itself as “a grassroots advocacy organization opposed to commercial nuclear power for safety and economic reasons.” Id. at 8. Nuclear Energy Information Service describes itself as “a nonprofit organization committed to ending nuclear power and advocating for sustainable ecologically sound and socially just energy solutions.” Id. at 10.

generators,<sup>27</sup> and (3) support the petition and have authorized the organizations to request a hearing on their behalf.<sup>28</sup>

All five organizations seek to represent members who have standing in their own right based on their close proximity to Palisades and their concerns regarding risks to their health and safety posed by the sleeving of the Palisades steam generator tubes. In addition, Petitioners have demonstrated that the interests they seek to protect in challenging the sleeving of the tubes are germane to their purposes. Further, the issues presented in this proceeding, which involve challenges to Holtec's LAR, do not require the direct participation of Petitioners' members. Thus, we conclude that Petitioners have met the requirements for representational standing.

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<sup>27</sup> See Declaration of William D. Reed in Support of Petition for Leave to Intervene in Palisades Nuclear Plant License Amendment Proceeding at 1–2 (June 6, 2025) [hereinafter Reed Declaration]; Declaration of Carolyn Ferry in Support of Petition for Leave to Intervene in Palisades Nuclear Plant License Amendment Proceeding at 1–2 (June 6, 2025) [hereinafter Ferry Declaration]; Declaration of David Staiger in Support of Petition for Leave to Intervene in Palisades Nuclear Plant License Amendment Proceeding at 1–2 (June 16, 2025) [hereinafter Staiger Declaration]; Declaration of Alice Hirt in Support of Petition for Leave to Intervene in Palisades Nuclear Plant License Amendment Proceeding at 1–2 (June 13, 2025) [hereinafter Hirt Declaration]; Declaration of Joseph C. Kirk in Support of Petition for Leave to Intervene in Palisades Nuclear Plant License Amendment Proceeding at 1–2 (June 9, 2025) [hereinafter Kirk Declaration]; Declaration of R. James Scott in Support of Petition for Leave to Intervene in Palisades Nuclear Plant License Amendment Proceeding at 1–2 (June 16, 2025) [hereinafter J. Scott Declaration]; Declaration of Ann Scott in Support of Petition for Leave to Intervene in Palisades Nuclear Plant License Amendment Proceeding at 1–2 (June 15, 2025) [hereinafter A. Scott Declaration]; Declaration of John Brenneman in Support of Petition for Leave to Intervene in Palisades Nuclear Plant License Amendment Proceeding at 1–2 (June 9, 2025) [hereinafter Brenneman Declaration].

<sup>28</sup> See Reed Declaration at 2; Ferry Declaration at 2; Staiger Declaration at 2; Hirt Declaration at 2; Kirk Declaration at 2; J. Scott Declaration at 2; A. Scott Declaration at 2; Brenneman Declaration at 2.

## II. CONTENTION ADMISSIBILITY

### A. Legal Standard for Contention Admission

In addition to standing, a petitioner must proffer at least one admissible contention for a hearing to be granted.<sup>29</sup> To be admissible, a contention must:

- (i) Provide a specific statement of the issue of law or fact to be raised or controverted . . . ;
- (ii) Provide a brief explanation of the basis for the contention;
- (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
- (iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;
- (v) Provide a concise statement of the alleged facts or expert opinions which support the [petitioner's] position on the issue . . . , together with references to the specific sources and documents on which the [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] on a material issue of law or fact. This information must include references to specific portions of the application . . . 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>30</sup>

Failure to comply with any of these requirements renders a contention inadmissible.<sup>31</sup>

These contention admissibility regulations are "strict by design"<sup>32</sup> in order to exclude vague, unparticularized, or unsupported contentions.<sup>33</sup> While petitioners need not prove their

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<sup>29</sup> 10 C.F.R. § 2.309(a).

<sup>30</sup> Id. § 2.309(f)(1).

<sup>31</sup> See Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 & 3), CLI-05-24, 62 NRC 551, 567 (2005).

<sup>32</sup> Entergy Nuclear Operations, Inc. (Indian Point, Unit 2), CLI-16-5, 83 NRC 131, 136 (2016) (citing Dominion Nuclear Connecticut, Inc. (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001)).

<sup>33</sup> See North Atlantic Energy Service Corp. (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 219 (1999); see also Exelon Generation Co., LLC (Oyster Creek Nuclear Generating



contentions at the admissibility stage, the contention admissibility standards do require petitioners to “proffer at least some minimal factual and legal foundation in support of their contentions.”<sup>34</sup> To be admissible, contentions must be based on a genuine material dispute, rather than mere disagreement with an application.<sup>35</sup>

Petitioners, however, attempt to equate section 2.309(f)(1)(vi)’s “genuine dispute on a material issue of law or fact” contention admissibility standard with the seemingly less rigorous “no entitlement to relief under any set of facts” criterion in Rule 12(b)(6) of the Federal Rules of Civil Procedure (Fed. R. Civ. P.) that federal district courts are to use in ruling on motions to dismiss.<sup>36</sup> In support of their claim, Petitioners cite the NRC’s statement of considerations discussion in a 1989 Federal Register notice outlining a number of significant revisions to the agency’s contention admissibility standards then found in 10 C.F.R. § 2.714.<sup>37</sup> That discussion, however, is inapposite here. It concerned, not the section 2.714(b)(2)(iii) “genuine dispute on a material issue of law or fact” standard that was incorporated into section 2.309(f)(1)(iv) in 2004, but rather the adoption of a separate section (specifically 2.714(d)(2)(ii)) that arguably paralleled Fed. R. Civ. P. Rule 12(b)(6).<sup>38</sup> But Petitioners are in error in attempting to suggest this separate standard has any relevance to the application of section 2.309(f)(1)(vi) because

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Station) CLI-19-6, 89 NRC 465, 471–72 (2019) (finding that contention admissibility requirements are “intended to ensure that adjudicatory proceedings are triggered only by substantive safety or environmental issues, rooted in a ‘reasonably specific factual or legal basis’” (quoting PPL Susquehanna, LLC (Susquehanna Steam Electric Station, Units 1 & 2), CLI-15-8, 81 NRC 500, 504 (2015))).

<sup>34</sup> Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, & 3), CLI-99-11, 49 NRC 328, 334 (1999).

<sup>35</sup> See USEC, Inc. (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 480 (2006) (“Contentions . . . must be based on a genuine material dispute, not the possibility that petitioners, if they perform their own additional analyses, may ultimately disagree with the application.”).

<sup>36</sup> Petition at 18; see also Reply at 6.

<sup>37</sup> Petition at 18–19 (citing Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,171 (Aug. 11, 1989)).

<sup>38</sup> See 54 Fed. Reg. at 33,171, 33,181.

that language in section 2.174(d)(2)(ii) was not incorporated into the section 2.309(f)(1) contention admissibility standards in 2004.<sup>39</sup> Consequently, our evaluation of Petitioners' contention will be based on the "genuine dispute on a material issue of law or fact" contention admissibility standard first established in section 2.714(b)(2)(iii) of the 1989 version of the NRC's contention admissibility rules and carried over to current section 2.309(f)(1)(vi) in the 2004 revision to the agency's rules of practice.<sup>40</sup>

B. Holtec's License Amendment Request

To understand the matters in the LAR that the Petition seeks to challenge, a bit of background is necessary.

As a result of the previous plan to decommission Palisades, it is currently in a defueled state.<sup>41</sup> Although Holtec subsequently decided to restart Palisades, before it can be returned to full power operations, there are a number of steps that Holtec must take. The LAR currently before this Board addresses only one of those steps.

Palisades, a single Combustion Engineering pressurized water reactor (PWR),<sup>42</sup> has a primary coolant system that consists of "two heat transfer loops connected in parallel to the reactor vessel,"<sup>43</sup> with each loop containing one steam generator.<sup>44</sup> PWR technology includes steam generators that convert water into steam using heat from the nuclear reactor's core.

Hot radioactive water from the reactor enters the generator and flows through thousands of feet of tubing under high pressure to

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<sup>39</sup> See Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2238–40 (Jan. 14, 2004).

<sup>40</sup> Given the 2004 rulemaking revision to section 2.309(f)(1), at best the Fed. R. Civ. P. Rule 12(b)(6) "no entitlement to relief under any set of facts" criteria championed by Petitioners is encompassed in section 2.309(f)(1)(iv) regarding materiality, see section II.C.4 *infra*, not the separate section 2.309(f)(1)(vi) "genuine dispute on a material issue of law or fact" requirement.

<sup>41</sup> See LAR at 2.

<sup>42</sup> Letter from Barbara E. Dotson, Entergy Nuclear Operations, Inc., to NRC Control Desk, encl. at 7 (Mar. 25, 2021) (180-Day Steam Generator Tube Inspection Report) (ADAMS Accession No. ML21084A077) [hereinafter 2020 Report].

<sup>43</sup> LAR at 3.2.

<sup>44</sup> Id.

prevent it from boiling. Steam generators hold 3,000 to 16,000 tubes,<sup>45</sup> each of which is about three-quarters of an inch in diameter. The water inside the tubes heats non-radioactive water on the outside, which makes steam.<sup>46</sup> (citations added)

The steam produced then turns a turbine that makes electricity.<sup>47</sup> While a PWR's steam generator tubes serve as a barrier between the reactor's radioactive fission products and the environment, occasionally a PWR may release non-radioactive steam, and so these tubes must remain "intact and prevent radioactivity from the reactor core from reaching the atmosphere in the released steam."<sup>48</sup>

To ensure the reliability of the steam generator's tubing, the NRC requires a plant to (1) have emergency procedures for safely dealing with tube ruptures and leaks, (2) conduct periodic inspections of the tubes to detect the potential for damage, (3) monitor water chemistry to minimize corrosion and detect radiation from any tube leakage, and (4) repair or plug defective tubes.<sup>49</sup> The NRC also established detailed specifications for the tubing in each PWR, including "inspection frequency and scope, applicable tube repair limits, and reporting requirements."<sup>50</sup>

To ensure Palisades can meet these requirements upon restart, Holtec examined the tubing at Palisades and discovered that 1,000 of the 16,438 tubes in the two steam generators are candidates for plugging or repairs.<sup>51</sup> Based on this examination, the LAR proposes revisions

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<sup>45</sup> The number of steam generator tubes vary by plant, steam generator design, and plant requirements.

<sup>46</sup> Office of Public Affairs, NRC, Backgrounder on Steam Generator Tube Issues at 1 (June 2024) (ADAMS Accession No. ML040340557).

<sup>47</sup> Id.

<sup>48</sup> Id.

<sup>49</sup> Id.

<sup>50</sup> Id.

<sup>51</sup> 2020 Report at 11. Insofar as there are "flaws with a depth equal to or exceeding 40% of the nominal tube wall thickness" such tubes must be plugged—and hence removed from service. Letter from Jean A. Fleming, Vice President of Licensing, Regulatory Affairs & PSA, Holtec International, to NRC Control Desk, encl. attach. 2, at 5.0-11 (Dec. 14, 2023) (Page

to the following technical specifications that govern the operation of the steam generators at Palisades:

1. TS [Technical Specification] 3.4.1, Primary Coolant System (PCS) Pressure, Temperature and Flow Departure from Nucleate Boiling (DNB) Limits, Surveillance Requirement (SR) 3.4.1.3 is revised to require the PCS total flow rate to be verified within limits whenever repairing or plugging SG [Steam Generator] tubes results in a specified flow reduction.
2. The option to repair SG tubes is added to TS Limiting Condition for Operation (LCO) 3.4.17, [SG] Tube Integrity; and Administrative Controls TS 5.5.8, [SG] Program, which currently allow only tube plugging.
3. Administrative Controls TS 5.6.8, SG Tube Inspection Report, is revised to add reporting requirements for repaired tubes.<sup>52</sup>

Of these requested changes, the one challenged by the Petition is the second of these changes – repairing the steam generator tubes with sleeving. Sleeving is a repair method in which a slightly smaller diameter tube is inserted into the damaged tube and then the sleeve is expanded to become flush with the walls of the damaged tube.<sup>53</sup> The LAR seeks to “revise the technical specifications to allow for the use of Framatome Alloy 690 sleeves to repair the defective steam generator tubes as an alternative to removing the tubes from service by plugging” them.<sup>54</sup> At present, plugging is the sole remedy for tube repair permitted by Palisades’ current operating license. If the NRC Staff grants the LAR, Holtec will be permitted to repair

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Change Instructions and Retyped Pages for the Palisades Plant Renewed Facility License DPR-20, Appendix A Technical Specifications, and Appendix B Environmental Protection Plan) (ADAMS Accession No. ML23348A148); see id. encl. at 55, 78, 84 (Evaluation of the Proposed Changes) (describing steam generator tube integrity technical specifications to be reinstated); id. encl., attach. 1, app. A at 5.0-4 to -5 (Proposed Changes (mark-up) to Palisades Plant Renewed Facility Operating License DPR-20, Appendix A Permanently Defueled Technical Specifications, and Appendix B Environmental Protection Plan Pages) (detailing technical specifications regarding performance and tube repair criteria for steam generator tube integrity program).

<sup>52</sup> LAR at 1.

<sup>53</sup> Id. at 7.

<sup>54</sup> 90 Fed. Reg. at 15,723.

defective or damaged steam generator tubes at the tube support plates either by installing metal sleeves in such tubes or by plugging them.<sup>55</sup>

C. Analysis

Petitioners' Contention 1 states as follows:

The steam generators at Palisades are defective and damaged because the tubes are corroded or otherwise defective and damaged. Holtec proposes to repair the defective and damaged tubes by installing metal sleeves, instead of plugging the tubes or replacing the generators entirely. Installing sleeves will make the tubes more likely to crack, than installing plugs. However, due to Holtec not properly maintaining the steam generators for the past 2-3 years, the only solution to the defective and damaged steam generators is to replace the generators. Therefore, the LAR to allow sleeving should not be granted and Holtec should be required to replace the steam generators.<sup>56</sup>

Whether Contention 1 can be admitted is dependent upon Petitioners challenging the actual relief that Holtec seeks in its LAR i.e., Holtec's request to change Palisades' current technical specifications to authorize Holtec to sleeve tubes at the tube support plate in addition to plugging them. Holtec represents that by undertaking this sleeving in conjunction with tube plugging, normal inspections, and other mitigation measures, the tubing in the steam generators will operate safely for the remainder of the term of Palisades' current operating license.<sup>57</sup>

We analyze below the extent to which this contention meets, or does not meet, the six section 2.309(f)(1) contention admissibility criteria governing this proceeding.

1. Issue Raised by the Contention

Section 2.309(f)(1)(i) requires a petition to include a specific statement of the issue of law or fact to be raised or controverted by the contention. Here, Petitioners' Contention 1 opposes the LAR by interposing two primary arguments. First, Petitioners argue that after Holtec obtained control of Palisades three years ago, it failed to follow a standard procedure

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<sup>55</sup> LAR at 1.

<sup>56</sup> Petition at 19.

<sup>57</sup> LAR, encl. 2, at 5.0-10 to -12 (Technical Specification Page Markups).

called “wet layup controls.”<sup>58</sup> Wet layup controls refer to the steps that should be taken to protect the steam generators of a nuclear power plant when it is in a cold shutdown condition.<sup>59</sup>

Petitioners claim Holtec caused the damage to the steam generator tubes by failing to follow proper wet layup procedures during Palisades’s cold shutdown after it was defueled. Petitioners assert that Holtec’s failure to follow wet layup procedures produced excessive corrosion of the steam generator tubing and increased its susceptibility to cracking.

Second, Petitioners argue that “the steam generators are so degraded that sleeving is insufficient to protect public health and safety and the generators must be replaced.”<sup>60</sup> Taken together, these two primary claims sufficiently state the issue raised by the contention as required by 10 C.F.R. § 2.309(f)(1)(i).

## 2. Basis of the Contention

Section 2.309(f)(1)(ii) requires petitioners to provide a brief explanation of the basis for the contention. To meet this contention admissibility requirement, Petitioners provide a

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<sup>58</sup> Petition at 22; see also Declaration of Arnold Gundersen in Support of Petition to Intervene and Request for Adjudicatory Hearing Opposing Steam Generator Restoration by [Petitioners] at 6, 15–18 (June 16, 2025) [hereinafter Gundersen Declaration], wherein Mr. Gundersen cites to two news articles that suggest accepted wet layup procedures were not followed once Holtec took control of the Palisades plant and that this alleged failure created undue stress compression cracking. See Kevin Clark, Corrosion Cracking at Palisades Nuclear Plant Exceeds Previous Estimates, NRC Says, Power Engineering (Oct. 3, 2024), <https://www.power-eng.com/nuclear/corrosion-cracking-at-palisades-nuclear-plant-exceeds-previous-estimates-nrc-says/>, and Timothy Gardner, Corrosion Exceeds Estimates at Michigan Nuclear Plant US Wants to Restart, Regulator Says, Reuters (Oct. 2, 2024), <https://www.reuters.com/business/energy/us-report-says-corrosion-michigan-nuclear-plant-above-estimates-2024-10-02/> [hereinafter Gardner Article].

<sup>59</sup> United States Nuclear Regulatory Commission Technical Training Center, Combustion Engineering Technology Cross Training Course Systems Manual at 2.3.9.1 (Sept. 19, 2002) (ADAMS Accession No. ML022840127) (“Wet layup consists of filling the steam generator completely with water that has been treated with hydrazine and ammonium hydroxide. The high steam generator level minimizes the amount of secondary metal that [sic] exposed to air during cold shutdown.”).

<sup>60</sup> Petition at 20.

declaration from their nuclear engineering expert, Arnold Gundersen (Gundersen Declaration).<sup>61</sup>

As summarized in their Petition, Gundersen opines:

installing metal sleeves upon the steam generator tubes at Palisades will increase the stress on the tubes and the tube sheet. Increasing the stress on the tubes and the tube sheet will cause further cracking of the tubes. If steam generator tubes develop cracks, radioactive water can leak into non-radioactive steam, which will be released into the environment. If cracking is severe, a nuclear meltdown can occur.<sup>62</sup>

Taken together, the Petition and the Gundersen Declaration are sufficient to state the basis of the contention as required by 10 C.F.R. § 2.309(f)(1)(ii).

### 3. Scope

Section 2.309(f)(1)(iii) requires that every contention be within the permissible scope of the proceeding, which is established by the Commission's hearing notice.<sup>63</sup> Consequently, the scope of this proceeding, as defined by the hearing notice, concerns one narrow issue: whether the NRC Staff should grant the LAR to revise the facility's "technical specifications to allow for the use of Framatome Alloy 690 sleeves to repair the defective steam generator tubes [at the Lattice Tube Support Plates] as an alternative to removing the tubes from service by plugging."<sup>64</sup>

One claim in Contention 1 falls far outside this one narrow issue that defines the permissible scope of the proceeding. That claim asserts that Holtec must replace the steam generators at Palisades before restarting operations. This assertion derives from Petitioners' conviction that all tubes, whether sleeved or unsleeved, have degraded, and will continue to

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<sup>61</sup> See Gundersen Declaration.

<sup>62</sup> Petition at 20.

<sup>63</sup> DTE Electric Co. (Fermi Nuclear Power Plant, Unit 2), LBP-20-7, 92 NRC 1, 12 (2020) (citing Public Service Co. of Indiana, Inc. (Marble Hill Nuclear Generating Station, Units 1 & 2), ALAB-316, 3 NRC 167, 170-71 (1976)) (A "proposed contention must be rejected if it raises issues beyond the scope of the proceeding as dictated by the Commission's hearing notice.").

<sup>64</sup> See 90 Fed. Reg. at 15,723.

degrade, to such an extent that they will suffer extensive corrosion upon restart, and so the only viable option is the total replacement of the steam generators themselves.<sup>65</sup>

But replacement of the steam generators is not a matter permissibly at issue in this proceeding. Rather, the scope of this proceeding concerns solely the matters that are addressed in the LAR, i.e., whether the process of sleeving tubes at tube support plates should be allowed as a repair option. Consequently, the portion of Contention 1 calling for replacement of the steam generators is inadmissible as beyond the permissible scope of this proceeding.

#### 4. Materiality

Section 2.309(f)(1)(iv) requires a petitioner to demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action involved in the proceeding. Under this contention admissibility criterion, a “dispute at issue is material if its resolution would make a difference in the outcome of the licensing proceeding.”<sup>66</sup> Petitioners maintain that the corrosion damage detected in the steam generators can be directly attributed to Holtec’s allegedly improper conduct after it acquired control of the plant.<sup>67</sup> Notably, Holtec itself concedes “[t]here is no dispute that, immediately after the plant was shut down, Holtec did not manage the plant as if it were in a normal refueling outage by, among other things, maintaining operational [wet] layup conditions in the steam generators.”<sup>68</sup>

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<sup>65</sup> Petition at 19.

<sup>66</sup> Holtec International (Hi-STORE Consolidated Interim Storage Facility), CLI-20-4, 91 NRC 167, 190 (2020) (internal quotations omitted).

<sup>67</sup> Petition at 22.

<sup>68</sup> Holtec Answer at 18 (citing Letter from Justin C. Poole, Project Manager, NRC Office of Nuclear Reactor Regulation (NRR), to Jean A. Fleming, Vice President, Licensing, Regulatory Affairs, and PSA, Holtec International, LLC, encl. at 6 (Oct. 1, 2024) (Summary of Conference Call) (ADAMS Accession No. ML24267A296); Transcript of the 719th Meeting of the Advisory Committee on Reactor Safeguards at 85–86 (Oct. 3, 2024) (ADAMS Accession No. ML24319A182)).



But the LAR does not concern Holtec's acts and omissions after it acquired control of Palisades.<sup>69</sup> Rather, the LAR is concerned solely with Holtec's planned use of one specific tube sleeving methodology. Petitioners have offered no technical reason why the efficacy of sleeving is dependent on who damaged the tubes or on when such damage happened. As such, this portion of Contention 1 is inadmissible as it is not material to the outcome of this proceeding.

5. Failure to Offer Factual Support or to Dispute the LAR

Section 2.309(f)(1)(v) requires a petition to include a concise statement of the alleged facts or expert opinions supporting the petitioner's position on the issue along with citations to supporting sources and documents. Additionally, section 2.309(f)(1)(vi) requires a petitioner to provide sufficient information demonstrating that a genuine dispute exists with the applicant on a material issue of law or fact including "references to specific portions of the application . . . that the petitioner disputes and the supporting reasons for each dispute."

As explained below, even though the remaining portions of Contention 1 are arguably material and within scope, they nevertheless are inadmissible because they lack the necessary factual or expert support, they fail to raise a genuine dispute with the LAR on an issue of material fact, or they fail for both reasons.

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<sup>69</sup> The NRC Staff argues there are six issues encompassed within Contention 1 that, though not admissible in this proceeding, could instead be raised by Petitioners in a request for enforcement action pursuant to 10 C.F.R. § 2.206. See NRC Staff Answer at 27–28. The six issues are (1) potential degradation of the steam generator tubesheet, including hideout in the tube-to-tubesheet junction, (2) the degradation of the steam generator tubes at the Top-of-Tubesheet area, (3) the performance and potential future degradation of unsleeved tubes, (4) Holtec's planned return of approximately 600 preventatively plugged tubes to service, to the extent they do not require tube support sleeves and conform to Palisades's power operating licensing basis, (5) challenges to public statements and representations made by Holtec about its plans or motivations regarding the potential replacement of the Palisades steam generators, and (6) requiring Holtec to consider alternatives to sleeving, such as plugging tubes or replacing the steam generators. As these matters are before us, if at all, only as potentially admissible contentions and not as enforcement matters, we will not speculate on whether they are in fact appropriate subjects for requests for enforcement action.

- a) No genuine dispute with the LAR on an issue of material fact is raised by Petitioners' claim that the LAR fails to account for chemical hideout in the tube-to-tubesheet crevasses; and Petitioners fail to offer the necessary factual or expert support for this claim

Petitioners assert that it would be improper to sleeve the tubes at Palisades because of a condition called “chemical hideout,”<sup>70</sup> a phenomenon found in steam generators where impurities accumulate in cracks and crevices during power operations.<sup>71</sup> Petitioners are concerned that purportedly corrosive chemicals are present in the steam generators and that such chemicals will accumulate between the tubes and the tubesheet.

For clarity, the tubesheet is a thick plate, typically made from low-alloy steel, that contains thousands of holes for the steam generator tubes, with each tube being welded to the tubesheet's primary face. The tubesheet is located toward the bottom of the steam generator and creates a barrier between the primary coolant entering the tubes and the secondary water of the steam generator. In contrast, the tube support plates are parallel to and above the tubesheet, bolster the tubes within the steam generator, hold the tubes in position, and maintain separation between the tubes.<sup>72</sup>

It is Petitioners' claim that the LAR fails to address chemical “hideout in the tube-to-tubesheet crevasses,”<sup>73</sup> and that “[n]othing in Framatome's [Holtec's sleeving contractor] experience or Holtec's analysis of tube repair addresses the potential for a chemical attack on the tube sheet itself . . . .”<sup>74</sup> However, the LAR is not intended to address defects in the tubesheet. Rather, Palisades' current operating license requires that defects in the tubesheet be

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<sup>70</sup> Gundersen Declaration at 23, ¶¶ 11.9.2–11.9.3.

<sup>71</sup> C.W. Turner et al., Hideout, Hideout Return and Crevice Chemistry in Nuclear Steam Generators, in *Steam Generators for Nuclear Power Plants* 273 (Jovica Riznic ed., 2017), <https://www.sciencedirect.com/science/article/abs/pii/B9780081008942000121>.

<sup>72</sup> J.C. Smith, Steam Generator Manufacturing, *Steam Generators for Nuclear Power Plants* 60-62 (2017).

<sup>73</sup> Gundersen Declaration at 23, ¶ 11.9.

<sup>74</sup> Id. at 24, ¶ 11.9.3 (emphasis omitted).

addressed only by plugging such tubes and not by sleeving them.<sup>75</sup> On the other hand, the LAR seeks authorization to sleeve tubes only in the tube support plates.<sup>76</sup> Consequently, the portion of Contention 1 asserting that Holtec will undertake sleeving at the tubesheet fails to raise a genuine dispute with the LAR on an issue of material fact, and so it is not admissible.

Petitioners make two additional, but different, claims regarding chemical effects. First, they allege that chemicals throughout the steam generator (both around the tubes that are sleeved and around those that are not sleeved) will render all such tubes susceptible to corrosion and that all tubes will be weakened once Holtec restarts Palisades and resumes normal operations.<sup>77</sup> But Petitioners fail to acknowledge, much less challenge, the LAR's statement that chemistry effects have in fact been evaluated:

Evaluation of the repaired SG [steam generator] tube by testing and analysis indicates no detrimental effects on the sleeve or sleeved tube assembly from reactor system flow, primary or secondary coolant chemistries, thermal conditions or transients, or pressure conditions as may be experienced at [Palisades].<sup>78</sup>

In the face of this clear statement in the LAR, Petitioners' mere assertion that chemical effects will weaken all tubes upon restart fails to raise a genuine dispute with the LAR on an issue of material fact.

Petitioners' second claim regarding chemical effects asserts that Holtec's Main Steam Line Break (MSLB) tests fail to account for the actual condition of the tubing.<sup>79</sup> But Holtec's

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<sup>75</sup> LAR, encl. 1 (Description and Evaluation of the Proposed Changes) at 13 [hereinafter LAR Proposed Changes] ("C-star refers to repair of the [steam generators] which involves plugging tubes with defects deep within the tubesheet as per TS [technical specifications] 5.5.8c.1 and c.2, whereas 'tube repair' refers to sleeving tubes with tube defects in the TSP [tube support plate] area in accordance with Enclosures 5 and 5a.").

<sup>76</sup> Id. at 7.

<sup>77</sup> Gundersen Declaration at 30–31, ¶ 12.12.5.

<sup>78</sup> LAR Proposed Changes at 15.

<sup>79</sup> See Petition at 23 ("Not only the tubes that Holtec proposes to sleeve, but all tubes inside the steam generators, will be under continuing chemical attack and will be further weakened if the NRC allows these old steam generators to be restarted. The MSLB tests performed by Holtec do not include any further degradation of all the tubes caused by hideout

MSLB testing at Palisades was performed in accordance with the national consensus standard American Society of Mechanical Engineers (ASME) Section XI.<sup>80</sup> Petitioners not only fail to connect their assertion to the testing requirements of the ASME Code, but they also fail to address which specific code requirements are tied to testing MSLB at operating conditions. By failing to provide information indicating that Holtec's MSLB tests of the tubing do not meet applicable standards, Petitioners have drawn no connection between alleged chemistry effects and any deficiency in the LAR. As a result, Petitioners fail to raise a genuine dispute with the LAR on an issue of material fact and so this portion of Contention 1 is likewise not admissible.

In addition, Petitioners fail to offer any factual or expert support regarding the presence of chemical effects they claim would further degrade tubes during operations. Section 2.309(f)(1)(v) requires that a petition provide a concise statement of the alleged facts or expert opinions supporting the petitioner's position on the issue along with references to the specific sources and documents on which the petitioner intends to rely to support its position on the issue. Petitioners offered no such support here. Consequently, for both reasons, this portion of Contention 1 is not admissible.

b) No genuine dispute with the LAR on an issue of material fact is raised by Petitioners' claim that the LAR fails to account for sleeving experience at Watts Bar 2

Petitioners criticize the LAR for allegedly citing a favorable experience with metal sleeving in steam generator tubes at another nuclear power plant, Watts Bar 2.<sup>81</sup> According to Petitioners' expert, Mr. Gundersen, Watts Bar 2 employed sleeving in its steam generator tubes

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under hot operating conditions, but instead represents the cold-water condition of only the damaged tubes identified in the August 2024 inspection report."). (The MSLB test referred to was a static test of the tube and sleeve at the higher pressure differential that may be attained during an actual steam line break. It did not model the dynamics of a MSLB. See LAR, encl. 5, at 46 (Mar. 26, 2024) (Framatome Inc., Steam Generator Mechanical TSP Sleeve Qualification Assessment for ¾" Tubes at [Palisades]) (Non-Proprietary) [hereinafter Framatome Report]).

<sup>80</sup> See Framatome Report at 37; see also LAR Proposed Changes at 5–6.

<sup>81</sup> Petition at 21.

and those tubes failed within 18 months, thereby proving that sleeving does not work (and so, by extension, that replacement of the steam generators themselves is the only appropriate remedy at Palisades).<sup>82</sup>

However, a more careful review of the LAR shows that Holtec referred to Watts Bar 2 solely to demonstrate the type of information that must be submitted to the NRC for tube sleeving to be approved.<sup>83</sup> Nowhere does the LAR refer to Watts Bar 2 as a historical precedent that establishes the efficacy of sleeving. In fact, the LAR specifically states, “[w]hile the above does not reflect the configuration to be used at [Palisades], the information submitted to obtain the Watts Bar Unit 2 approval was used as guidance in the development of this request.”<sup>84</sup> Additionally, although Watts Bar 2 did obtain NRC approval to install sleeves in its steam generators, critically Watts Bar 2 never installed any sleeves in its steam generators before they were replaced.<sup>85</sup> Consequently, there is nothing in the Petition regarding Watts Bar 2 that raises a genuine dispute with the LAR on an issue of material fact and so this portion of Contention 1 is not admissible.

- c) No genuine dispute with the LAR on an issue of material fact is raised by Petitioners’ claim that the LAR fails to recognize that metal sleeving is improper

Petitioners also allege the LAR fails to acknowledge that installing metal sleeving in the steam generator tubes will create excessive stress on such sleeved tubes and on the tubesheet, which in turn will cause further cracking of the tubes, a dangerous condition that could ultimately

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<sup>82</sup> Gundersen Declaration at 23–24, ¶¶ 11.9.1–11.9.3.

<sup>83</sup> LAR Proposed Changes at 27.

<sup>84</sup> Id.

<sup>85</sup> See Letter from Michael J. Wentzel, Project Manager, NRC NRR, to James Barstow, Vice President, Nuclear Regulatory Affairs and Support Services, Tennessee Valley Authority, (Aug. 10, 2020) (ADAMS Accession No. ML20156A018); Letter from Anthony L. Williams IV, Site Vice President, Tennessee Valley Authority, to NRC Document Control Desk, encl. at 2 (May 16, 2024) (180 Day Steam Generator Tube Inspection Report (April. 2024)) (ADAMS Accession No. ML24137A267).

result in radioactive water leaking into non-radioactive steam when it is released to the environment.<sup>86</sup> In support of this assertion the Gundersen Declaration cites an article in the Nuclear Engineering International (NEI) magazine that states, “[t]he process of forming a sleeve joint places an additional stress on both the sleeve and the parent tube materials.”<sup>87</sup> Based on this statement, Mr. Gundersen maintains that such an increase in stress is “counterproductive in eliminating a problem created by Stress Corrosion Cracking.”<sup>88</sup>

However, the NEI magazine article cited by Mr. Gundersen was merely a summary of a report from the Electric Power Research Institute (EPRI) documenting a study of the tube sleeving process and evaluating sleeving results.<sup>89</sup> While this EPRI report does note that sleeving may lead to an increase in stress, it also indicates that such stress can be relieved through heating the tube for a short time period.

The Framatome Report on sleeve qualification at the Palisades facility, submitted as part of the LAR, directly addresses the impact of sleeve installation on the sleeved material.<sup>90</sup> The Framatome Report specifically evaluated the extent of increased stress that should be expected to occur in the sleeved tubing and concluded that such stress would not be excessive. As Holtec’s Answer notes: “[The Framatome Report] provides a detailed discussion of stress corrosion cracking, including the susceptibility of the sleeve material to stress corrosion cracking

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<sup>86</sup> Petition at 20, 23 (“In fact, as Mr. Gundersen explains, sleeving the generator tubes will actually increase stress cracking, leading to a probable release of radioactive material.”); Gundersen Declaration at 18, ¶¶ 9.9–9.10. See also ¶ 9.11.

<sup>87</sup> Gundersen Declaration at 18, ¶ 9.9 (quoting Staff Writer, SG Repair Has Something Up its Sleeve, NEI (Feb. 28, 1998), <https://www.neimagazine.com/analysis/sg-repair-has-something-up-its-sleeve/> (discussing Steam Generator Sleeving Review Committee, PWR Steam Generator Sleeving Assessment Document, Revision 1, EPRI TR-105960-R1, Final Report (Dec. 1997))).

<sup>88</sup> Gundersen Declaration at 18, ¶ 9.10.

<sup>89</sup> Steam Generator Sleeving Review Committee, PWR Steam Generator Sleeving Assessment Document, Revision 1, EPRI TR-105960-R1, Final Report (Dec. 1997).

<sup>90</sup> Framatome Report at 21–25, section 6.5.

and the potential impact of sleeve installation on further tube degradation. And [it] provides a detailed discussion of the acceptability of the stresses after sleeving on degraded tubes.”<sup>91</sup>

Although Petitioners may be correct that sleeving can place additional stress on steam generator tubing, they fail to (1) dispute the LAR’s explanation of stress relief techniques, (2) demonstrate any errors in the stress relief analysis utilized in the LAR, (3) show why stress relief is not an acceptable method for Palisades, or (4) establish that this additional stress will cause damage that will fail the tubes within the inspection intervals required at Palisades.<sup>92</sup> Because Petitioners fail to establish a genuine dispute with the LAR on an issue of material fact, this portion of Contention 1 is not admissible.

d) No genuine dispute with the LAR on an issue of material fact is raised by Petitioners’ claim that the LAR fails to analyze properly Flow Induced Vibration; and Petitioners fail to offer the necessary factual or expert support for this claim

Petitioners<sup>93</sup> allege that the LAR’s Flow Induced Vibration (FIV)<sup>94</sup> analysis is inadequate because it wrongly assumes that turbulence vibrations<sup>95</sup> will occur at random locations.<sup>96</sup> On the

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<sup>91</sup> Holtec Answer at 28.

<sup>92</sup> Gundersen Declaration at 16–20.

<sup>93</sup> While not explicitly included in Contention 1, the Gundersen Declaration addresses Flow Induced Vibration.

<sup>94</sup> FIV is a phenomenon where the interactions between flowing fluid and structural elements, such as steam generator tubes, result in vibrations, which may compromise system integrity. See Muhammad Subhan et al., An Investigation of Flow-Induced Vibrations (FIV) During Cold Testing on a Helical Tube Steam Generator For a High-Temperature Gas-Cooled Reactor (HTGR), in 222 Annals of Nuclear Energy 111597 at 1, (Nov. 2025), <https://doi.org/10.1016/j.anucene.2025.111597>.

<sup>95</sup> Turbulent vibrations are caused by turbulent flow. Turbulent flow in steam generators is the chaotic and irregular movement of fluid due to changes in pressure and flow velocity, which enhances mixing and heat transfer efficiency. See Galina Ilieva, On Turbulence and its Effects on Aerodynamics of Flow Through Turbine Stages, in Turbulence Modelling Approaches – Current State, Development Prospects, Applications, (July 2017), doi:10.5772/intechopen.68205 [hereinafter Ilieva Article].

<sup>96</sup> Gundersen Declaration at 32, ¶¶ 12.12.10–12.12.11.

other hand, Holtec maintains that the FIV analysis was performed as specified by ASME Section III of the Boiler & Pressure Vessel (B&PV) Design Code.<sup>97</sup>

The Gundersen Declaration alleges that “Holtec provides absolutely no specificity about its assumption that flow induced vibration will occur in random turbulence.”<sup>98</sup> But such a conclusory statement is insufficient to dispute the LAR. To lodge a proper challenge to the LAR’s FIV analysis, Petitioners would need to (1) make a direct challenge to the ASME B&PV code, (2) assert that special circumstances are present that render the code inapplicable, or (3) specify precisely why the LAR’s analysis fails to meet the requirements of the code. Petitioners employed none of these three methods to challenge the LAR’s FIV analysis. Instead, they simply picked out the FIV’s stated assumption that “flow induced vibration will occur in random turbulence” and claimed it to be unsupported, without comparing it to code requirements. Consequently, Petitioners failed to raise a genuine dispute with the LAR on an issue of material fact.

In addition, Petitioners failed to offer any factual or expert support for this portion of Contention 1, as required by Section 2.309(f)(1)(v). Consequently, for both reasons, this portion of Contention 1 is not admissible.

- e) No genuine dispute with the LAR on an issue of material fact is raised by Petitioners’ claim that the LAR assumes erroneous inspection intervals

Petitioners assert that Framatome’s sleeving analysis is based on the Palisades Technical Specifications as they existed in March 2024, which assumed that a tube inspection would occur during every refueling outage. However, Petitioners maintain that Holtec is now seeking to increase the intervals between refueling outages from 1.5 to 2 effective full power years and that such a change invalidates the analysis in the Framatome Report.

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<sup>97</sup> LAR Proposed Changes at 6, 12; Framatome Report at 25.

<sup>98</sup> Gundersen Declaration at 32, ¶ 12.12.11.



But the LAR makes no such request. Instead, the LAR specifically defines the inspection interval in the Steam Generator program as: “[n]o [steam generator] shall operate for more than 24 effective full power months or one refueling outage (whichever is less) without being inspected.”<sup>99</sup> Not only does the LAR merely restate the requirement in Holtec’s current license, but it seeks no change in this inspection interval. We found nothing in the materials Petitioners filed in this matter supporting their assertion<sup>100</sup> that the LAR seeks a change from 1.5 to 2 effective full power years. Consequently, Petitioners failed to raise a genuine dispute with the LAR on an issue of material fact and so this portion of Contention 1 is not admissible.

f) No genuine dispute with the LAR on an issue of material fact is raised by Petitioners’ claim that the LAR contains an erroneous seismic evaluation

Petitioners<sup>101</sup> assert that there are irregularities in the LAR’s seismic analysis of the steam generator tubes. The entirety of their argument is, “Framatome’s seismic analysis is based on the ground acceleration of the containment building and not the amplified response spectra acceleration that can be reasonably be [sic] expected to be significantly greater than the ground acceleration.”<sup>102</sup> Petitioners neither specify what the purported amplified response is, nor do they identify any requirement to use such an amplified response in the analysis that Framatome used. Consequently, Petitioners have failed to raise a genuine dispute with the LAR on an issue of material fact and so this portion of Contention 1 is not admissible.

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<sup>99</sup> Technical Specification Page Markups at 5.0-12.

<sup>100</sup> Gundersen Declaration at 37, ¶ 15.1.

<sup>101</sup> While not explicitly included in Contention 1, the Gundersen Declaration addresses the LAR’s Seismic Evaluation.

<sup>102</sup> Gundersen Declaration at 36, ¶ 14.8.

- g) No genuine dispute with the LAR on an issue of material fact is raised by Petitioners' claim that the LAR wrongly assumes plugged tubing can be safely unplugged

While not explicitly included in Contention 1, the Gundersen Declaration suggests that once steam generator tubing is plugged, it cannot be safely unplugged and then sleeved.<sup>103</sup> Mr. Gundersen refers to a Reuters article in his Declaration as the basis for this assertion.<sup>104</sup> However, Mr. Gundersen does not cite to any portion of the LAR in which Holtec seeks to unplug plugged tubes and then sleeve them. And, we note, the LAR does not mention unplugging the steam generator tubes at Palisades. Consequently, Petitioners have failed to raise a genuine dispute with the LAR on an issue of material fact and so this portion of Contention 1 is not admissible.

- h) Petitioners' claim that the LAR does not specify which tubes will be sleeved fails for lack of factual or expert support

Also not explicitly included in Contention 1 is an assertion in the Gundersen Declaration that the LAR "fails to identify with specificity the number of tubes it might plug without any 'reduction of primary coolant flow available for core cooling.' Holtec's claim of flow reduction is wholly unproven and unprovable without the specificity of calculations and analytical detail."<sup>105</sup> However, Mr. Gundersen offers no further explanation for this assertion. Petitioners must provide support for their contentions, either in the form of facts or expert testimony. Failure to do so requires that the contention be rejected. Consequently, Petitioners have failed to provide the necessary factual or expert support to support this assertion and so this portion of Contention 1 is not admissible.

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<sup>103</sup> Id. at 17–18, ¶¶ 9.6–9.11 (citing Gardner Article).

<sup>104</sup> Id. at 17, ¶ 9.6.

<sup>105</sup> Id. at 29, ¶ 12.10.3.

III. CONCLUSION

For the foregoing reasons, we (1) deny Petitioners' hearing request; and (2) terminate this proceeding. Because this memorandum and order rules upon an intervention petition, in accordance with the provisions of 10 C.F.R. § 2.311, any appeal to the Commission from this memorandum and order must be taken within twenty-five days after this issuance is served.

It is so ORDERED.

THE ATOMIC SAFETY  
AND LICENSING BOARD

*/RA/*

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Michael M. Gibson, Chair  
ADMINISTRATIVE JUDGE

*/RA/*

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Dr. Gary S. Arnold  
ADMINISTRATIVE JUDGE

*/RA/*

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Dr. Arielle J. Miller  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
August 5, 2025

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
HOLTEC PALISADES, LLC	)	Docket No. 50-255-LA-4
	)	
(Palisades Nuclear Plant)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing **MEMORANDUM AND ORDER (Denying Petitioners' Hearing Request and Terminating Proceeding) (LBP-25-06)** have been served upon the following persons by Electronic Information Exchange.

U.S. Nuclear Regulatory Commission  
Office of Commission Appellate Adjudication  
Mail Stop: O-16B33  
Washington, DC 20555-0001  
E-mail: [ocaamail.resource@nrc.gov](mailto:ocaamail.resource@nrc.gov)

U.S. Nuclear Regulatory Commission  
Office of the Secretary of the Commission  
Mail Stop: O-16B33  
Washington, DC 20555-0001  
E-mail: [hearingdocket@nrc.gov](mailto:hearingdocket@nrc.gov)

Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
Michael M. Gibson, Chair, Administrative Judge  
Dr. Gary S. Arnold, Administrative Judge  
Dr. Arielle J. Miller, Administrative Judge  
Whitlee Dean, Law Clerk  
Georgia Rock, Law Clerk  
Email: [Michael.Gibson@nrc.gov](mailto:Michael.Gibson@nrc.gov)  
[Gary.Arnold@nrc.gov](mailto:Gary.Arnold@nrc.gov)  
[Arielle.Miller@nrc.gov](mailto:Arielle.Miller@nrc.gov)  
[Whitlee.Dean@nrc.gov](mailto:Whitlee.Dean@nrc.gov)  
[Georgia.Rock@nrc.gov](mailto:Georgia.Rock@nrc.gov)

U.S. Nuclear Regulatory Commission  
Office of the General Counsel  
Mail Stop - O-14A44  
Washington, DC 20555-0001  
Kevin D. Bernstein, Esq.  
Julie G. Ezell, Esq.  
Anita G. Naber, Esq.  
Amanda Leatherman, Esq.  
Sherwin E. Turk, Esq.  
Susan H. Vrahoretis, Esq.  
Jeremy Wachutka, Esq.  
Kristopher Wilson, Esq.  
Anne Fream, Paralegal  
Georgia Hampton, Paralegal  
Joelysa Mcleod, Paralegal  
Email: [Kevin.Bernstein@nrc.gov](mailto:Kevin.Bernstein@nrc.gov)  
[Julie.Ezell@nrc.gov](mailto:Julie.Ezell@nrc.gov)  
[Anita.ghoshnaber@nrc.gov](mailto:Anita.ghoshnaber@nrc.gov)  
[Amanda.Leatherman@nrc.gov](mailto:Amanda.Leatherman@nrc.gov)  
[Sherwin.Turk@nrc.gov](mailto:Sherwin.Turk@nrc.gov)  
[Susan.Vrahoretis@nrc.gov](mailto:Susan.Vrahoretis@nrc.gov)  
[Jeremy.Wachutka@nrc.gov](mailto:Jeremy.Wachutka@nrc.gov)  
[Kris.Wilson@nrc.gov](mailto:Kris.Wilson@nrc.gov)  
[Anne.Fream@nrc.gov](mailto:Anne.Fream@nrc.gov)  
[Georgiann.Hampton@nrc.gov](mailto:Georgiann.Hampton@nrc.gov)  
[Joelysa.Mcleod@nrc.gov](mailto:Joelysa.Mcleod@nrc.gov)

Palisades Nuclear Plant, Docket No. 50-255-LA-4

**MEMORANDUM AND ORDER (Denying Petitioners' Hearing Request and Terminating Proceeding) (LBP-25-06)**

Counsel for Holtec Palisades, LLC

Balch and Bingham LLP

1710 Sixth Avenue North

Birmingham, AL 35203

M. Stanford Blanton, Esq.

Grant Eskelsen, Esq.

Alan D. Lovett, Esq.

Jason B. Tompkins, Esq.

Email: [sblanton@balch.com](mailto:sblanton@balch.com)

[geskelsen@balch.com](mailto:geskelsen@balch.com)

[alovett@balch.com](mailto:alovett@balch.com)

[jtompkins@balrch.com](mailto:jtompkins@balrch.com)

Counsel for Beyond Nuclear, Don't Waste

Michigan, Michigan Safe Energy Future,

Three Mile Island Alert, and Nuclear Energy

Information services

Wallace L. Taylor, Esq.

4403 1<sup>st</sup> Ave. S.E., Suite 402

Cedar Rapids, Iowa 52402

Email: [wtaylorlaw@aol.com](mailto:wtaylorlaw@aol.com)

Terry J. Lodge, Esq.

316 N. Michigan Street, Suite 520

Toledo, OH 43604-5627

Email: [tjlodge@yahoo.com](mailto:tjlodge@yahoo.com)

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Office of the Secretary of the Commission

Dated at Rockville, Maryland,  
this 5<sup>th</sup> day of August 2025.