Date: July 30, 2025

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

REQUEST FOR HEARING AND PETITION TO INTERVENE

In the Matter of:

Holtec Palisades, LLC / Palisades Energy, LLC

Palisades Nuclear Plant – License Amendment Request to Change the NFPA 805 Full Compliance Date

Docket No: 50-255 | License No. DPR-20

License Amendment Request: ML25175A275

Published at:

89 Fed. Reg. 54012 (July 18, 2025), Docket ID NRC-2025-0313

Notice of Opportunity to Comment, Request a Hearing, and Petition to Intervene; NRC Accession No. ML25181A005

> *"Requests for a hearing or petitions for leave to intervene must be filed by September 16, 2025"*

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269-303-6396

I. INTRODUCTION and Petition Summary

The Palisades Nuclear Plant was first licensed to operate on March 24, 1971, when the U.S. Atomic Energy Commission (AEC)—predecessor to the NRC—issued Provisional Operating License DPR-20.

The current Palisades licensing basis (CLB) requirements at issue in this proceeding trace their origin to two pivotal events in nuclear safety regulation: the 1975 fire at the Browns Ferry Nuclear Power Plant and the 1979 accident at the Three Mile Island (TMI) Nuclear Power Plant. These events led the U.S. Nuclear Regulatory Commission (NRC) to impose a set of deterministic method safety requirements that remain in effect today for all operating pressurized water reactors (PWRs), including Palisades.

As a direct result of these events, two interdependent but distinct regulatory frameworks were created and later incorporated into license conditions at Palisades:

- The TMI Action Plan (NUREG-0737), which requires operable reactor vessel head and pressurizer vent valves to support natural circulation cooling during a loss of forced flow, necessary for maintaining Primary Coolant System (PCS) operability; and
- 10 CFR 50, Appendix R (and its Palisades-specific successor, NFPA-805), which requires plants to achieve and maintain safe shutdown following a fire—assuming loss of offsite power (LOOP).

The specific requirement from NUREG-0737, Item II.D.1 states:

> *"All PWR licensees and applicants shall provide a vent path from the reactor vessel head and from the pressurizer steam space to permit removal of noncondensable gases that may inhibit natural circulation. These paths shall have adequate flow capacity* ***and be capable of being remotely operated from the control room****."*
>
> — NUREG-0737, *Clarification of TMI Action Plan Requirements*, November 1980

The requirement that these valves “be capable of being remotely operated from the control room” makes the reactor head and pressurizer vent valves distinctly different from other fire protection strategies under 10 CFR Part 50, Appendix R, and NFPA-805, which may rely on the operation of shutdown components from remote control stations located outside the control room. In contrast, NUREG-0737 explicitly prohibits this alternative for the vent valves identified in License Condition Table S-15. For these valves, remote operability must be available from within the control room, underscoring their unique safety function and the heightened regulatory requirement for compliance. Fire protection license conditions required these same control room circuits to operate properly concurrent with any postulated fire scenario.

This remote operation capability is also part of the fire protection function addressed in the NFPA-805 Table S2-15 modification. Therefore, any delay in installing fire-qualified cabling or controls that support remote operability from the control room—during LOOP conditions caused by either accident or fire—directly undermines compliance with both license conditions.

The vent valves serve both licensing basis and license condition requirements. Under the Technical Specification definition of “Operable,”

the post-accident natural circulation function (as required by NUREG-0737) depends on the vent valves' continued function during fire scenarios (as governed by Appendix R/NFPA-805). Thus, the required fire-hardening modifications to ensure valve operability are not optional enhancements—they are enforceable requirements essential to fulfilling the complete safety function. Any delay in completing those modifications, as Holtec proposes in its LAR, calls into question whether the vent valves—and, by extension, the Primary Coolant System—can be considered operable.

As such, any request for deferral must be accompanied by a formal, deterministic method-based license amendment or exemption that meets NRC regulatory standards. Holtec has not submitted such an evaluation.

The Browns Ferry fire led to the creation of 10 CFR 50, Appendix R, and the imposition of mandatory fire protection license conditions across all nuclear plants. Just four years later, the TMI-2 accident prompted the NRC to issue NUREG-0737, which added deterministic method post-accident requirements, including the vent valve mandate cited above. Palisades is a PWR, and loss of offsite power is a shared assumption in both the fire and accident licensing scenarios. That loss eliminates forced primary coolant cooling, making natural circulation via operable vent valves the primary

means of maintaining core cooling and safety and an “operable” Primary Coolant System.

Together, Appendix R and NUREG-0737 form the regulatory foundation for the Reactor Coolant Gas Vent System (RCGVS) at Palisades. These requirements were incorporated into the plant’s Final Safety Analysis Report (FSAR), are part of the current licensing basis (CLB), and are reinforced through license conditions requiring specific NFPA-805 modifications—including the one Holtec seeks to delay (S2-15), that would ensure the vent valves may continue to be operated from the control room concurrent with any postulated fire. The RCGVS is not a new or discretionary system; it is a long-established safety commitment tied to NRC-imposed obligations that remain in force until all license conditions are completed and approved.

This petition also brings to the Board’s attention a related 10 CFR 2.206 petition (see Section XV), which documents Holtec’s public declaration that it intends to begin fuel loading on August 25, 2025—even though it has not yet received NRC approval for the license condition change it seeks here. That 2.206 petition alleges that Holtec is already acting in violation of License Condition 2.C.(3)(c)2 by proposing to proceed with fuel loading under a fabricated and undefined “**No Mode**” status—an

interpretation that would directly prejudice this proceeding if allowed to go unchecked. While the ASLB lacks jurisdiction over the 2.206 petition, and NRC Staff itself, the facts it presents are central to the urgency, relevance, and integrity of the arguments in this 2.309 petition. A separate motion to Request Board Action to Preserve Adjudicatory Jurisdiction and Prevent Premature Fuel Loading has been filed.

On July 24, 2025, the NRC Staff issued Amendment No. 276 (ML25157A127), formally approving Holtec's reinstatement of FSAR Revision 35, the reactivation of full Operating Technical Specifications (including the definition of "Operable" and PCS loop requirements), and the continued enforceability of License Condition 2.C.(3) for NFPA-805 implementation. This approval provides the regulatory foundation for—and confirms the validity of—all licensing basis references and arguments presented throughout this petition. (See: Section titled "NRC Approval of Holtec's Licensing Basis and CLB Reinstatement Post-50.82 Certification, July 24, 2025").

In support of the arguments presented herein, Section IX of this petition highlights a recent NRC enforcement finding issued on July 18, 2025 (Apparent Violation D, ML25177C973), in which Holtec Camden Corporate Office— a separate facility under the same corporate governance—failed

to properly analyze representative cases when implementing a method change, in violation of NRC requirements and endorsed guidance. This enforcement action involved the same Holtec corporate entity responsible for the licensing activities at Palisades. It directly parallels Holtec's current failure at Palisades, as alleged in this petition, where the company substituted a PRA method-based analysis without evaluating other Current Licensing Basis (CLB) cases that rely on deterministic methods.

This omission supports Petitioners' argument in this case that Holtec's failure to evaluate all applicable methods contained in the Current Licensing Basis (CLB) violates established NRC guidance. Specifically, **Regulatory Guide 1.187** requires that licensees evaluate whether a proposed activity involves a change to any method described in the FSAR that is used to perform safety analyses. Likewise, **NEI 96-07, Revision 1** (as endorsed by the NRC) states that all applicable methods and evaluation inputs credited in the CLB must be identified and considered. Holtec's failure to perform this evaluation—both in its corporate precedent at Camden and in the current Palisades LAR—renders the License Amendment Request procedurally incomplete. It reinforces Petitioners' contention that a formal license amendment or exemption, based on a

deterministic method analysis, is required under 10 CFR § 50.90 or 10 CFR § 50.12.

Contention Statement:

Holtec's License Amendment Request is deficient because it fails to include the required deterministic method-based evaluation or an exemption request under 10 CFR 50.90 or 50.12 to justify deferring the operability of the reactor head vent and pressurizer vent valves—systems that remain required under the plant's current licensing basis as deterministic method safety functions mandated by NUREG-0737 and 10CFR50 Appendix R

Summary of Requested Actions:

Pursuant to 10 CFR § 2.309(i)(2), Petitioner respectfully requests that the Atomic Safety and Licensing Board:

1. **Grant** the Petition for Hearing and Petition to Intervene on Holtec's June 24, 2025 License Amendment Request (ADAMS Accession No. ML25175A275).

2. **Reject or suspend approval** of the LAR unless and until Holtec either:
    - Submits a deterministic based license amendment under 10 CFR 50.90 to revise its prior commitment to complete the reactor and pressurizer head vent valve modifications required by NUREG-0737, or
    - Obtains a specific exemption under 10 CFR 50.12 that meets applicable regulatory standards.
3. **Declare that Holtec may not proceed** with fuel loading, startup testing, or reactor operations until it has:
    - Completed the required vent valve modifications per its current licensing basis and license conditions, or
    - Formally altered that obligation through an NRC-approved license amendment or exemption.

Roadmap from Petition Summary to Supporting Sections

To assist the Licensing Board and parties in identifying where each core statement of the Petition Summary is supported with citations in the full petition, the following roadmap provides cross-references to the specific Roman numeral sections where each key assertion is developed and substantiated:

Origins of Licensing Basis in Browns Ferry and TMI Accidents

Summary Statement: Palisades' licensing basis requirements originate from the Browns Ferry fire (1975) and TMI-2 accident (1979), resulting in Appendix R and NUREG-0737, respectively.

Supporting Sections:

- **Section I**: *Introduction and Petition Summary* – Describes the origin and regulatory impact of Browns Ferry and TMI.
- **Section VIII**: *Nexus Between NUREG-0737, NFPA-805, and Palisades NFPA-805 Table S2-15* – Explains interrelation between TMI response and fire protection programs.

- **Section IX.A–B**: *Palisades Licensing History and FSAR Commitments* – Demonstrates incorporation of these regulatory frameworks into Palisades' CLB.

Vent Valves as Required by NUREG-0737 and NFPA-805

Summary Statement: NUREG-0737 requires operable reactor vessel head and pressurizer vent valves; Appendix R/NFPA-805 assumes loss of offsite power (LOOP).

Supporting Sections:

- **Section VIII.B–C**: *Post-TMI Orders and Fire Protection Requirements* – Shows NRC enforcement of deterministic operability.
- **Section VIII.H–K**: *LOOP conditions, fire vs. accident distinction, and control room operability mandate* – Clarifies dual assumptions and technical basis for valve operability.

RCGVS Is a Longstanding Deterministic Commitment

Summary Statement: The Reactor Coolant Gas Vent System (RCGVS) is a deterministic licensing requirement documented in the FSAR.

Supporting Sections:

- **Section IX.C–D**: *FSAR references and NRC acknowledgment of RCGVS* – Affirms commitment in Rev. 35.
- **Section VIII.E–F**: *Operability under IMC 9900 and Technical Specification compliance* – Explains continuous operability requirement.

Dual License Requirements of Vent Valves—Fire and Accident Safety

Summary Statement: The vent valves serve both NUREG-0737 (post-accident) and NFPA-805 (post-fire) safety functions.

Supporting Sections:

- **Section VIII.H–I**: *Dual-functionality and applicability to both scenarios* – Establishes independent and overlapping regulatory roles.

- **Section VIII.J–K**: *Appendix R enforceability and distinctiveness of control room operability* – Contrasts general fire protection strategies with the unique requirements of NUREG-0737.

Operability Nexus via Technical Specifications and IMC 9900

Summary Statement: TS 3.4.4–3.4.7 and IMC 9900 require vent valve operability to support PCS operability.

Supporting Sections:

- **Section VIII.D–G**: *Technical Specifications, NRC Inspection Manual 9900, and Licensing Basis Linkage* – Explains the tie between operability definitions and CLB compliance.

Holtec Cannot Substitute PRA Alone Without 50.90 or 50.12 Evaluations

Summary Statement: PRA cannot substitute for deterministic licensing commitments; NRC approval under 50.90 or 50.12 is required.

Supporting Sections:

- **Section X**: *Holtec's Use of PRA to Justify Deferral* – Identifies PRA substitution and failure to preserve evaluation methods.
- **Section XI.C**: *Required Identification of CLB Commitments and Methods of Evaluation in Safety Analyses* – Cites NEI 96-07, Regulatory Guide 1.187, and case law prohibiting PRA substitution.
- **Section XIV**: *Supporting References and Precedent* – Legal basis and NRC guidance on method changes.

License Condition DPR-254 Sets Cumulative Criteria

Summary Statement: License Condition 2.C.(3) requires PRA thresholds, defense-in-depth, safety margins, and no impact on license conditions—all cumulatively.

Supporting Sections:

- **Section VIII.J**: *Discussion of license condition language and compliance shortfalls*
- **Section XI.B**: *Legal interpretation of license condition terms and enforcement standards*

FSAR Revision 35 Affirms Continued Applicability

Summary Statement: FSAR Rev. 35, affirmed by Holtec, includes the RCGVS and remains in effect for restart.

Supporting Section:

- **Section IX.D**: *Holtec's acknowledgement and NRC reauthorization of FSAR Rev. 35 as binding licensing basis*

NRC Enforcement History Confirms Appendix R Remains in Force

Summary Statement: NRC has consistently enforced Appendix R; NFPA-805 enforcement discretion was conditional and remains incomplete.

Supporting Sections:

- **Section VIII.J**: *License enforcement history and continuation of Appendix R requirements*
- **Section IX.A–B**: *FSAR commitments and enforcement precedent since 1978*

- **Section XVI**: *Summary of Compliance History* – Tracks decades-long deferral and conditional treatment of NFPA-805.

Holtec Is Acting on an Unapproved License Change (2.206 Petition)

Summary Statement: Holtec has declared its intent to load fuel on August 25, 2025, despite lacking NRC approval to change License Condition 2.C.(3)(c)2.

Supporting Section:

- **Section XV**: *Related 2.206 Petition* – Documents Holtec's reliance on "No Mode" status and initiation of fuel load prior to license condition change.

Contention Statement and Requested Relief

Summary Statement: The LAR must be rejected or suspended unless Holtec submits a deterministic amendment or exemption.

Supporting Sections:

- **Section I**: *Introduction and Petition Summary*

- **Section II**: *Scope of the Petition*
- **Section VI**: *Summary of Requested Board Action*
- **Section XII**: *Petition Contention and Basis for Challenge*

II. Regarding License Amendment Request PNP 2025-040 (ML25175A275)

Federal Register Notice Allowable Scope

The Federal Register Notice (FRN) for License Amendment Request PNP 2025-040 (Docket ID NRC-2025-0313), published on July 18, 2025 (89 Fed. Reg. 54012), provides a formal opportunity for public comment, requests for hearing, and petitions to intervene under 10 CFR § 2.309. The NRC summarizes the requested amendment as follows:

> *"Specifically, the proposed amendment would modify 2.C.(3)(c)2 to revise the full compliance date from 'the fourth full operating cycle after NRC approval' to 'the fifth full operating cycle after NRC approval' to allow an extension for the implementation of the remaining modifications* ***necessary to achieve full compliance***

> *within paragraph 50.48(c) of title 10 of the Code of Federal Regulations(10 CFR), 'National Fire Protection Association Standard NFPA 805.'"*
>
> — 89 Fed. Reg. 54012 (July 18, 2025)

The FRN also defines the scope for eligible intervention petitions:

> *"Interested persons should consult 10 CFR 2.309. If a petition is filed, the presiding officer will rule on the petition and, if appropriate, a notice of a hearing will be issued."*
>
> *"If a hearing is requested and the Commission has not made a final determination on the issue of no significant hazards consideration, the Commission will make a final determination on the issue of no significant hazards consideration, which will serve to establish when the hearing is held."*
>
> — 89 Fed. Reg. 54015 (July 18, 2025)

Accordingly, the scope of this petition is confined to issues materially relevant to Holtec's request to extend the NFPA 805 full compliance date—particularly its attempt to defer implementation of the Reactor Coolant Gas Vent System (RCGVS) modification documented as item Table S2-15. This petition does not challenge other changes item Table S2-13 or reassert

issues outside the bounds of the license condition change amendment as published in the FRN.

This Petition

Pursuant to 10 CFR §§ 2.309 and 2.302, I respectfully submit this Request for Hearing and Petition to Intervene on the above-referenced License Amendment Request (LAR) submitted by Holtec Palisades, LLC and Palisades Energy, LLC on June 24, 2025 (ADAMS Accession No. ML25175A275).

In this LAR, Holtec requests NRC approval to amend Renewed Facility Operating License (RFOL) Condition 2.C.(3)(c)2, which governs the plant's fire protection program transition under NFPA 805. Specifically, Holtec seeks to extend the NFPA 805 full compliance date to before the end of the refueling outage following the fifth full operating cycle after NRC approval—effectively allowing one additional operating cycle to complete the remaining license conditioned safety modifications.

This petition challenges only Holtec's proposed justification for deferring completion of the Reactor Coolant Gas Vent System (RCGVS) modifications (Table S2-15), which are also required by Item II.B.1 of NUREG-0737, TMI Action Plan and incorporated as a firm, deterministic

licensing commitment in the Palisades Final Safety Analysis Report (FSAR).

While Holtec attempts to justify the delay for the vent valves using only Probabilistic Risk Assessment (PRA) insights—claiming a negligible change in Core Damage Frequency (ΔCDF < 1E-11/year)—it fails to also submit either a revised deterministic evaluation or an exemption request under 10 CFR § 50.12. This is also considered a change in method. This omission raises a material regulatory concern, as the modification in question implements a safety function mandated by deterministic post-TMI, NUREG-0737 Action Plan license basis, and remains essential for natural circulation core cooling during accident scenarios, especially those involving loss of offsite power (LOOP).

Moreover, these vent valves serve a dual safety role and a Nexus through "Operability" requirements provides a Nexus that one supports the other:

- Ensuring post-accident natural circulation (TMI Action Plan compliance via NUREG-0737), and
- Supporting fire protection shutdown capability under NFPA-805.

Because these functions are embedded in both deterministic and risk-informed licensing frameworks, two different and distinct method of

evaluation—and because the Palisades Technical Specifications link "Operability" to performance under both accident and fire scenarios—Holtec's attempt to substitute only a PRA method-only justification for a deterministic method commitment constitutes an impermissible change in method of evaluation under 10 CFR § 50.59(c)(2)(viii) and NEI 96-07 Rev. 1.

Furthermore, Palisades has a well-documented history of fire protection noncompliance, starting with the 1975 Browns Ferry Fire, 10 CFR 50, Appendix R, enforcement actions, and deferred safety commitments under previous licensees. While earlier delays may have been tolerated during the plant's transition to decommissioning, Holtec now seeks to defer these same safety-critical modifications while preparing for full-power restart—a fundamentally different and higher-risk regulatory context.

This petition asserts that Holtec's LAR is procedurally and substantively deficient. It seeks to delay implementation of a licensing basis requirement without:

- Including a revised deterministic safety analysis tied to NUREG 0578 and NUREG 0737;
- Or, an exemption under § 50.12;

- Or a procedurally complete license amendment request to revise the FSAR-defined method of evaluation.

Accordingly, the Board should grant this petition and conduct a full adjudicatory review of whether Holtec's proposed LAR to delay of the RCGVS modification complies with applicable NRC regulations, licensing policy, and precedent regarding changes to deterministic-based safety license basis requirements.

III. Satisfaction of 10 CFR § 2.309 Admissibility Standards and ASLB Authority

This petition fully satisfies the procedural and substantive requirements for admissibility under **10 CFR § 2.309**, including both the standing requirements of § 2.309(d) and the contention admissibility standards of § 2.309(f)(1). It identifies a **"fairly traceable" event that is "likely to be redressed" by a favorable decision**, thereby meeting **Article III standing criteria**. Petitioner Alan Blind also independently satisfies NRC standing requirements under § 2.309(d) based on proximity, personal interest, and the credible threat of radiological harm, consistent with prior ASLB

determinations in similar nuclear licensing proceedings. A more detailed analysis of standing is provided later in this petition.

This petition also presents a **specific and focused contention** that falls squarely within the scope of Holtec's pending License Amendment Request (LAR), which seeks to revise the implementation schedule for license condition Table S2-15 (the Reactor/Pressurizer Head Vent Valve modification) under the NFPA 805 transition license condition. The petition explains that Holtec's LAR is procedurally and substantively deficient because it fails to provide the required **deterministic safety evaluation method** or seek a formal license amendment or exemption, as required under NRC regulations and guidance. The issue raised is material to the NRC's decision whether to approve the LAR, is supported by documented facts and regulatory history, and presents a genuine dispute on a material issue of law and fact.

The actions requested—admission of this contention, rejection or conditional approval of the LAR, and enforcement of applicable NRC licensing procedures—fall clearly within the Atomic Safety and Licensing Board's jurisdiction under 10 CFR § 2.309 and established Commission precedent. A more detailed roadmap demonstrating compliance with each

element of § 2.309(f)(1) is provided later in this petition. Accordingly, this

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petition is fully admissible and should be accepted for adjudication.

IV. PETITIONER STATUS AND PRO SE REPRESENTATION

I am submitting this petition as a private citizen and *pro se* petitioner and petition writer. I am not an attorney, and I do not represent any legal organization or law firm. Nevertheless, I respectfully submit this filing pursuant to my rights under 10 CFR § 2.309 and § 2.302, which allow individuals to request a hearing and intervene in NRC licensing matters without legal representation.

The NRC's regulations affirm that *any person* may file a hearing request and participate in NRC proceedings, and the Atomic Safety and Licensing Board (ASLB) has long recognized that non-attorney petitioners are not held to the same level of legal precision as licensed counsel. As stated in **Duke Energy Corp. (Catawba Nuclear Station, Units 1 & 2), CLI-04-21, 60 NRC 21, 27 (2004)**:

> "*While pro se petitioners are expected to comply with our rules of procedure, we construe their filings liberally, and avoid dismissing a*

> *petition for failure to meet technical requirements where the petitioner has otherwise demonstrated a genuine dispute with the application.*"

Similarly, the Commission stated in **Dominion Nuclear Conn., Inc. (Millstone), CLI-01-24, 54 NRC 349, 358 (2001)**:

> "*The Commission is not inclined to deny a hearing request simply because a petitioner has not framed its contention as precisely as the rules might require, particularly when the petitioner is a pro se litigant.*"

These precedents make clear that *pro se* petitioners are entitled to meaningful participation and that their filings should be interpreted with a degree of procedural flexibility, provided the substantive concerns are clearly stated and relate to the licensing action in question.

I have made every effort to meet the admissibility standards under 10 CFR § 2.309(f)(1), including:

- Identifying the specific legal and regulatory requirements at issue,
- Explaining how Holtec's actions fail to meet those requirements,

- Demonstrating a genuine safety and legal dispute with the license amendment request, and
- Providing supporting documents, references, and technical rationale.

As this petition raises a clear regulatory dispute involving a licensee's proposed deviation from a mandatory licensing requirement, I respectfully ask the Board to evaluate my petition under the framework applied to *pro se* submissions and in light of the Commission's guidance not to elevate form over substance when the health and safety of the public are at stake.

V. PETITIONER, Alan Blind, STANDING

Pursuant to 10 CFR § 2.309(d), I, Alan Blind, respectfully assert standing to intervene in this proceeding. I reside within 50 miles (28 miles actual, see attached Google Earth Map) of the Palisades Nuclear Plant, and have previously been granted standing by the Atomic Safety and Licensing Board (ASLB) in a closely related proceeding concerning Holtec's license amendment and exemption requests for Palisades.

In ASLB Memorandum and Order (LBP-25-04), issued April 9, 2025, the Board specifically found that I, along with the other Joint Petitioners, had

demonstrated standing based on the proximity presumption and the credible radiological risks posed by the restart of Palisades. The Board stated:

> *"Because Joint Petitioners all reside within fifty miles of Palisades and have expressed their concerns about restart, we conclude that they have demonstrated standing to intervene."*
>
> — ASLB Decision and Order, LBP-25-04 at 19

ASLB Standing Evaluation, LBP-25-04, starting on page 16;

> ***B. Joint Petitioners' and Petitioning Organizations' Standing to Intervene***
>
> *Applicants argue that neither Joint Petitioners nor Petitioning Organizations have established standing to intervene in this proceeding. The Staff, however, argues that all nine Joint Petitioners have established standing, but only two of the five Petitioning Organizations—Three Mile Island Alert and Nuclear Energy Information Service—have established standing.*
>
> *We conclude that all petitioners have met the requirements for standing to intervene in this proceeding.*

Section 189a of the Atomic Energy Act of 1954, as amended, requires the NRC to

> *"grant a hearing upon the request of any person whose interest may be affected by the proceeding."*

The Commission has established general standing criteria requiring a petitioner to provide identifying information (name, address, and telephone number) and to state:

1. *The nature of its right under the statute governing the proceeding to be made a party;*
2. *The nature and extent of its property, financial, or other interest; and*
3. *The possible effect of any decision made in the proceeding on that interest.*

When determining whether a petitioner has met the agency's standing requirements, the Commission and licensing boards generally apply judicial standing concepts—a three-part inquiry into whether the petitioner has demonstrated:

1. *An injury in fact;*

2. *That is fairly traceable to the challenged action; and*

3. *That is likely to be redressed by a favorable decision.*

As a shorthand for these judicial standing concepts, in certain licensing proceedings the Commission has recognized a presumption of standing based on a petitioner's proximity to the facility in question. In construction permit and operating license proceedings, this presumption extends to fifty miles, based on a finding that persons living within that radius "face a realistic threat of harm" if a release of radioactive material were to occur.

In other proceedings where there is likewise an obvious potential for offsite consequences,

"Whether and at what distance a petitioner can be presumed to be affected" is judged case by case, taking into account:

- *The nature of the proposed action; and*
- *The significance of the radioactive source.*

Each of the Joint Petitioners declared that they reside within fifty miles of the Palisades reactor, and they provided their addresses in the petition. They assert that their proximity to the plant exposes

them to potential risks, including "radiological releases, contamination, and evacuation."

Further, they express concerns about the license amendment requests and assert that, given their proximity to the plant, they

"have a vested interest in ensuring that the highest standards of safety and regulatory oversight are maintained."

This proceeding—which involves the potential to restart a shutdown and defueled reactor—is the first of its kind. Thus, Commission case law does not expressly address whether the fifty-mile proximity presumption applies to a proceeding of this type. Nevertheless, taking into account:

- *The nature of the proposed action (license amendment requests and an exemption request in aid of restarting Palisades); and*
- *The significance of the radioactive source (the Palisades reactor at full-power operation),*

we conclude that the Commission's fifty-mile proximity presumption logically extends to this proceeding.

As the Staff puts it, enabling Applicants to "resume operation at full power . . . on its face entails an obvious potential for offsite consequences."

Further, the "common thread" underpinning the application of the fifty-mile presumption, which recognizes "the potential effects at significant distances from the facility of the accidental release of fissionable materials," applies equally here.

Because Joint Petitioners all reside within fifty miles of Palisades and have expressed their concerns about restart, we conclude that they have demonstrated standing to intervene.

Standing and Connection, for the Contention For This Current and New Petition

This proceeding concerns the same reactor, the same 50-mile exposure radius, and the same overarching safety concern raised in prior filings: Holtec's continued failure to follow required NRC licensing procedures before deferring or replacing a deterministic licensing basis requirement related to critical safety systems necessary to safely shut down the reactor.

Specifically, this petition challenges Holtec's proposal to delay full compliance with **NUREG-0737, Item II.B.1**, which requires **operable head and pressurizer vent valves** , including the ability to operate the valves remotely from the control room, under any potential fire scenario that may affect the control circuits, to ensure post-accident core cooling via **natural circulation**. The failure of these valves to function as required could directly impede safe shutdown cause reactor fuel to overheat, and increase the risk of radiological release, posing a significant hazard to surrounding communities—including my own.

For this potion before the ASLB, the connection between Holtec's licensing action and the potential injury is both specific and direct. Holtec's License Amendment Request (LAR) seeks NRC approval to alter the timing and regulatory justification for maintaining a key safety function explicitly identified in the Palisades licensing basis. The inability of that system to perform as described in the Final Safety Analysis Report (FSAR) and as per operability requirements of Technical Specifications, could result in failure of the fuel cladding safety barrier and offsite radiological consequences during any accident scenario requiring natural circulation to remove decay heat. Thus, the challenged action involves a **"fairly**

traceable" event that is "likely to be redressed" by a favorable decision, thereby meeting **Article III standing criteria**.

In addition to relying on the ASLB's prior standing determination in this docket, I independently assert standing based on the specific, causal connection between this petition's contention and the credible risk of radiological harm to myself and my community. This petition introduces a new and focused contention that Holtec seeks to defer or avoid a safety-critical modification—the **Reactor Coolant Gas Vent System** (RCGVS) vent valves identified in License Condition **Table S2-15**and **NUREG-0737 Item II.B.1**—without the required deterministic safety analysis method or formal exemption request.

These valves are required to support **post-accident natural circulation cooling**, particularly following scenarios involving a **Loss of Offsite Power (LOOP)**—a common initiating event in NRC-analyzed accident sequences. If the NRC grants Holtec's LAR without requiring a full deterministic safety evaluation method, it would increase the risk of **uncontrolled radiological releases** during accidents in which these valves are necessary for core cooling, protection of the fuel cladding safety barrier, and containment integrity. As a resident living within 50 miles of Palisades, I face a **direct**

and credible threat of radiological harm if the plant cannot reliably achieve and maintain safe shutdown during such events. That risk is neither speculative nor abstract—it is a clear, safety-significant harm tied directly to this licensing action.

The NRC has explicitly required these valves to be operable for the reasons discussed, and Holtec's failure to meet or properly justify deferral of this requirement under NRC regulations results in an increased risk to public safety—risk borne disproportionately by nearby residents such as myself.

Technical Basis for Direct Causal Link Between Vent Valve Function and Radiological Harm

To further support the direct connection between the contention raised in this petition and the credible risk of offsite radiological consequences, the following section explains the **thermo-hydraulic principles of natural circulation cooling** in a pressurized water reactor (PWR) and how this passive decay heat removal mechanism depends on maintaining an unobstructed flow path between the hot and cold legs of the Reactor Coolant System (RCS).

In a PWR, **natural circulation** functions by taking advantage of the **density difference between hot and cold reactor coolant**:

- Hot coolant exiting the reactor core rises through the **hot legs** and enters the **steam generators**, where it transfers heat to the secondary system.
- As the coolant loses heat in the steam generators, it becomes **more dense** and descends through the **cold legs** back into the bottom of the **reactor vessel**.
- This thermally induced loop provides passive cooling without the use of reactor coolant pumps.

This process is entirely dependent on the **continuity of the flow path**. If **non-condensable gases** (such as hydrogen) accumulate at high points in the system—most critically in the **reactor vessel head** or **pressurizer**—they can form **vapor locks** that interrupt the flow. When this happens, the convective driving force between hot and cold legs is **broken**, and natural circulation and cooling the reactor fuel ceases.

As documented in **NUREG-0578, Section 2.1.2**:

> *“Noncondensable gases accumulating in the upper head of the reactor vessel and the pressurizer steam space can prevent the establishment of natural circulation.”*

Similarly, **NUREG-0737, Item II.B.1** emphasizes:

> *“The presence of noncondensable gases in the primary system can inhibit natural circulation flow. Therefore, vent valves should be operable to ensure removal of such gases during cool down and shutdown.”*

Further, **10 CFR 50, Appendix R, Section III.L.1** requires that post-fire safe shutdown capability:

> *“…maintain the reactor coolant system process variables within those predicted for a loss of normal a.c. power, and the fission product boundary integrity shall not be affected; i.e., there shall be no fuel clad damage.”*

These references confirm that primary coolant system **venting capability is not optional**—it is required to preserve core cooling and prevent fuel damage in post-accident conditions.

When plant operators are unable to maintain natural circulation due to vapor lock conditions and cannot re-establish cooling from the control room, fuel damage and loss of the fuel cladding safety barrier is inevitable. This is not a theoretical or speculative failure mode. It is a well-documented thermo-hydraulic outcome, anticipated and addressed in NRC licensing regulations and safety evaluations. Holtec's proposal to defer installation of the head and pressurizer vent valves—without providing a deterministic based method of justification or seeking an exemption—represents a direct increase in risk to core cooling reliability.

That risk, in turn, leads to an increased likelihood of **core damage and radiological release**, which underpins the legal, regulatory, and technical basis for standing in this proceeding.

In further support of this petition, I incorporate by reference the following prior filings submitted under **Docket No. 50-255-LA-3**, which collectively establish a continuous and consistent basis for standing:

- **Petition for Hearing – Holtec Palisades (April 2025):** Challenged Holtec's plan to resume operations using a 1969-era design basis without updating the FSAR or complying with modern General

Design Criteria, and demonstrated the safety margin reductions and lack of proper NRC approval.

- **Part Two EPZ Harm Petition Argument:** Addressed Holtec's flawed emergency planning assumptions, particularly reliance on public evacuation to mitigate consequences of a Steam Generator Tube Rupture, documenting specific harms to Emergency Planning Zone residents.
- **Rebuttal to NRC Reply to Brief:** Highlighted that Holtec failed to respond substantively to arguments regarding outdated licensing basis, NRC compliance, and deficiencies in the exemption justification process.
- **NRC Staff Response to Petition:** Included to reflect the NRC's acknowledgment of the petition's scope and its reliance on regulatory interpretations that are central to the objections raised here.

Together, these filings show materially similar concerns about Holtec's improper reliance on outdated analyses, unlawful substitution of probabilistic evaluations for required deterministic ones, and the resulting increase in risk of radiological exposure to residents near Palisades.

Conclusion

Because this petition addresses the same reactor, represents a continuation of the same licensing trajectory, and raises overlapping safety and regulatory issues, I respectfully request that the ASLB accept its prior standing determination as applicable here. In any event, I independently reaffirm my standing based on:

- the **proximity presumption** for residents within 50 miles;
- the **credible likelihood of radiological harm**; and
- the **direct causal link** between Holtec's proposed actions and the specific risk to myself and my community.

VI. DESCRIPTION OF HOLTEC'S LICENSE AMENDMENT REQUEST AND ITS IMPACT ON HEAD/PRESSURIZER VENT SYSTEMS

Palisades Transient License Condition, License Amendment No.269

On August 20, 2019, the NRC issued License Amendment No. 269 for Palisades, titled **"Issuance of Amendment No.269 Regarding Changes**

to NFPA 805 Modifications and Change to Full Compliance Implementation Date for the Fire Protection Program" (EPIDs L-2018-LLA-0296 and L-2019-LLA-0049; ADAMS Accession No. ML19198A080). This amendment added the following license conditions, among others:

> *"The licensee shall implement the modifications to its facility, as described in Table S-2, 'Plant Modifications Committed,' of ENO letter PNP 2019-028 dated May 28, 2019, to complete the transition to full compliance with 10 CFR 50.48(c) before the end of the refueling outage following the fourth full operating cycle after NRC approval. The licensee shall maintain appropriate compensatory measures in place until completion of these modifications."*

This license condition requires completion of the committed modifications before the plant may resume operation following its return from decommissioning status, the current situation.

Plant Modifications Committed (Section 2.2), Transient License Condition

The licensee proposed to clarify the descriptions of the following two modifications, effectively delaying full compliance with NFPA-805:

1. **S2-15** – Spurious Operation of Reactor Head/Pressurizer Vent Valves

2. **S2-13** - Component Cooling Water (CCW) Heat Exchanger Temperature Control Valve modification

This petition addresses **only** the proposed LAR license condition changes proposed by Holtec, as it applies to **Item S2-15 – Spurious Operation of Reactor Head/Pressurizer Vent Valves and the ability to operate these valves from the control room, thus, no Spurious Operations due to any possible fire scenario.**

Modification S2-15 – Spurious Operation of Reactor Head/Pressurizer Vent Valves

The licensee proposed to revise the wording for Modification S2-15 from:

> *"This is a modification to replace the existing cabling to the reactor head vent valves and pressurizer vent valves with fire-rated cables."*

to the following, the current licensing condition description:

> *"This modification will modify the **control circuit** and replace existing cabling to the reactor head vent and pressurizer vent isolation valves."*

Petitioner Note, “control circuit” means the ability to operate the valves from the control room, as required by the NUREG-0578/ NUREG-0737 deterministic method CLB

VII. Holtec’s License Amendment Request

Holtec Palisades has submitted a License Amendment Request (LAR), ML25175A275, titled *“License Amendment Request to Change the Full Compliance Implementation Date for the Fire Protection Program Transition License Condition for Required Modifications.”* In this LAR, Holtec seeks to revise the compliance schedule for completing specific plant modifications required under 10 CFR 50.48(c)—the NRC regulation that governs risk-informed, performance-based fire protection programs consistent with NFPA 805. Specifically, Holtec is requesting an extension of the “full compliance date”, contained as a “condition” in its license, for implementing certain safety-related modifications that were originally committed to as part of its transition to NFPA 805 compliance. The LAR states:

"*Holtec Palisades expects to complete the remaining NFPA 805 modifications prior to the restart of the Palisades Nuclear Plant in the*

> *Fall of 2025. Two of the modifications that were previously identified as having a medium risk impact were reviewed during the planning of plant changes to implement Table S2 under the current risk model as having no more than minimal risk impact to core damage frequency (CDF)... Holtec Palisades is proposing a revision to the full compliance date for the fire protection program transition license condition to allow an extension of the implementation of the remaining modifications necessary to achieve full compliance with 10 CFR 50.48(c) to further assess the need to complete the two modifications that demonstrate a reduced risk significance.*"
>
> — Holtec Technical Specification LAR, ML23348A148, pp. 2–3

Holtec's proposed License Amendment Request (LAR) seeks an extension for completing certain modifications. As stated on Page 2 of the LAR request attachment:

> *"Two of the modifications that were previously identified as having a medium risk impact were reviewed during the planning of plant changes to implement Table S2 under the current risk model as having no more than minimal risk impact to core damage frequency (CDF), as summarized below:*

Table S2-13 *– Component Cooling Water (CCW) Heat Exchanger Temperature Control Valve modification: Probabilistic Risk Assessment (PRA) demonstrates a minimal risk reduction under the current PRA model, with a Delta CDF < 1E-08/year.*

Table S2-15 *– Reactor/Pressurizer Head Vent Valve modification: PRA also demonstrates a negligible risk reduction under the current PRA model, with a Delta CDF < 1E-11/year."*

Holtec is requesting a delay in the completion of certain NFPA 805 modifications, as follows:

"Under the current transition license condition, Holtec is required to fully implement the NFPA 805 modifications before the end of Refueling Outage 28 (1R28). Holtec is now proposing to revise Transition License Condition 2.C.(3)(c)2 to state:

"2. The licensee shall implement the modifications to its facility, as described in Table S-2, 'Plant Modifications Committed,' of Entergy Nuclear Operations, Inc. (ENO) letter PNP 2019-028 dated May 28, 2019, to complete the transition to full compliance with 10 CFR 50.48(c) before the end of the refueling outage following the fifth full operating cycle after NRC approval. The licensee shall maintain

appropriate compensatory measures in place until completion of these modifications."

"The proposed transition license condition would require the NFPA 805 modifications to be fully implemented before the end of the planned refueling outage scheduled for Spring 2027."

In its Section 3.0 LAR Technical Evaluation, Holtec asserts the following basis for extending both modifications—Table S2-13 and S2-15—as follows:

Holtec claims that changing the full compliance implementation date for Fire Protection Program Transition License Condition 2.C.(3)(c)2 does not constitute a change in the method of evaluation. According to Holtec, the proposed schedule change does not impact the level of fire protection provided and therefore does not affect the ability to perform essential safety functions during a fire. However, Holtec has failed to follow NRC-endorsed guidance requiring a systematic search for and evaluation of all Current Licensing Basis (CLB) methods when determining whether a change in method has occurred. Specifically, Regulatory Guide 1.187 and NEI 96-07, Revision 1 (as endorsed by the NRC), both state that licensees

must evaluate whether any element of the analysis methodology credited in the CLB is being altered. Holtec's assertion that there is "no change in method" is unsupported by any further technical discussion or documented evaluation in its License Amendment Request (LAR). This omission indicates a failure to comply with the required review process and undermines the validity of its no-method-change claim.

Holtec further asserts that the proposed change maintains adequate safety margins because it does not affect any codes, standards, or approved alternatives accepted by the NRC, nor does it impact any safety analysis acceptance criteria in the plant's licensing basis.

Holtec's evaluation appears to rely on language from the license condition amendment (page 4 of the Holtec LAR), specifically under the section titled *"Risk-Informed Changes that May Be Made Without Prior NRC Approval"*:

> *"Prior NRC review and approval is not required for individual changes that result in a risk increase of less than $1x10^{-6}$ per year (yr) for Core Damage Frequency (CDF) and less than $1x10^{-8}$ per year for Large Early Release Frequency (LERF). The proposed change must also be consistent with the defense-in-depth philosophy and must maintain*

sufficient safety margins. The change may be implemented following completion of the plant change evaluation."

This petition acknowledges this statement and it is allowable method to apply to NFP-805 Compliance as Holtec proposes, **unless** there is a prior and additional deterministic method based license condition and license basis. This petition is focused solely on item **Table S2-15**, Head and Pressurizer Vent Valves that fall into this category.

Among the modifications Holtec seeks to delay is Table S2-15, which addresses the Reactor/Pressurizer Head Vent Valve Modification—a system originally installed in response to the post-TMI deterministic method license requirements of NUREG-0737, Item II.B.1, "Reactor Coolant System Vents." This system was incorporated into the Palisades licensing basis as a deterministic safety feature.

The vent valves are critical for removing non-condensable gases from the reactor coolant system during cooldown and shutdown, thereby enabling post-accident core cooling by natural circulation.

As documented in **NUREG-0737, "Clarification of TMI Action Plan Requirements," Enclosure 1, Table of Requirements, Item II.B.1, "Reactor Coolant System Vents"** (ADAMS Accession No. ML051400209,

Table page titled *“ENCLOSURE 1 (CONTINUED)”*), all pressurized water reactor (PWR) licensees were required to:

- *Design and install reactor coolant system vents; and*
- *Develop procedures for their use from the control room,*

This requirement remains an active part of the Palisades licensing basis as a **deterministic method post-accident safety measure**.

Holtec argues that this NFPA-805 safety modification to the Reactor Head Vent and Pressurizer vent valves can be deferred—or possibly not completed at all—because updated Probabilistic Risk Assessment (PRA) method results indicate a “negligible risk reduction” associated with the modification:

> *“Table S2-15, Reactor /Pressurizer Head Vent Valve Modification also demonstrated a negligible risk reduction under the current PRA model with a Delta CDF <1E-11/yr.”*

This petition specifically challenges that assertion as applied only to Table S2-15. It is not a generalized objection to all deferred NFPA 805 modifications, as proposed by Holtec, but rather a focused challenge to

Holtec's proposal to delay, re-evaluate, or potentially eliminate and required modifications to the safety-critical Reactor/Pressurizer Head Vent Valves, used as part to shutdown the nuclear reactor. These CLB requirements are based on deterministic method of analysis Holtec seeks to substitute a PRA-based method of justification in place of a long-standing, required deterministic method licensing commitment established under NUREG-0737, "Clarification of TMI Action Plan Requirements", and incorporated into the Palisades licensing basis, as a License Condition, through prior NRC-approved post TMI Action Plan, NUREG-0737 commitments.

Notably, Holtec and its Palisades Licensee predecessors have previously been granted extensions to defer the completion of the head and pressurizer vent valve NFPA-805 modifications, particularly during the plant's transition into decommissioning. Those earlier deferrals were premised on the expectation that Palisades would permanently cease operations and thus would not require these post-TMI safety functions in the future. In hindsight, those extensions—granted on the basis of an assumed non-operational status—may not have been fully justified under the current regulatory standards, particularly those requiring strict adherence to licensed design bases unless superseded by an NRC-

approved license amendment or exemption for a deterministic method based safety evaluation.

However, those past deferrals may not be used to justify Holtec's present request and omission of a deterministic method based safety analysis. As the ASLB held in *Private Fuel Storage, LBP-98-7, 47 NRC 142, 179 (1998)*, "The fact that past regulatory decisions may have been based on incomplete or outdated assumptions does not bind the NRC in future proceedings." Accordingly, Holtec's current request must be evaluated on its own merits, independent of any prior administrative discretion that may have been exercised under different operational assumptions.

Holtec's proposal to defer implementation of NFPA-805 Table S2-15 risks compromising public safety by removing or postponing a key defense-in-depth measure without first obtaining a deterministic based method license amendment or exemption under 10 CFR 50.90 or 10 CFR 50.12, as required by NRC regulation and adjudicatory precedent.

10CFR50 Appendix R Remains in Force at Palisades, Holtec's LAR Statements

This contention requires that two deterministic-based method of licensing conditions remain in force at Palisades: (1) the fire protection requirements

of 10 CFR 50, Appendix R, and (2) the post-TMI safety requirements established by NUREG-0737. This section establishes that 10 CFR 50, Appendix R continues to apply at Palisades, relying on the plain language of NRC regulations and direct statements from Holtec's own License Amendment Request that it seeks to delay full NFPA-805 compliance—the subject of this petition.

The petitioner asserts that the requirements of 10 CFR 50, Appendix R remain fully applicable and enforceable at the Palisades Nuclear Plant. Escalated NRC enforcement related to Palisades' long-standing fire protection noncompliance remains in effect, and the regulatory condition under which the NRC allowed deferred enforcement from 1996 inspection findings—namely, successful and complete transition to NFPA-805—has not been met. As a result, Appendix R obligations continue to govern Palisades' fire protection program where specific elements of NFPA-805 have not been completed, such as the reactor head and pressurizer vent valves and ability to control these valves from the control room concurrent with any postulated fire.

Holtec's own statements in its License Amendment Request (LAR), Section 4.1, *Applicable Regulatory Requirements/Criteria*, page 8, confirm that:

"The voluntary adoption of 10 CFR 50.48(c) by Holtec does not eliminate the need to comply with 10 CFR 50.48(a) and 10 CFR 50, Appendix A, and General Design Criteria (GDC) 3, 'Fire Protection."

This is consistent with the structure of NRC fire protection regulations in 10 CFR 50.48, which states:

(b) Appendix R to this part establishes fire protection features required to satisfy Criterion 3 of appendix A to this part with respect to certain generic issues for nuclear power plants licensed to operate before January 1, 1979.

(1) Except for the requirements of Sections III.G, III.J, and III.O, the provisions of Appendix R to this part do not apply to nuclear power plants licensed to operate before January 1, 1979, to the extent that —

(i) Fire protection features proposed or implemented by the licensee have been accepted by the NRC staff as satisfying the provisions of Appendix A to Branch Technical Position (BTP) APCSB 9.5-1 reflected in NRC fire protection safety evaluation reports issued before the effective date of February 19, 1981; or

(ii) Fire protection features were accepted by the NRC staff in comprehensive fire protection safety evaluation reports issued before Appendix A to Branch Technical Position (BTP) APCSB 9.5-1 was published in August 1976.

Because deferred escalated enforcement conditions remain in place to complete the NFPA-805 transition, and Palisades has not fully completed its transition to NFPA-805 for two of the table S2 license conditions, and because no comprehensive safety evaluation has removed the plant's Appendix R obligations under the criteria of 10 CFR 50.48(b)(1), those provisions remain in full regulatory force for the unfinished Table S2 items. This continuing applicability of Appendix R is further supported by the NRC's long-standing enforcement actions at Palisades, its deferred compliance history, and Holtec's own admission that NFPA-805 adoption does not displace other applicable requirements. **Accordingly, Appendix R remains a controlling and enforceable component of Palisades' fire protection licensing basis.**

A Closer Look at the Full License Condition – DPR-254

Holtec's License Amendment Request proposes to revise the completion dates of NFPA-805 modifications that were originally added as enforceable

license conditions through Amendment 254 to Renewed Facility Operating License DPR-20, dated February 27, 2015 (ML15007A191). These conditions were imposed to govern Palisades' transition to a risk-informed, performance-based fire protection program in accordance with 10 CFR 50.48(c). In the LAR—the subject of this petition—Holtec states:

> *"Holtec Palisades expects to complete the remaining NFPA 805 modifications prior to the restart of the Palisades Nuclear Plant in the Fall of 2025. Two of the modifications that were previously identified as having a medium risk impact were reviewed during the planning of plant changes to implement Table S2 under the current risk model as having no more than minimal risk impact to core damage frequency (CDF), as summarized below…"*

To properly evaluate Holtec's claim, it is necessary to examine the full language of the license condition imposed by Amendment 254, specifically Paragraph 2.C.(3), which governs how changes to the fire protection program may be made. The license condition states:

> *"Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c),* ***and provided no other regulation, technical specification, license condition, or requirement would require***

> ***prior NRC approval,*** *the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied."*

And further:

> *"The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins."*

This license condition makes clear that prior NRC approval—using appropriate deterministic methods and regulatory CLB requirements—is still required for any change that:

1. Affects a technical specification or license condition,
2. Is inconsistent with the defense-in-depth philosophy, or
3. Fails to maintain adequate safety margins.

These constraints are particularly relevant here because the modifications to the Reactor Head Vent and Pressurizer Vent Valves are not merely

routine NFPA-805 adjustments. They perform critical deterministic method based safety functions rooted in two foundational regulatory mandates:

- **Post-Fire Safe Shutdown**: The Browns Ferry fire led to the establishment of 10 CFR 50, Appendix R, which remains applicable at Palisades as discussed in the prior section.
- **Post-Accident Natural Circulation Cooling**: The Three Mile Island accident resulted in the issuance of NUREG-0578 and NUREG-0737, which mandate operable vent paths to ensure natural circulation cooling when offsite power is lost.

Therefore, any proposed delay to these modifications must not be evaluated using PRA method results alone. The vent valves dual licensing basis—under both Appendix R and the TMI Action Plan—requires a comprehensive deterministic evaluation method. If Holtec wishes to alter its commitment, it must include a deterministic method based safety evaluation to obtain either a license amendment under 10 CFR 50.90 or a specific exemption under 10 CFR 50.12.

While the license condition does allow certain risk-informed changes, it also explicitly limits that discretion. Holtec appears to rely on the provision stating:

> *“Prior NRC review and approval is not required for individual changes that result in a risk increase less than $1x10^{-7}$/year (yr) for CDF and less than $1x10^{-8}$/yr for LERF.”*

However, this provision cannot be interpreted in isolation as the only required method of evaluation. Holtec’s reliance on this threshold alone is legally insufficient. The license condition Holtec is proposing to change, requires **all** of the following to be satisfied before NRC approval can be given:

- The change must not impact any technical specification or license condition;
- It must be consistent with the defense-in-depth philosophy;
- It must maintain adequate safety margins.

The license condition further recognizes that engineering evaluations may justify certain changes to NFPA 805, Chapter 3 elements—but only where those changes are either functionally equivalent or demonstrated to be adequate for the hazard, and only for specific fire protection system categories. Even in these limited cases, the change must be confirmed by a qualified fire protection engineer. As stated:

> *“The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement.”*

Holtec’s LAR did not include this.

This framework provides no authorization to use PRA method alone to bypass deterministic method 10CFR50 appendix R or NUREG 0737 license requirements, especially where there is no demonstration of functional equivalency and no assurance that defense-in-depth and safety margins are preserved. As such, Holtec’s assertion that a reduced PRA base method impact justifies delaying the RCGVS modifications fails to satisfy the legal and technical standards outlined in its current license condition.

Conclusion: The governing license condition in DPR-254 does not permit unilateral deferral of required modifications based solely on PRA method only-derived risk thresholds. Where license conditions, Technical Specifications, or other deterministic method regulatory requirements remain in force—as is the case with the Reactor Head and Pressurizer Vent Valves—Holtec must seek NRC approval through a deterministic method based license amendment or exemption. This petition contends

that no such safety analysis has been provided by Holtec and, therefore, the LAR is legally insufficient under NRC regulations and the existing Palisades licensing basis.

Maintaining Fuel in a Safe and Stable Condition: Role of Natural Circulation, DPR-224 NRC Safety Evaluation

This petition establishes a licensing nexus between multiple regulatory licensing basis and license conditions, for the reactor head and pressurizer vent valves—through both fire protection and post-accident safety functions—with one critical connection being the need to maintain primary coolant natural circulation, from the control room, during a plant shutdown concurrent with loss of offsite power, both resulting from a fire that affects both. This condition triggers reliance on natural circulation, included in dual licensing requirements, which is a core assumption embedded in the plant’s current licensing basis and compliance enshrined in license conditions.

This requirement is directly reflected in the NRC's Safety Evaluation for License Amendment 254 to Renewed Facility Operating License DPR-20, that continues in the current license, FSAR and Technical Specifications. Specifically, Section 3.2.2 of the NRC evaluation (ML15007A191) states:

> *“A safe and stable condition is defined as the ability to maintain Keff <0.99, with a reactor coolant temperature at or below the requirements for hot standby. In LAR Attachment C, Table B-3, the licensee identified its ability to achieve and maintain NFPA 805 safe and stable conditions following shutdown from full power conditions and that safe and stable conditions can be maintained ‘long term’* ***with forced or natural circulation*** *via the steam generators.”*

This excerpt confirms that the NRC-approved fire protection licensing basis at Palisades explicitly relies on the capability to maintain long-term core cooling, from the control room, through either forced or natural circulation. Therefore, the **reactor head vent and pressurizer vent valves are necessary components, and the ability to operate the valves from the control room** to ensure natural circulation is maintained under loss-of-offsite-power scenarios concurrent with a fire. Their operability is essential to the plant’s ability to achieve and sustain a safe and stable condition, and is required under license conditions for both Appendix R and NUREG-0737. These valves are not optional enhancements; they are vital deterministic method safety features embedded in the plant’s licensing basis and as license conditions to ensure full transition to compliance.

VIII. Nexus Between NUREG-0737, NFPA-805, and Palisades NFPA-805 Table S2-15 (Reactor Head and Pressurizer Head Vent Valves)

Nexus Prelude: Dual License Basis for Vent Valve And Operability of the Primary Coolant System

Before presenting the specific citations and supporting material, it is essential to first outline the foundational premise of this petition so that the Board may form a clear and coherent understanding of the regulatory interdependence at issue.

The **Reactor Head and Pressurizer Vent Valves** at Palisades have a **dual safety functions and dual regulatory basis, enshrined as deterministic method license conditions,** rooted in the NRC's two landmark post-accident rule makings:

- **The TMI Action Plan (NUREG-0737)**, which, among many other requirements, requires operable vent paths, **and the ability to operate the vent paths from the control room,** for the reactor vessel head and pressurizer steam space to support **natural circulation cooling** when forced flow is lost, and

- **Appendix R / NFPA-805,** which requires the capability to achieve and maintain safe shutdown and cooldown following a fire—assuming loss of offsite power and loss of forced circulation—and further requires that all control circuits be evaluated for the potential for spurious operation, with appropriate protection or design features implemented to prevent unintended actuation of safety-significant components during fire scenarios.

These two licensing bases are **not independent of one another**. Under NRC's definition of ***Operability***—as reinforced by Inspection **Manual Chapter 9900**—the natural circulation cooling function (required by NUREG-0737) **relies on the vent valves remaining functional during fire conditions and controllable from the control room (no spurious circuit operations)** (required by Appendix R/NFPA-805). This creates a **licensing basis operability dependency** where the vent valves cannot perform their intended safety function under one basis without satisfying the requirements of the other, both required for Technical Specification required Primary Coolant System operability.

Distinctive Remote Operability Requirement for Vent Valves Under NUREG-0737

A critical distinction between the Reactor Head and Pressurizer Vent Valves and other components governed under 10 CFR Part 50, Appendix R and NFPA-805 lies in the unique requirement that these valves *"be capable of being remotely operated from the control room."* This mandate, established in NUREG-0737, Item II.D.1, is fundamentally different from the standard fire protection design approaches permitted under Appendix R and NFPA-805, which frequently allow operator action from remote shutdown panels or local manual operation in fire-safe areas outside the control room. This is the basis for singling out License Condition Table S2-15, "Reactor /Pressurizer Head Vent Valve Modification" in this petition.

As NUREG-0737 explicitly states:

> *"All PWR licensees and applicants shall provide a vent path from the reactor vessel head and from the pressurizer steam space to permit removal of noncondensable gases that may inhibit natural circulation. These paths shall have adequate flow capacity* ***and be capable of being remotely operated from the control room****."*
>
> *— NUREG-0737, Clarification of TMI Action Plan Requirements, Item II.D.1* (ML051400209)

This requirement is not merely a design preference—it is a deterministic method licensing condition adopted across the fleet following the Three Mile Island accident to ensure safe reactor cooldown by natural circulation in post-accident scenarios, particularly under loss of offsite power (LOOP) conditions.

In contrast, Appendix R, Section III.L.3 and NFPA-805 allow licensees to use alternate shutdown control locations—remote from the control room—provided that operators can achieve safe shutdown through dedicated circuits, fire-rated cabling, or alternate control pathways. For example, Section III.L.3 of Appendix R requires:

> *"The capability to achieve and maintain hot standby conditions... shall be provided from either the control room or one or more alternate locations... located in fire areas that are physically separate from the fire area of concern."*
>
> *— 10 CFR Part 50, Appendix R, Section III.L.3*

Such flexibility is *explicitly not permitted* for the Palisades PCS vent valves required under NUREG-0737. The control room requirement is part of the accident-mitigation function these valves serve—ensuring that operators can initiate venting under severe plant conditions without needing to

physically enter fire-affected areas. This separation between the vent valves and all other NFPA-805 modification strategies is reflected in the Palisades licensing basis, particularly through Table S2-15 and Holtec's associated license condition commitments for TMI Action Plant items, NUREG-0737.

This control room operability requirement remains active and enforceable today, as confirmed in Palisades' FSAR Revision 35 and NRC's July 24, 2025 approval of Holtec's reauthorization of that FSAR as the plant's current licensing basis (ML25157A127). Any deferral of cabling or control circuit upgrades necessary to fulfill this remote operation capability risks violating both:

1. The deterministic post-accident safety function embedded in the TMI Action Plan, and

2. The minimum operability standards defined in Palisades' Technical Specifications and NRC IMC 9900.

Because NFPA-805 and Appendix R allow—but do not require—remote operation from the control room, the control room requirement for the RCGVS vent valves is *more stringent* and *non-substitutable.* This further reinforces that Holtec's proposed reliance solely on PRA metrics to justify

deferral of the Table S2-15 modification fails to satisfy the licensing basis. Remote operability of these valves from within the control room is not a convenience—it is a critical, safety-significant, and non-waivable feature tied directly to safe shutdown under post-accident conditions.

This distinctive requirement creates a clear regulatory boundary that cannot be crossed without a formal license amendment under 10 CFR 50.90 or a specific exemption under 10 CFR 50.12. Holtec's failure to provide either renders its LAR procedurally and substantively deficient.

Therefore, any proposed delay in completing fire-hardening modifications —such as those outlined in Holtec's License Amendment Request (LAR)— directly affects whether the valves can be considered operable in their support role for Primary Coolant operability. And if the vent valves cannot be shown to be operable, then by extension, the Primary Coolant System (PCS) itself cannot be confirmed as operable under Technical Specifications, an unacceptable condition.

Because these two licensing bases are embedded within Palisades' NRC approved Final Safety Analysis Report revision 35 (FSAR), an enshrined as license conditions, and are reinforced by both deterministic method NRC

regulations and prior NRC enforcement actions, any change, deferral, or substitution of risk-based methods for deterministic requirements must be processed through a formal deterministic based method license amendment or exemption under 10 CFR 50.90 or 50.12. Holtec's LAR does not meet that standard.

The following section provides detailed regulatory citations, license conditions, NRC precedents, and FSAR references that support and reinforce this dual-basis safety function. These citations collectively demonstrate that Holtec's proposed deferral of vent valve modifications cannot be legally justified without a deterministic licensing basis evaluation, and that the requested delay represents a substantive and procedurally noncompliant deviation from NRC requirements.

Summary Nexus and Roadmap to References for the Licensing Board

The regulatory nexus between NFPA-805, NUREG-0737, NRC Inspection Manual Chapter 9900, and Palisades' Technical Specifications converges on a shared, fundamental safety objective: ensuring the plant can achieve and maintain safe shutdown under post-fire and post-accident conditions —particularly when offsite power is lost, a requirement for both scenarios.

Both NFPA-805 and the TMI Action Plan (as implemented through NUREG-0578 and NUREG-0737) assume loss of offsite power (LOOP) and depend on reliable reactor head and pressurizer venting to sustain natural circulation cooling when forced flow is lost. These requirements are codified in the licensing basis and Technical Specifications (TS) for Palisades and reinforced by NRC Inspection Manual Chapter 9900 (IMC 9900), which governs operability and support function determinations.

This section provides a structured roadmap:

- **Subsection A** cites NFPA 805 Section 1.2 and RG 1.205, Rev. 2 (ML21048A448), confirming the requirement for post-fire safe shutdown and fire protection defense-in-depth, which must be maintained unless a licensee obtains NRC approval for a risk-informed alternative under 10 CFR 50.48(c).
- **Subsections B and C** reference NUREG-0578 and NUREG-0737 requirements (Item II.D.1) for reactor coolant system (RCS) venting to prevent non-condensable gas accumulation and ensure natural circulation under accident conditions—particularly after loss of offsite power.

- **Subsections D through G** apply Palisades' Technical Specification definition of operability (as submitted in Holtec's LAR, ML23348A148) and NRC Inspection Manual Chapter 9900 to show that the reactor vessel head and pressurizer vent valves are required support functions for maintaining PCS operability, and therefore must meet operability standards when PCS is required to be operable in TS 3.4.4–3.4.7.

- **Subsection H** emphasizes that these valves perform a dual design basis safety function under both NFPA-805 and the TMI Action Plan. As such, deferring their operability based solely on PRA under NFPA-805 would unlawfully bypass the deterministic requirements of NUREG-0737. Under 10 CFR 50.59(c)(2)(viii), such a change also requires a deterministic based license amendment or exemption. Holtec has not done so.

- **Subsection I** highlights the real-world vulnerability where a single, strategically placed fire could simultaneously disable both offsite power and forced cooling systems, while also compromising the operability of vent valves—triggering the precise LOOP scenario NFPA-805 and NUREG-0737 are designed to mitigate.

- **Subsection J** addresses the regulatory status of 10 CFR 50 Appendix R and the enforcement history relevant to Palisades. The historical enforcement record and NRC policy confirm that 10CFR50 Appendix R remains a binding licensing requirement for Palisades unless and until the NRC formally approves full transition to NFPA-805 through a license amendment.

In 1996, the NRC imposed a civil penalty on the then-licensee for failure to correct longstanding fire protection deficiencies at Palisades required by 10CFR50 Appendix R. This action demonstrated that compliance with Appendix R was not optional and that safe shutdown capability must be preserved through qualified, engineered fire protection features—not deferred or replaced by ad hoc operator actions.

In 2008, the NRC granted Palisades extended enforcement discretion under its Interim Enforcement Policy while the plant transitioned to NFPA-805. However, this discretion was explicitly temporary and conditional. The NRC made clear that the requirements of Appendix R would remain in effect throughout the transition period, with enforcement discretion ending only after NRC disposition of the NFPA-805 license amendment request. Those agreements were added to the Palisades license as conditions. The same license conditions Holtec is now

proposing in its LAR to again, extend the completion of required modifications.

The continued application of NRC enforcement discretion to Palisades—documented in NRC correspondence and linked to demonstrated progress toward NFPA-805 implementation—serves as further confirmation that the requirements of Appendix R remain fully enforceable. Until Holtec completes the NFPA-805 transition and receives formal NRC approval via license amendment, Palisades remains subject to the requirements of Appendix R, and as further defined in a deterministic basis by NUREG-0737, TMI Action Plan license basis. Holtec has not completed this transition.

As noted in my declaration, I was the Engineering Director at Palisades at the time the NRC granted enforcement discretion conditioned on a formal commitment to transition to NFPA-805. I was directly involved in discussions with NRC staff leading up to that agreement, including providing detailed status reports on progress toward NFPA-805 implementation and participating in the development of the license conditions that incorporated those terms into the Palisades licensing basis.

This ongoing regulatory obligation is a key reason why Holtec cannot, now, rely solely on risk-informed justifications under NFPA-805 for safety systems, such as the reactor head and pressurizer vent valves, that are still required to meet deterministic licensing commitments going back to license condition and design basis set by TMI Action Plan, NUREG-0737.

Conclusion:

Palisades' licensing basis requires the reactor vessel head and pressurizer vent valves to be operable as support functions to the PCS under both deterministic methods (NUREG-0737) and risk-informed methods (NFPA-805) frameworks. Holtec's attempt to defer their operability using PRA methods only, without a license amendment that also has a deterministic method evaluation, is inconsistent with NRC regulations, NRC precedents, and the plant's own Technical Specifications. These valves are not optional—they have dual-licensing basis, safety-significant systems, and any change to their credited function requires prior NRC approval, supported by a deterministic based safety evaluation under either 10 CFR 50.90 or 50.12.

Nexus Supporting Details With Citations and References:

A. NFPA 805, Section 1.2 – Safe Shutdown Purpose:

See **NRC Regulatory Guide 1.205, Revision 2** (ML21048A448), which endorses NFPA 805 (2001), Section 2.2.3, discussed on **page 9, item 3, *…… and post fire safe-shutdown capability …..”***:

2.2.3 Risk-Informed or Performance-Based Alternatives to Compliance with NFPA 805

Under 10 CFR 50.48(c)(4), a licensee may request NRC approval (by license amendment) of the use of alternative risk-informed or performance-based methods (i.e., methods that differ from those prescribed by NFPA 805) to demonstrate compliance with 10 CFR 50.48(c). A licensee should provide sufficient information in the license amendment request to allow the NRC staff to determine that the proposed alternatives do the following:

(1) satisfy the performance goals, performance objectives, and performance criteria specified in NFPA 805 related to nuclear safety and radiological release;

(2) maintain safety margins; and

*(3) maintain fire protection defense in depth (fire prevention, fire detection, fire suppression, mitigation, **and post fire safe-shutdown capability).***

(See RG 1.205, Rev. 2, Page 9.)

More About Holtec's Claim That Use of PRA Is Not a Change in Method

In its License Amendment Request (LAR), Section 3.0 "TECHNICAL EVALUATION," Holtec states:

> *"In addition, the proposed change has no impact on the defense-in-depth (DID) echelons, which are: (1) prevent fires from starting, (2) rapidly detect, control, and extinguish promptly those fires that do occur thereby preventing fire damage, and (3) provide adequate level of fire protection for systems and structures so that a fire will not prevent essential safety functions from being performed, because changing the full compliance implementation date for fire protection program transition license condition 2.C.(3)(c)2 is not considered a change in methods. The proposed schedule change does not impact the level of fire protection provided so that a fire will not prevent essential safety functions from being performed."*
>
> — Holtec LAR, Section 3.0

Required Identification of CLB Commitments and Methods of Evaluation in Safety Analyses

Any license amendment request (LAR) submitted under 10 CFR § 50.90 must include a comprehensive and transparent analysis of all applicable safety requirements under the facility's **Current Licensing Basis (CLB)**. This includes not only the relevant technical specifications and design features, but also all prior NRC-mandated commitments, deterministic evaluation methodologies, and post-accident safety enhancements—such as those established by the **TMI Action Plan**, codified in **NUREG-0578** and **NUREG-0737**.

Pursuant to 10 CFR § 50.2 and § 54.3(a), the CLB includes:

"(1) The NRC-issued license for the facility, including all license conditions;
(2) The FSAR and changes made to it;
(3) Commission orders applicable to the facility;
(4) NRC regulations; and
(5) NRC regulatory guidance documents…to which the licensee has committed in writing."

Therefore, when seeking a license amendment, the applicant must identify **each element of the CLB** affected by the proposed change and must use

all applicable evaluation methods relied upon in the FSAR to demonstrate continued compliance with regulatory requirements.

Each item in the TMI Action Plan, as formalized in NUREG-0737, was i**ssued as a mandatory post-accident corrective action** to be incorporated into the licensing basis of every operating nuclear plant. The NRC required licensees to submit detailed implementation schedules, describe the modifications or procedural changes to be made, and verify compliance through formal NRC review and approval. These requirements were not optional guidelines—they were deterministic regulatory mandates based on root cause findings from the Three Mile Island accident. As stated in NUREG-0737, Item II.D.1:

“All PWR licensees and applicants shall provide a vent path from the reactor vessel head and from the pressurizer steam space to permit removal of noncondensable gases that may inhibit natural circulation. These paths shall have adequate flow capacity and be capable of being remotely operated from the control room.”

These post-TMI safety upgrades became enforceable through 10 CFR Part 50 license conditions, NRC Safety Evaluations, and Technical Specification amendments. Critically, they were not subject to licensee reinterpretation or risk-informed substitution. Any departure from these deterministic

methods—such as eliminating or deferring a required modification—requires prior NRC approval via either a specific exemption under 10 CFR § 50.12 or a license amendment under 10 CFR § 50.90. Holtec's failure to meet this standard in its June 24, 2025 LAR renders its safety analysis legally and procedurally deficient.

1. Deterministic Requirements Established by the TMI Action Plan Must Be Incorporated

One key component of the CLB for pressurized water reactors (PWRs) like Palisades, is the mandatory implementation of **deterministic safety requirements** imposed through the TMI Action Plan. Among these, **NUREG-0737, Item II.D.1**, required the installation and control room operability of a reactor coolant gas vent system (RCGVS) to ensure the removal of noncondensable gases that could inhibit natural circulation cooling following a loss of forced flow. This requirement was implemented across the industry and explicitly prohibits alternate control schemes such as local or remote shutdown panel actuation.

Holtec's June 24, 2025 LAR fails to acknowledge this binding commitment and omits any discussion of the deterministic methodology used to support the original licensing approval of the RCGVS. By failing to identify

and evaluate this critical aspect of the CLB, the LAR does not provide a complete safety evaluation as required by 10 CFR § 50.90.

2. Methods of Evaluation Must Be Preserved or Formally Replaced

The NRC's longstanding position—codified in **NEI 96-07, Rev. 1**, and reinforced through Commission precedent—is that any **change to a method of evaluation** described in the FSAR must receive prior NRC approval under 10 CFR § 50.59(c)(2)(viii) or through a license amendment. NEI 96-07, endorsed by the NRC in Regulatory Guide 1.187, states:

> *"When a method of evaluation described in the FSAR is replaced or revised with a method that is not approved by the NRC for the intended application, prior NRC approval is required."*

In **Dominion Nuclear Connecticut (Millstone), CLI-01-24, 54 NRC 349 (2001)**, the Commission ruled:

> *"If a licensee wishes to change the analytical methods described in its FSAR, it must obtain NRC approval through the license amendment process."*

Holtec's use only of a probabilistic risk assessment (PRA) method of screening to defer the modification listed in NFPA-805 Table S2-15

constitutes a change in the method of evaluation for a post-accident, deterministic method safety function. This PRA method-based approach was never part of the FSAR basis for compliance with the TMI Action Plan requirement for remote operability of the reactor head and pressurizer vent valves. As such, substituting PRA in place of the original deterministic method requires prior NRC approval—either through this LAR (which it does not request), or a separate exemption request (which has not been filed). Holtec did not include such a request or safety evaluation in its LAR.

3. Safety Evaluations Must Be Comprehensive and Inclusive of All CLB Elements

NRC guidance in NUREG-0800 (Standard Review Plan), Chapter 5.4 and 15.0, as well as IMC 2500 inspection guidance, further emphasize that safety evaluations must:

- Identify all affected systems and licensing basis documents;
- Include evaluation of applicable FSAR chapters and historical licensing commitments;
- Describe and justify any changes to methods of evaluation.

Holtec's current LAR does not meet this standard. It omits discussion of:

- The NUREG-0737 Item II.D.1 requirement;
- The original deterministic method cooling analysis for RCGVS operation during a LOOP or post-accident scenario;
- Whether deferral of the S2-15 modification alters or violates the intended safety function under the licensing basis;
- Whether a change in method of evaluation is occurring, and if so, whether NRC approval is required.

Conclusion

The omission of CLB-identified deterministic method safety requirements and the substitution of probabilistic method reasoning, alone, without acknowledgment of method changes renders the Holtec June 24, 2025 LAR incomplete and non-compliant with 10 CFR § 50.90. The NRC must not approve any such amendment without requiring the applicant to first:

1. Identify all relevant CLB obligations and FSAR evaluation methods,

2. Demonstrate that these methods have been preserved or replaced with NRC-approved alternatives,

3. Provide a full safety analysis that evaluates the impact of the proposed deferral on all post-accident and fire-initiated safe shutdown functions.

Absent this comprehensive evaluation, the LAR fails to support a finding of reasonable assurance of adequate protection and must be rejected or returned for supplementation

Petitioners do not agree with Holtec's assertion that this is not a change in method or an adequate analysis of their conclusion. We allege that Holtec's Technical Evaluation fails to include any discussion or documentation of a review to assess whether the proposed approach—relying solely on PRA—adequately considers all representative deterministic cases and whether alternative methods should be applied. The absence of this analysis constitutes a significant omission.

The NRC's July 18, 2025 inspection report (ML25177C973) supports the need for such an analysis. In that report, the NRC documented a violation by Holtec International at its Camden Corporate Office for **failing to**

conduct the required comparative analysis of representative cases after changing a method of evaluation (MOE) in a licensing basis calculation. Specifically, Holtec replaced ANSYS 11 with ANSYS 2020 R2 finite element software in structural analyses for the HI-STORM FW storage system but failed to reanalyze one or more representative cases to determine whether the results remained conservative, non-conservative, or equivalent to the previously approved FSAR baseline. **The NRC concluded that this failure violated 10 CFR 72.48(d)(1), citing Holtec's omission of a written evaluation providing the basis for determining whether prior NRC approval was required:**

> *"The evaluation did not have an adequate written basis to determine if prior NRC review and approval was needed."*
>
> — NRC Inspection Report ML25177C973, Apparent Violation D

> Note: the point for this case, which we apply to the current case, is the licensee's omission was for not recognizing they changed the method of safety analysis….**..but failing to reviewing all applicable cases in the licensing basis and including the analysis in its LAR submission.**

This same fundamental error is present in Holtec's LAR for Palisades. Rather than evaluating whether its proposed use of a PRA method-based analysis offers a conservative or equivalent safety outcome relative to the deterministic method safety basis—specifically, the post-accident natural circulation requirements established under NUREG-0578 and NUREG-0737 (TMI Action Plan, Item II.D.1)—Holtec simply assumed the PRA method alone was sufficient and did not provide any discussion why this was adequate. Holtec did not perform an analysis of representative deterministic cases, including those involving the operability of reactor vessel head and pressurizer vent valves for both fire (NFPA-805) and accident (NUREG-0737) scenarios.

This mirrors the compliance failure identified by the NRC at Holtec's Camden facility and supports Petitioners' contention that substituting PRA for deterministic analysis constitutes a change in method of evaluation. Under NRC regulations and endorsed guidance, such a change cannot be made without a formal license amendment pursuant to 10 CFR 50.90 or an exemption under 10 CFR 50.12.

B. NUREG-0578 (TMI Action Plan Requirements, December 1979), Section 2.1.2 – Reactor Coolant System Vents (Item II.B.1):

"Noncondensable gases accumulating in the upper head of the reactor vessel and the pressurizer steam space can prevent the establishment of natural circulation. Therefore, licensees and applicants shall provide the capability to vent these gases from the reactor vessel head and the pressurizer steam space."

C. NUREG-0737 (Clarification of TMI Action Plan Requirements, November 1980), Item II.D.1 – Reactor Coolant System Vents:

"All PWR licensees and applicants shall provide a vent path from the reactor vessel head and from the pressurizer steam space to permit removal of noncondensable gases that may inhibit natural circulation. These paths shall have adequate flow capacity and be capable of being remotely operated from the control room."

Further Clarification (Section 3.3.1):

*"**During post-accident cooldown and depressurization, reactor cooling may rely on natural circulation with no forced flow**, particularly in scenarios where offsite power is lost and only limited system capability remains available."*

Further Clarification (Section 3.3.2):

"The presence of noncondensable gases in the primary system can inhibit natural circulation flow. Therefore, vent valves should be operable to ensure removal of such gases during cool down and shutdown."

Holtec License Amendment Request (ML23348A148), Technical Specification Section 1.1 – Definitions:

D. OPERABLE – OPERABILITY:

"A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s)."

E. Applying NRC Operability Standards to Palisades' Technical Specification-Credited Vent Systems

To provide instructive insights on how the Palisades Technical Specification definition of *Operable* is to be evaluated, the use of **NRC Inspection Manual Part 9900, *"Technical Guidance: Assessing Operability Determinations and Resolution of Degraded and Non-Conforming Conditions"***, is instructive. This manual adopts the standard definition of *Operable* found in many licensee Technical Specifications, stating:

> *"A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety functions, and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support function(s)."*
>
> (**Section 3.3, p. 3**)

The Inspection Manual clarifies that operability determinations apply to systems explicitly required to be operable under a Technical Specification

Limiting Condition for Operation (LCO), as well as to support systems whose performance is essential to the operability of those Technical Specification systems. **For systems not described in the Technical Specifications but still relied upon within the Current Licensing Basis (CLB), functionality assessments are required instead**. As stated:

> *"For functionality, this guidance is applicable to SSCs that are not described in TS, but are in the current licensing basis (CLB). … guidance on functionality would apply to SSCs that are not described in TS but are: (1) relied on in the safety analyses or plant evaluations that are a part of the CLB."*
> (*IMC 9900*, Section 2.0, p. 2)

In the context of Palisades, the referenced Technical Specification Limiting Condition for Operation (LCO) is the **Primary Coolant System (PCS)**, governed by Section 3.4 of the Technical Specifications. The phrase "support systems whose performance is essential for the operability of those TS systems" applies directly to the **reactor vessel head and pressurizer vent valves**, which are used to vent non-condensable gases from the PCS during shutdown conditions and are described in the license basis. This venting function is essential to ensuring **positive natural**

circulation within the PCS, especially during loss-of-forced-flow scenarios or post-accident conditions. As such, under IMC 9900, these vent valves are properly treated as necessary support systems for PCS operability and are subject to the operability requirements defined in Technical Specification Section 1.1. Regardless, required components in the license basis must be shown to be operable, regardless if they are not specifically included in Technical Specifications.

Regarding performance expectations, the manual states:

> *"A SSC must be capable of performing the specified safety function(s) required by its design, within the required range of physical conditions, initiation times, and mission times."*
>
> (**Section 3.4, p. 4**)

The manual further explains the meaning of "specified safety function," which is central to operability:

> *"The definition of operability states in part that 'an SSC shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s).' … When SSC capability or reliability*

> *is degraded to the point of where there is no longer a reasonable expectation that it can perform its specified safety functions, the SSC should be judged inoperable, even if at this instantaneous point in time the system could provide the specified function."*
>
> (**Section 3.6.2, pp. 4–5**)

It also addresses support functions:

> *"A necessary and related support function is a function of a SSC that is necessary to support the operation of a SSC described in TS. …* ***If they are outside TS, the term operable does not apply to them directly, but they are still within the scope of the ODP because they can affect the operability of SSCs that are inside TS."***
>
> (**Section 3.6.3, p. 5**)

Taken together, these sections show that the NRC expects that any SSC listed in TS—as is the case for Primary Coolant System— or are license basis components, must be evaluated as operable only if it can perform its safety function as designed, with all required support systems also capable of functioning. Thus, NRC Manual 9900 directly supports the use of the Technical Specification definition of *Operable* as the controlling standard, providing a regulatory **nexus between the NUREG-0737 TMI**

Action Plan Item II.D.1 requirement for reactor coolant system venting, and the **NFPA-805 license condition** that uses these same vent paths for post-fire safe shutdown using the Primary Coolant System. Because both safety functions are now embedded in the Palisades TS and the Palisades design basis as described in the FSAR, they fall squarely within the operability determination scope of this NRC guidance.

F. Vent Valve Operability as a Required Support Function for PCS Technical Specification Compliance

To establish the regulatory nexus supporting the operability requirements of the reactor head and pressurizer vent valves, NRC Inspection Manual Chapter 9900 provides controlling guidance. The Manual states that operability determinations apply not only to systems explicitly required to be operable under a Technical Specification Limiting Condition for Operation (LCO), but also to “support systems whose performance is essential for the operability of those TS systems” (*IMC 9900*, Section 2.0, p. 2).

The Holtec License Amendment Request for Palisades (ML23348A148) includes multiple Technical Specification requirements under Section 3.4

mandating the operability of the Primary Coolant System (PCS), also referred to as the Reactor Coolant System. These include:

- **TS 3.4.4 – PCS Loops—Modes 1 and 2**: Requires both PCS loops to be operable and in operation to ensure heat removal during power operation (LAR, p. TS 3.4.4-1; Bases B 3.4.4-1)
- **TS 3.4.5 – PCS Loops—Mode 3**: Requires one operable PCS loop for decay heat removal and boron mixing during hot standby (LAR, p. TS 3.4.5-1; Bases B 3.4.5-1 to B 3.4.5-5)
- **TS 3.4.6 – PCS Loops—Mode 4**: Requires either one operable PCS loop or a Shutdown Cooling (SDC) train with ≥ 2810 gpm flow through the core (LAR, p. TS 3.4.6-1; Bases B 3.4.6-1 to B 3.4.6-6)
- **TS 3.4.7 – PCS Loops—Mode 5 (Loops Filled)**: Requires one SDC train to be operable and in operation, and either a second SDC train operable or verified secondary water level in at least one steam generator (LAR, p. TS 3.4.7-1)

These Technical Specifications collectively require PCS operability, including one Shutdown Coolant train (SDC) as a fundamental condition for safe reactor operation and shutdown across multiple modes.

Shutdown Cooling is used to shutdown and cool the reactor, as supported by license basis requirements stemming from TMI Action Plan NUREG-0737, and concurrent with fires as per 10CFR50 appendix R / NFPA-805.

As affirmed by *NUREG-0737*, Item II.D.1, and *NUREG-0578*, Section 2.1.2, the presence of non-condensable gases in the reactor vessel head and pressurizer can inhibit natural circulation and compromise core cooling under certain accident and shutdown conditions. Therefore, the ability to vent these gases via the head and pressurizer vent valves—identified as MV-PC514 and MV-PC515—is essential to maintaining PCS functionality, particularly in scenarios involving loss of forced flow or post-fire safe shutdown strategies.

Under *IMC 9900* Section 3.6.3 (p. 5), these venting functions qualify as "necessary and related support functions" for PCS operability, regardless of whether the valves themselves are individually listed in Technical Specification PCS LCOs. The Manual explicitly states that support functions "may be inside the CLB (i.e., a specified function) or outside the CLB," and even if not in TS directly, they remain *"within the scope of the ODP [Operability Determination Process] because they can affect the operability of SSCs that are inside TS."* Accordingly, because the PCS

must be operable per Technical Specifications in Modes 1 through 5, and because non-condensable gas removal is necessary for natural circulation and pressure boundary function, the operability of the reactor head and pressurizer vent valves must be maintained and evaluated per the Technical Specification definition of operability, as submitted in Holtec's proposed Technical Specification LAR.

Thus, even though these valves are not explicitly called out in PCS LCOs, their role in supporting PCS operability places them within the IMC 9900 operability framework. Holtec and NRC must ensure that these valves meet the TS definition of operability whenever PCS operability is required —establishing a clear and enforceable link between the Technical Specification LCOs for PCS and the licensing basis safety functions identified in NUREG-0737 and NFPA-805

G. Clarifying Operability vs. Functionality: IMC 9900 Distinction Applied to Vent Valve Requirements

To ensure the petition's legal and technical clarity, it is important to distinguish between the terms **Operability** and **Functionality** as defined in NRC Inspection Manual Chapter 9900. These terms define two separate—but related—standards of equipment readiness, based on whether the

structure, system, or component (SSC) is governed by the plant's Technical Specifications (TS) or solely by its broader Current Licensing Basis (CLB).

Term	Applies To	Definition per IMC 9900
Operability	SSCs explicitly required to be operable	The SSC must be capable of performing its **specified safety function** with all required support systems also operable.
Functionality	SSCs not described in TS but part of the CLB	The SSC must be capable of performing its **intended function**, based on its safety significance in plant licensing.

(*Source: IMC 9900, Section 2.0, pp. 1–2; Sections 3.4, 3.6.2, and 3.6.3*)

In the case of Palisades, the **Primary Coolant System (PCS)** is a TS-required system governed by multiple Limiting Conditions for Operation (LCOs) under Section 3.4 of the Technical Specifications (e.g., TS 3.4.4 through TS 3.4.7). Therefore, **any component necessary for PCS operability must itself meet the operability standard defined in TS Section 1.1**. This includes all associated support functions such as the **reactor vessel head and pressurizer vent valves**.

The vent valves, while not individually listed in the PCS LCOs, perform a critical safety role in ensuring the PCS can maintain natural circulation by removing non-condensable gases. NRC guidance in NUREG-0737 Item II.D.1, NUREG-0578, and RG 1.205 all identify this function as essential.

As such, under **IMC 9900 Section 3.6.3**, the vent valves qualify as **necessary and related support functions** that affect the operability of a TS-governed system. Their readiness must therefore be judged under the operability standard, not merely functionality.

This distinction is not academic—it directly affects whether Holtec's proposed use only, of risk-informed alternatives under NFPA-805, can bypass the license amendment process. Only functionality determinations permit limited flexibility under risk-informed justification. Operability, once invoked by TS, demands full compliance with the operability definition and its surveillance, configuration control, and corrective action implications**.**

H. Dual Safety Design Basis Requirements Function of Vent Valves Underscores Need for a Deterministic Method Based License Amendment

A central and compelling issue in this petition is the **dual design basis role** served by the **reactor vessel head and pressurizer vent valves (MV-PC514 and MV-PC515)** in the Palisades Nuclear Plant's licensing basis. These valves are not isolated components with a single design basis function. Instead, they perform **two independent and safety-**

significant design basis roles, both of which are governed by NRC regulatory standards and licensing commitments:

1. **Post-Accident Natural Circulation (TMI Action Plan Compliance):** As established in **NUREG-0578**, Section 2.1.2, and reaffirmed in **NUREG-0737**, Item II.D.1, all PWRs must be capable of removing non-condensable gases from the reactor vessel head and pressurizer to support natural circulation under post-accident conditions, particularly during cooldown and depressurization without forced flow. **These vent paths must be remotely operable from the control room** and of sufficient capacity. The safety analysis for Palisades has historically credited these valves to meet this TMI Action Plan requirement, which remains incorporated in the FSAR and Current Licensing Basis.

2. **Fire Protection Safe Shutdown (NFPA-805 Compliance):** Under the risk-informed fire protection licensing basis established by **NFPA 805** and implemented in RG 1.205, the same vent valves are relied upon as part of the **post-fire safe shutdown path** to ensure decay heat removal when forced cooling is lost due to fire-induced equipment failure. Palisades' NFPA-805 Table S2-15 includes actions

that depend on the ability to remove non-condensables to sustain PCS natural circulation.

Because these two roles are governed by **distinct regulatory frameworks**—one stemming from deterministic method post-accident response requirements (TMI/NUREG-0737), and the other from risk-informed, performance-based fire protection (NFPA-805)—any change to their credited function must address **both** regulatory bases.

Holtec's apparent reliance on **probabilistic risk assessment (PRA) method only,** to justify deferring vent valve operability—under the NFPA-805 framework—fails to account for their role in the deterministic method accident response required by the TMI Action Plan. This omission renders any PRA method-based substitution alone, doubly inadequate and potentially unlawful. NRC precedent and 10 CFR 50.59(c)(2)(viii) require that changes affecting **functions described in the FSAR** (such as those implementing NUREG-0737) must proceed via a deterministic based method **license amendment or exemption**, not via internal evaluation or only a fire protection risk metrics alone.

In summary, the dual-use nature of these valves:

- **Increases their regulatory weight** under both deterministic and risk-informed frameworks;
- **Triggers the operability requirement** under IMC 9900 because they directly affect PCS operability;
- And **requires a formal license amendment or exemption** to alter, defer, or substitute their function.

Any attempt to treat these valves as PRA-substitutable equipment, without simultaneously addressing their FSAR-committed post-accident deterministic method function, constitutes an incomplete and invalid regulatory strategy.

H. Fires Strategically Placed to Impact Safe Shutdown Likely Will Also Impact the Continued Availability of Offsite Power — A Real-World Nexus Through Loss of Offsite Power and Natural Circulation, Rooted in Regulation 10CRR50 Appendix R As Required by NUREG 0737 TMI Action Plan

While prior Nexus subsections have drawn connections through regulatory references and operability standards, this final subsection reinforces the dual-function safety role of the reactor head and pressurizer vent valves by

applying actual design vulnerabilities and historical precedent, derived from regulation, 10CFR50 Appendix R, “Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979” . This deterministic method regulation continues to apply to the reactor head and pressurizer vent valves as explained elsewhere because of continued deferred escalated enforcement. Specifically, it shows how a single, strategically placed fire can simultaneously threaten safe shutdown functions, and the operability of post-accident decay heat removal systems, both of which are embedded in the plant’s licensing basis and license conditions. This subsection is also intended to preemptively respond to any potential argument that requirements arising from the TMI Action Plan (e.g., NUREG-0737 venting requirements) and licensing conditions established under 10 CFR 50 Appendix R now moved to NFPA 805, need not be considered together, but rather are separate and independent. In fact, as demonstrated below, these requirements converge functionally and legally based on NRC regulations, under shared assumptions—most notably, the loss of offsite power and the need to ensure decay heat removal through natural circulation from the control room without spurious vent valve operation.

From Browns Ferry to Appendix R – Licensing Basis for Fire-Induced Loss of Power

The **1975 fire at Browns Ferry** demonstrated how a single ignition source—eventually traced to a candle checking for air leaks—could disable over 1,600 electrical cables, knocking out redundant safety systems and control capability. That fire catalyzed the NRC's issuance of Appendix R to 10 CFR 50, which remains the foundational fire protection licensing basis for all plants licensed prior to January 1, 1979.

Section **III.L of Appendix R** requires that plants establish **alternative or dedicated shutdown capability** if a fire disables normal safe shutdown systems. Importantly, it specifies that these alternative shutdown systems must perform under conditions simulating **loss of normal A.C. power**—that is, under **loss of offsite power (LOOP)**. As stated in 10CFR50 Appendix R:

> *"During the post fire shutdown, the reactor coolant system process variables shall be maintained within those predicted for a loss of normal a.c. power, and the fission product boundary integrity shall not be affected; i.e., there shall be no fuel clad damage, rupture of any primary coolant boundary, or rupture of the containment*

boundary."

— **10 CFR 50, Appendix R, Section III.L.1**

Additionally, subsection **III.L.1.c** reinforces the need for continued core cooling:

"The reactor heat removal function shall be capable of achieving and maintaining decay heat removal."

And subsection **III.L.5** anticipates that fire damage may eliminate both onsite and offsite electrical power:

"If such equipment and systems used prior to 72 hours after the fire will not be capable of being powered by both onsite and offsite electric power systems because of fire damage, an independent onsite power system shall be provided."

Together, these provisions confirm that a **fire-induced Loss of Offsite Power, LOOP is assumed**, and the plant must be able to maintain cooling —typically through **natural circulation**—without relying on reactor coolant pumps or external power sources.

From TMI to NUREG-0737 – Mandating Vent Valves for Natural Circulation

Only four years after Browns Ferry, the **1979 accident at Three Mile Island (TMI)** further exposed the limitations of PWR safety systems when offsite power is lost. One of the most critical lessons from TMI was that **non-condensable gases** accumulating in the reactor vessel head and pressurizer could **inhibit natural circulation**, preventing decay heat removal even when the reactor is shut down.

In response, the NRC issued **NUREG-0578** and **NUREG-0737**, which imposed licensing requirements on all PWRs to install and maintain **remotely operable reactor head and pressurizer vent valves**. These vents are required specifically to support **natural circulation during cooldown and shutdown**, particularly when offsite power is lost and forced-flow systems are unavailable.

As NUREG-0737, Item II.D.1, states:

> *"All PWR licensees and applicants shall provide a vent path from the reactor vessel head and from the pressurizer steam space to permit removal of noncondensable gases that may inhibit natural circulation. These paths shall have adequate flow capacity* ***and be capable of being remotely operated from the control room****."*

Petitioner Note: *The requirement that these valves "be capable of being remotely operated from the control room" makes the reactor head and pressurizer vent valves distinctly different from other fire protection strategies under 10 CFR Part 50, Appendix R, and NFPA-805, which often rely on the operation of shutdown components from remote control stations located outside the control room. In contrast,* ***NUREG-0737*** *explicitly prohibits this alternative for the vent valves identified in License Condition Table S-15. For these valves, remote operability must be available* ***from within the control room****, underscoring their unique safety function and the heightened regulatory requirement for compliance*

This requirement remains in the Palisades licensing basis and is directly connected to the deterministic assumptions of NUREG 0737, TMI action plan. Thus, ***fire protection requirements (Appendix R/ NFPA 805)*** *and* ***post-accident cooldown requirements (NUREG-0737)*** *both assume a loss of offsite power and both depend on the operability of these vent paths to enable safe shutdown concurrent with a fire and loss of off site power using natural circulation cooldown methods.*

A Unified Design-Based Nexus: One Fire, Multiple Failures

Because **NFPA 805 is built upon the deterministic method license conditions of NUREG 0737**, the same fire analysis assumptions apply. A fire in a critical area—such as the cable spreading room, control room, or a power distribution cabinet—can simultaneously:

- **Disable offsite and onsite A.C. power** (triggering LOOP conditions);
- **Disable reactor coolant pumps**, removing forced-flow cooling capability;
- **Compromise support systems or control power** needed to operate the reactor head and pressurizer vent valves from the control room;
- **Inhibit natural circulation**, defeating the plant's only remaining passive decay heat removal method.

Therefore, a **single fire** can:

1. Eliminate all power sources (on- and offsite);
2. Disable active core cooling;

3. Disable or impair vent valves needed to enable natural circulation and the ability to control these valves from the control room;

4. Compromise compliance with both **Appendix R/NFPA 805** and **NUREG-0737**.

Any attempt, such as Holtec's, to **defer operability of the vent valves based only on risk method insights, alone, under NFPA 805**, must be rejected as incomplete. Holtec's strategy fails to address the deterministic method and mandatory role that these valves play in supporting both fire-induced safe shutdown and post-accident natural circulation when LOOP occurs.

Regulatory Implications

This history and technical interdependence create a **regulatory nexus** between:

- **Fire protection requirements (Appendix R, NFPA 805)**, which assume LOOP and require decay heat removal via alternative means; and

- **Post-accident cooling requirements (NUREG-0737)**, which mandate vent valve operability to enable natural circulation under no-power conditions.

The **reactor head and pressurizer vent valves** are not merely fire protection features nor merely accident mitigation devices—they are **integral safety components** required for both scenarios. Their operability must be maintained at all times when Primary Coolant System operability is required, and any change to that status demands a complete license amendment, including an evaluation of all methods used for a safety evaluation, under 10 CFR 50.90 or an exemption under 10 CFR 50.12.

This linkage between historical events, design vulnerabilities, and formal regulatory mandates underscores that the same fire that initiates a LOOP also demands reliable passive cooling—cooling that is impossible unless venting is available to establish and maintain natural circulation.

I. Regulatory History and Relationship Between 10 CFR 50, Appendix R and NFPA-805

The regulatory requirements for nuclear plant fire protection have their origins in the **1975 Browns Ferry fire**, one of the most significant fire events in U.S. nuclear power history. In response, the U.S. Nuclear

Regulatory Commission (NRC) established **10 CFR 50, Appendix A, General Design Criterion 3**, and, more directly, **10 CFR 50, Appendix R** in 1980. Appendix R imposed **prescriptive, deterministic fire protection requirements** to ensure that nuclear plants could achieve and maintain safe shutdown in the event of a fire.

Appendix R was implemented through **mandatory license conditions** applied to operating reactors under **10 CFR 50.48(b)**. This Appendix formed the original licensing basis for post-Browns Ferry fire protection at all plants licensed before January 1, 1979, unless the NRC approved specific exemptions. Among other things, Appendix R required:

- Fire area separation or one-hour fire barriers,
- Redundant safe shutdown paths free of fire damage,
- Automatic fire detection and suppression systems,
- And circuit analysis to prevent hot shorts and spurious actuations.

Recognizing the challenges of maintaining and upgrading to these rigid deterministic standards over time, the NRC developed a new regulatory alternative: **10 CFR 50.48(c)**, issued in **2004**, which permits licensees to

adopt a **risk-informed, performance-based fire protection program** consistent with **NFPA Standard 805 (2001 Edition)**.

NFPA-805: A Voluntary Alternative, Not a Replacement

NFPA-805 was developed by the National Fire Protection Association in collaboration with industry and regulatory stakeholders. It offers a more modern framework grounded in **Probabilistic Risk Assessment (PRA)**, allowing licensees to prioritize fire protection resources based on actual plant risk rather than strict deterministic compliance.

Importantly:

- **NFPA-805 does not supersede or invalidate 10 CFR 50, Appendix R.**
- Instead, it is an **optional compliance method** approved under 10 CFR 50.48(c).
- A plant that chooses to adopt NFPA-805 must submit a **license amendment** and receive **NRC approval** for the transition.

- Once approved, the plant's fire protection licensing basis is changed to NFPA-805—but Appendix R continues to apply to any plant that has **not** completed this transition.

The NRC explicitly maintains Appendix R as an active part of its regulations, and its requirements **remain in effect** unless a licensee has received NRC approval to transition to NFPA-805. Moreover, even for transitioning plants, **some foundational requirements of Appendix R may remain embedded in the licensing basis**, either as legacy commitments or as deterministic backstops.

Regulatory Integration

- **10 CFR 50.48(b)**: Codifies the Appendix R requirements for plants licensed before 1979.
- **10 CFR 50.48(c)**: Allows licensees to adopt NFPA-805 as a risk-informed alternative to meet the underlying performance goals of Appendix R.
- **NEI 04-02**, endorsed by **Regulatory Guide 1.205**, provides guidance for implementing NFPA-805 and emphasizes that the transition does **not affect non-fire-related licensing basis commitments**.

J. Continued Applicability of 10 CFR 50 Appendix R Until Full NFPA 805 Compliance at Palisades

The record of NRC enforcement demonstrates that Appendix R remains fully enforceable at Palisades, until the NRC formally accepts and approves full compliance with NFPA 805 via license amendment.

A. Historical Enforcement Under Appendix R

In 1996, the NRC issued a **$50,000 civil penalty** to Consumers Power Company for fire protection violations under 10 CFR 50 Appendix R. The NRC stated the following:

> *"The ability to maintain the plant in a safe shutdown condition, as required by the fire protection regulations, could only have been achieved by significant operator actions, troubleshooting, and repair activities to compensate for the design deficiencies."*
> — *ML003705300*, "1996 Civil Penalty," p. 2

This quote followed a finding that fuse coordination deficiencies in the emergency diesel generator circuitry had not been promptly or effectively corrected, leaving the safe shutdown function vulnerable. **The NRC**

concluded that prior corrective actions "were not implemented within a time frame consistent with the potential safety significance of the deficiencies" (*ML003705300*, p. 1).

These findings establish that deterministic compliance with Appendix R safe shutdown capability was—and remains—fundamental to licensing compliance.

B. Enforcement Discretion in 2008 Maintained Appendix R in Force

Note; See my declaration for a description of my direct involvement, for the licensee, in the following.

In 2008, the NRC granted Entergy a limited extension of enforcement discretion for Palisades to complete its transition to NFPA 805. However, the discretion did not remove or replace the existing requirements of Appendix R. The NRC explicitly stated:

> *"The enforcement discretion will continue in place, without interruption, until NRC disposition of the site's LAR to transition to NFPA 805."*
>
> — *ML083260577*, "2008 Enforcement Discretion Letter," p. 1

This citation clarifies that the NRC's "enforcement discretion" was not a waiver of Appendix R requirements. Instead, it was a conditional deferral of enforcement action for known 10CFR50 Appendix R noncompliances, dependent on demonstration of continued progress and full completion of the NFPA 805 transition.

C. Legal and Licensing Implication

The language of these NRC enforcement actions makes clear that **Appendix R remains the governing requirement for issues not yet transitioned to NFPA-808 full compliance,** unless and until NFPA 805 has been fully implemented and formally approved via license amendment. Enforcement discretion does not eliminate the requirements; it merely delays enforcement under specific conditions.

Therefore, any claim that Palisades may operate without fully meeting either Appendix R or NFPA 805 fails on its face. The continued discretion is explicitly conditional and does **not** alter the licensing basis or regulatory obligations under 10 CFR 50 Appendix R.

IX. NRC Enforcement Finding Demonstrates Holtec's Pattern of Avoiding Required Analysis of Representative Cases When Changing Methods

The NRC's July 18, 2025 inspection report (ML25177C973) documenting **Apparent Violation D** at another Holtec facility offers critical insight into a recurring compliance failure that directly parallels Holtec's current licensing basis deviation at Palisades. In that case, NRC inspectors found that Holtec changed the method of evaluation (MOE) used in structural design calculations for the HI-STORM FW storage system—switching from ANSYS 11 to ANSYS 2020 R2 finite element software—without performing the necessary comparative analysis of representative cases required under NRC-endorsed guidance (NEI 12-04, Rev. 2).

Despite conducting a verification and validation (V&V) of the new software, Holtec did not re-analyze one or more representative design cases and compare the results to the NRC-approved FSAR baseline. This failure to analyze whether the updated method produced conservative, non-conservative, or equivalent results led the NRC to cite Holtec for a violation of 10 CFR 72.48(d)(1), which requires a written evaluation

demonstrating that a change does not require prior NRC approval under 10 CFR 72.48(c)(2):

> *"The evaluation did not have an adequate written basis to determine if prior NRC review and approval was needed."*
>
> — NRC Inspection Report ML25177C973, Apparent Violation D

This enforcement action is directly relevant to the current situation at Palisades, also owned and managed by Holtec procedures. At Palisades, and the subject of this petition, Holtec has proposed to delay completion of a required deterministic safety modification (S2-15) by relying exclusively on a PRA-based method, without submitting a license amendment or exemption request as required under 10 CFR 50.90 or 50.12. As explained in this petition, the systems affected—namely, the reactor vessel head and pressurizer vent valves—are required under **both**:

- **Appendix R to 10 CFR 50 and NFPA-805**, governing post-fire safe shutdown, and
- **NUREG-0578 and NUREG-0737**, governing post-accident mitigation.

Holtec has failed to evaluate whether the PRA-based justification provides equivalent or more conservative assurance compared to the deterministic safety requirements these documents impose. In other words, Holtec has not analyzed the full range of representative cases—including fire and accident scenarios—used to establish the current licensing basis. **This is the same fundamental failure the NRC identified in Apparent Violation D: a change in method of evaluation without adequate analysis of the licensing basis cases it purports to replace**.

The consistency of these violations across separate Holtec facilities highlights a troubling trend: Holtec's internal processes do not reliably ensure compliance with NRC regulations when making method changes central to facility safety and licensing bases. This further supports the Petitioners' position that Holtec's substitution of PRA for deterministic analysis at Palisades requires formal NRC review and cannot proceed under the current License Amendment Request.

E. Organizational Link Between Holtec's Camden Corporate Office and the Palisades Restart

The NRC's inspection findings at Holtec International's corporate office in Camden, New Jersey—where Apparent Violation D was identified—are not

operationally or administratively distinct from the licensing and restart activities at Palisades. A direct connection exists through Jean Fleming, Holtec's Vice President of Licensing, Regulatory Affairs, and Probabilistic Safety Analysis. Fleming signed the License Amendment Request (LAR) at issue in this petition and is listed among NRC "Entrance/Exit Meeting Attendees and Individuals Interviewed" in the July 18, 2025 inspection report of Holtec Camden Corporate Headquarters, where the cited NRC violations were found.

Her presence in both the NRC inspection report and the Palisades LAR establishes that the same senior corporate officials responsible for the method-change violation at Camden are also responsible for the decisions underpinning the Palisades restart. Moreover, NRC document ML23340A161 confirms that Palisades' Quality Assurance functions report directly to Ms. Fleming. That same filing describes her as overseeing licensing, permitting, and compliance for Holtec's decommissioning, dry storage, and small modular reactor projects.

Fleming has also routinely submitted official documents to the NRC under oath or affirmation on behalf of Palisades. Her central role across Holtec's regulated business units—including the functions cited in the recent NRC inspection report—confirms that the regulatory deficiencies identified at

Camden are institutionally embedded and highly relevant to the Palisades licensing effort and the LAR in this petition.

Further reinforcing this connection, the same NRC filing (ML23340A161) states that **Holtec Power is the sole member of OPCO (Holtec Palisades)** and exercises full control through its Executive Committee. Holtec affirms that this Executive Committee, based at corporate headquarters, provides **corporate parent oversight and approval authority for both Holtec International and Holtec Palisades.** These executive leadership structures—including the individuals listed in Attachment C—are responsible for approving regulatory strategy, compliance positions, and licensing submissions. Holtec further emphasizes that this group is composed of experienced leaders from prominent utilities and nuclear governance bodies, tasked with strategic oversight of both Camden and OPCO operations.

This common governance and management structure confirms that decisions made at Camden—including those related to regulatory interpretation, method changes, and safety evaluation practices—carry through directly to Palisades. This organizational overlap strengthens Petitioners' argument that the method-change violation at Camden reflects

a systemic compliance culture, not an isolated occurrence, and must be considered by the NRC and ASLB in evaluating Holtec's LAR for Palisades

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X. BACKGROUND ON PALISADES REGULATORY AND LICENSE BASIS REQUIREMENTS

Prelude, NRC Intends to Approve Holtec's Proposed FSAR Rev 35, (used in preparing this petition) as the referenced document for the Operating Current Licensing Basis

Holtec's NFPA-805 License Amendment Request (LAR) (ADAMS Accession No. ML23348A148) explicitly identifies FSAR Revision 35 as the version of the Final Safety Analysis Report that will be reinstated as part of its return to operations. This petition relies on FSAR Rev. 35 as the operative document to support arguments that the Reactor Coolant Gas Vent System (RCGVS) and its associated reactor head and pressurizer vent valves remain fully credited, required safety systems in the licensing basis.

It cannot be argued that this petition is based on speculative or incomplete NRC Staff reviews. As confirmed in the NRC's July 17, 2025 *Notification of Significant Licensing Action* (ADAMS Accession No. ML25188A013), the NRC Staff has completed its review and issued final determinations approving the Technical Specification license amendment, the exemption from 10 CFR 50.82(a)(2), and other associated licensing actions necessary to support the restart of the Palisades Nuclear Plant. These approvals are not pending—they are final agency actions. Therefore, the petition's reliance on FSAR Revision 35, and the associated safety commitments including the reactor and pressurizer vent valves, reflects the *actual and enforceable* current licensing basis (CLB) going forward.

The NRC has now confirmed that **FSAR Rev. 35 will indeed become the official, updated operating FSAR**, and thus the **foundation of the Current Licensing Basis (CLB)** for power operations at Palisades. In its **July 17, 2025 Notification of Significant Licensing Action**, the NRC states:

> *"On or about July 24, 2025, the Staff intends to issue a final no significant hazards consideration determination and license amendment approving changes to the operating license and*

> *technical specifications to support the reauthorization of power operations at Palisades Nuclear Plant."*

— *NRC Notification of Significant Licensing Action*, ADAMS Accession No. ML25188A013, p. 1

This action confirms the NRC's approval of Holtec's Technical Specification LAR (EPID L-2023-LLA-0174), which—per Holtec's own submittal—incorporates FSAR Rev. 35 as the underlying design and licensing basis:

> *"The Updated Final Safety Analysis Report (UFSAR), now titled the Defueled Safety Analysis Report (DSAR), will be updated… to reflect the docketed version that was in effect prior to the 10 CFR 50.82(a)(1) certifications, PNP UFSAR Revision 35… The DSAR change back to the PNP POLB UFSAR will be accomplished under the 10 CFR 50.59 process…"*
>
> — *Holtec Technical Specification LAR*, ML23348A148, Section 3.2.3.1, pp. 6–7

Therefore, with the NRC's final approval of this license amendment and the associated Technical Specification changes, Holtec's reinstatement of

FSAR Rev. 35 as the operating licensing basis is no longer hypothetical—it is binding.

Regulatory and Procedural Significance

This confirmation reinforces several key positions advanced in this petition:

1. **FSAR Rev. 35 is now the authoritative reference document for the CLB**, and any commitments documented within—such as the RCGVS design and its role in supporting natural circulation cooling—carry the full weight of NRC-enforceable licensing basis obligations.

2. The reactor and pressurizer head vent valves, as described in FSAR Rev. 35, are part of a **deterministic safety function mandated by NUREG-0737**, and their modification (as listed in NFPA-805 Table S2-15) cannot be deferred or omitted without a formal license amendment or exemption under **10 CFR 50.90 or 50.12**.

3. Holtec's reliance on PRA-based arguments to delay Modification S2-15 does **not relieve it of compliance** with the deterministic FSAR commitments—especially now that FSAR Rev. 35 has been officially reinstated by NRC action.

Conclusion

The July 17, 2025 NRC Notification of Significant Licensing Action confirms that **Holtec's Technical Specification LAR—and its reliance on FSAR Rev. 35—has been approved**, establishing FSAR Rev. 35 as the operative FSAR for restart. This confirmation gives binding force to the safety commitments Holtec made in that revision, including the RCGVS and vent valve operability requirements.

As such, this petition's reliance on FSAR Rev. 35 is now **not only valid but legally reinforced by NRC licensing action**, and further underscores that Holtec must seek **deterministic regulatory approval** before deferring the S2-15 modification.

Citation

NRC Office of Nuclear Reactor Regulation, *Notification of Significant Licensing Action – Palisades Nuclear Plant*, July 17, 2025, ADAMS Accession No. **ML25188A013**.

Holtec Palisades, *Technical Specification LAR*, December 14, 2023, ADAMS Accession No. **ML23348A148**.

A. Regulatory Basis for NFPA-805 License Condition

1978, 10 CFR 50 Appendix R License Condition

Citation: U.S. Nuclear Regulatory Commission, “Amendment No. 42 to Provisional Operating License No. DPR-20 for the Palisades Plant,” September 1, 1978 (ML020800287).

1978 NRC License Amendment Requiring Palisades to Complete Appendix R Fire Protection Modifications

In 1978, the NRC issued Amendment No. 42 to Palisades' Provisional Operating License, **adding a mandatory license condition** requiring completion of major fire protection modifications. The amendment stated that the licensee:

> *“may proceed with and is required to complete the modifications identified in Paragraphs 3.1.1 through 3.1.23 of the NRC's Fire Protection Safety Evaluation (SE) on the facility dated September 1, 1978.”*

These modifications were required to meet the NRC’s fire protection standards following the Browns Ferry fire and included physical plant changes, technical specification updates, and administrative measures.

1996 Violation and Civil Penalty, Failure to Meet License Conditions

Citation: U.S. Nuclear Regulatory Commission, “NRC Staff Proposes $50,000 Fine Against Consumers Power Company for Fire Protection Violations at the Palisades Nuclear Plant,” News Announcement No. RIII-96-46, August 15, 1996 (ML003705300).

1996 NRC Enforcement Action: Fire Protection Deficiencies at Palisades, Failure to Meet License Conditions

In 1996, the NRC proposed a $50,000 civil penalty against Consumers Power Company for unresolved fire protection violations at Palisades. The NRC found that:

> *“corrective actions for those issues were not effective and were not implemented within a time frame consistent with the potential safety significance of the deficiencies.” The NRC further stated that “the ability to maintain the plant in a safe shutdown condition, as required by the fire protection regulations, could only have been achieved by significant operator actions, troubleshooting, and repair activities to compensate for the design deficiencies.”*

Continued Failure to Meet License Condition: Enforcement Discretion and NFPA-805 License Condition Established

Citation: U.S. Nuclear Regulatory Commission, “Palisades Nuclear Plant – Evaluation of the Request for an Extension of Enforcement Discretion in Accordance with the Interim Enforcement Policy for Fire Protection Issues During Transition to National Fire Protection Association Standard NFPA 805,” December 9, 2008 (ML083260577).

2008 NRC Grant of Enforcement Discretion Extension in Exchange for NFPA-805 Transition at Palisades

In 2008, the NRC granted extended enforcement discretion to Palisades for prior fire protection non-compliances under 10 CFR 50, Appendix R, on the condition that Palisades fully transition to NFPA 805. The NRC concluded that:

> *“the licensee has demonstrated a commitment to submit their [license amendment request] consistent with the Commission-approved policy and sufficient progress towards transitioning to NFPA 805 to grant them the additional enforcement discretion allowed by the new policy.”* The NRC further stated that enforcement discretion would remain *“until NRC disposition of the site's LAR to transition to NFPA 805.”*

B. NUREG-0737 and the TMI Action Plan

NUREG-0737, Clarification of TMI Action Plan Requirements was issued by the NRC in November 1980 as a mandatory set of post-TMI regulatory improvements for all operating plants. Item II.D.1 requires:

> *"All PWR licensees and applicants shall provide a vent path from the reactor vessel head and from the pressurizer steam space to permit removal of noncondensable gases that may inhibit natural circulation. These paths shall have adequate flow capacity and* ***be capable of being remotely operated from the control room.****"*
>
> *— NUREG-0737, Item II.D.1, Section 3.3.1, p. 3.3-4*

Section 3.3.2 further explains:

> *"The presence of noncondensable gases in the primary system can inhibit natural circulation flow. Therefore, vent valves should be operable to ensure removal of such gases during cool down and shutdown."*

These requirements were implemented as deterministic licensing commitments and remain binding unless removed through an NRC-approved license amendment or exemption.

NRC Summary of Palisades TMI-2 Lessons Learned and Organizational Involvement

The NRC's 1990 **Safety Evaluation Report Related to the Full-Term Operating License for Palisades Nuclear Plant** (NUREG-1424, ADAMS Accession No. ML18057A616) documents in detail the regulatory reforms implemented at Palisades following the Three Mile Island (TMI-2) accident. These reforms resulted in significant additions to the Palisades licensing basis, many of which remain in effect today as mandatory deterministic safety requirements.

Of particular importance are the reactor coolant system venting capabilities—including the reactor head vent and pressurizer vent valves—which were required as direct lessons learned from the TMI-2 accident. These systems were identified as essential for accident mitigation and post-accident safe shutdown, particularly to support natural circulation cooling. The NRC report confirms that

> *"All of the TMI Action Plan requirements for pressurized-water reactors (PWRs) documented in NUREG-0737 have been resolved for Palisades" (NUREG-1424, p. 2-1).*

These systems remain critical to the plant's licensing basis and are subject to continued NRC oversight.

The NRC's 1990 **Safety Evaluation Report Related to the Full-Term Operating License for Palisades Nuclear Plant** (NUREG-1424, ADAMS Accession No. ML18057A616), goes on to say the TMI Action Plan requirements were part of broad systemic regulatory reforms developed by numerous independent investigations and NRC review groups, including:

- *Congress*
- *U.S. Government Accountability Office*
- *President's Commission on the Accident at Three Mile Island*
- *NRC Special Inquiry Group*
- *NRC Advisory Committee on Reactor Safeguards*
- *NRC Lessons Learned Task Force*
- *NRC Bulletins and Orders Task Force*
- *NRC Special Review Group (Office of Inspection and Enforcement)*
- *NRC Siting Task Force*

- *NRC Emergency Preparedness Task Force*
- *NRC Office of Standards Development*
- *NRC Office of Nuclear Regulatory Research*

As documented in NUREG-1424, the NRC concluded that these mandatory reforms were fully implemented at Palisades and remain binding licensing basis requirements necessary to maintain public safety (NUREG-1424, pp. 2-1 to 2-2).

C. Palisades-Specific Licensing Basis

Licensing Basis Commitment for Reactor Coolant Gas Vent System (RCGVS)

As documented in NRC correspondence, Consumers Power Company (CPCo) formally committed to installing and operating the Reactor Coolant Gas Vent System (RCGVS) following the TMI accident. In its March 12, 1985 letter to the NRC, CPCo stated:

“Item II.B.1, CPCo committed to install a Reactor Coolant Gas Vent System (RCGVS) designed to remotely vent gases from the reactor vessel head and pressurizer steam space during post-accident

> *situations and to issue procedures on the use of the RCGVS… Additionally, CPCo committed to routinely cycle the RCGVS valves only during testing and to conduct the testing only in cold shutdown condition."*
>
> — CPCo Letter, B. D. Johnson to NRC, March 12, 1985

This commitment was incorporated into the Palisades FSAR license basis. In FSAR Update No. 28 (2006), Palisades explicitly documented its licensing obligation under NUREG-0737, Item II.B.1. The same commitment remains incorporated in FSAR Revision 35, the current reference FSAR for proposed new operating license. FSAR Chapter 4.8, "PRIMARY COOLANT GAS VENT SYSTEM", states:

> *"The Primary Coolant Gas Vent System (PCGVS) is designed to vent steam or noncondensible gases from the reactor vessel head and pressurizer areas of the Primary Coolant System. This is done to assure core cooling during natural circulation is not inhibited. This system was installed pursuant to NUREG-0737, Topic II.B.1"*
>
> *— FSAR Chapter 4, Revision 31, p. 4.8-1*

Thus, installation, operability, and testing of the RCGVS remain mandatory licensing basis elements for Palisades to ensure safe shutdown capability when using natural circulation.

D. Continued Relevance Under Proposed FSAR Revision 35

Holtec's Technical Specification License Amendment Request (LAR) (ML23348A148) confirms that FSAR Revision 35 forms the foundation for its proposed Power Operations Licensing Basis (POLB). Holtec states:

> *"The Updated Final Safety Analysis Report (UFSAR), now titled the Defueled Safety Analysis Report (DSAR), will be updated… to reflect the docketed version that was in effect prior to the 10 CFR 50.82(a)(1) certifications, PNP UFSAR Revision 35 (Reference 6)… Changes made to the UFSAR after Revision 35 will be evaluated for retention, to the extent appropriate for an operating plant. The DSAR change back to the PNP POLB UFSAR will be accomplished under the 10 CFR 50.59 process and be implemented coincident with the associated license amendments."*
>
> *— Holtec LAR, ML23348A148, Section 3.2.3.1, pp. 6–7*

This confirms that Holtec intends to reinstate FSAR content—including the NUREG-0737-based deterministic vent valve requirements—as part of its licensing basis. Therefore, these requirements remain applicable to Palisades' proposed restart and must be evaluated for compliance, especially if risk-informed justifications are proposed, alone, in place of deterministic requirements.

X: TMI Action Plan, NUREG-0737, Deterministic Method Requirements vs. NFPA-805 and PRA Method

The requirements of the TMI Action Plan—including those codified in NUREG-0578 and NUREG-0737—are, and have always been, deterministic method licensing requirements. These requirements were imposed as mandatory post-accident safety upgrades following the Three Mile Island (TMI) accident and remain fully binding unless explicitly removed through NRC-approved, deterministic-based license amendments or exemptions.

The reactor and pressurizer head vent valves required by NUREG-0737, Item II.D.1 were specifically implemented to ensure natural circulation

cooling following accident conditions, including scenarios involving loss of offsite power (LOOP). These deterministic method requirements were incorporated into the Palisades licensing basis and remain essential for post-accident core cooling and safe shutdown.

By contrast, NFPA 805 provides a risk-informed, performance-based method framework that applies only to fire protection, and alternate reactor shutdown, under 10 CFR 50.48(c). While NFPA 805 allows the use of Probabilistic Risk Assessment (PRA) for evaluating fire protection modifications, it does not permit altering or bypassing existing deterministic method licensing basis commitments—whether fire-related or unrelated—without formal NRC approval. Holtec did not ask for this approval of method change in their LAR.

This boundary is explicitly stated in **NEI 04-02, Rev. 3**, “Guidance for Implementing a Risk-Informed, Performance-Based Fire Protection Program Under 10 CFR 50.48(c)” (ADAMS Accession No. ML19351D277), which is formally endorsed by NRC Regulatory Guide 1.205. NEI 04-02 states:

> *“RIS 2000-17 adopting NEI 99-04 – This document discusses how licensees can modify regulatory commitments. This process would*

> *not change if a plant chooses to adopt 10 CFR 50.48(c); however, the change process (See Section 5.3 of this document) provides more specific detail of when a plant change process would change for the fire protection program."*
>
> *(Section 1.3, p. 5)*

Section 5.3 of NEI 04-02 further explains that even within the fire protection program, certain changes identified during the internal evaluation process—including those affecting risk criteria, defense-in-depth, or safety margins—require NRC approval through a License Amendment Request (LAR) under 10 CFR 50.90:

> *"A number of steps in the review could identify the need for a license amendment…"*
>
> *(Section 5.3.5.3, p. 42)*

Thus, NFPA 805 and its associated risk-informed methods cannot be used alone, to bypass or defer compliance with deterministic accident-related requirements—such as those under the TMI Action Plan and NUREG-0737—unless explicitly approved by the NRC through a deterministic-based licensing action.

Holtec has proposed a PRA only based justification, but Holtec has not also submitted any such deterministic-based License Amendment Request (LAR) or 10 CFR 50.12 exemption regarding the reactor and pressurizer head vent valves at Palisades. Therefore, any attempt to use NFPA 805 or PRA-based evaluations, alone, to defer, justify delay, or eliminate these NUREG-0737 requirements is improper and without regulatory basis.

If Holtec wishes to pursue such a change, the only lawful approach is to submit a deterministic-based LAR or exemption request, in addition to its PRA basis request, both under established NRC regulations. A PRA-based NFPA 805 LAR alone, cannot substitute for this process.

Technical Specifications License Basis Link These Requirements Together:

Importantly, Palisades' proposed **Technical Specifications**—specifically the definition of **"Operability"**—tie TMI action plan requirements and alternate safe shutdown, NFPA-805 requirements together by mandating that systems must be capable of performing their **specified safety functions under *all required conditions*, including accidents and fires.**

Per Holtec's own License Amendment Request (ML23348A148, Technical Specification Section 1.1):

> *"A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s)."*

This definition requires that the **reactor head and pressurizer vent valves** be operable under **both accident and fire conditions to safely shutdown the plant, which includes maintaining control from the control room during the fire**. The vent valves' deterministic method post-accident safety function (ensuring natural circulation after loss of offsite power) must remain operable concurrently with their fire protection function under NFPA 805, since fires themselves often trigger LOOP, natural circulation conditions and the need to concurrently shutdown the reactor plant.

Conclusion: Licensing Basis Continuity of the Reactor Coolant Gas Vent System (RCGVS)

To remove any ambiguity regarding whether the Reactor Coolant Gas Vent System (RCGVS)—specifically the reactor vessel head and pressurizer vent valves—remains part of the Palisades licensing basis, this section summarizes key evidence demonstrating that the commitment has been explicitly maintained through to the current FSAR and reaffirmed in Holtec's most recent licensing actions.

The RCGVS was originally required under NUREG-0737, Item II.D.1, and NUREG-0578, Section 2.1.2, as part of the NRC's TMI Action Plan. It remains part of Palisades' licensing basis through the following:

Evidence of Licensing Basis Continuity

1. **FSAR Revision 35 (ML23031A292):**

   Section 5.4.13 of the Final Safety Analysis Report continues to describe the Reactor Coolant Gas Vent System and its design functions. This includes the venting of non-condensable gases from both the pressurizer steam space and reactor vessel head, in accordance with NUREG-0737.

   Reference: ML23031A292, FSAR Rev. 35, submitted February 2023.

2. **NFPA-805 License Amendment Request (ML23348A148):**

   Holtec's LAR references vent valves MV-PC514 and MV-PC515 as providing an acceptable path for depressurization of the PCS under LTOP conditions. While this reference appears under TS 3.4.12 (LTOP), it reflects the continued reliance on these valves for pressure control and system integrity.

   Reference: ML23348A148, TS Bases B 3.4.12-4 to B 3.4.12-11.

3. **NFPA-805 Transition and Safe Shutdown Path Documentation (ML23147A154):**

   The Palisades Fire Protection Engineering Report submitted to support the NFPA-805 license condition includes Table S2-15, which identifies natural circulation and related operator actions involving cooldown and depressurization. These functions presuppose the availability of venting capability to remove non-condensables—consistent with the RCGVS function.

   Reference: ML23147A154, Fire Protection Engineering Report, May 2023.

4. **NRC Approval of Holtec's Licensing Basis and CLB Reinstatement Post-50.82 Certification, July 24, 2025**

Prelude:

The NRC's July 24, 2025 approval of Holtec's Amendment Request to resume power operations at the Palisades Nuclear Plant (ML25157A127) establishes the NRC Staff-approved versions of the plant's licensing basis that are referenced throughout this petition. This includes (1) the reinstatement of FSAR Revision 35 as the controlling safety and licensing analysis document, (2) the reactivation of full Operating Technical Specifications, including the definition of "Operable" and the operability requirements for Primary Coolant System (PCS) loops, and (3) the continuation of License Condition 2.C.(3) requiring full implementation of the NFPA-805 fire protection transition. These approvals provide the formal regulatory framework that now governs Palisades' return to operational status and define the scope of enforceable NRC regulatory requirements, need for our contention to be admissible.

In its July 24, 2025 approval of Amendment No. 276 to Renewed Facility Operating License DPR-20 (ML25157A127), the NRC granted Holtec's license amendment request to restore power operations at the Palisades Nuclear Plant. The associated *Safety Evaluation by the Office of Nuclear Reactor Regulation* reinstates the plant's full

Operating Technical Specifications, confirms the continued use of FSAR Revision 35, and retains the longstanding license condition requiring completion of the NFPA-805 transition.

As documented in Section 3.1 of the NRC Safety Evaluation:

> *"PNP UFSAR Revision 35 contains the analyses and evaluations from which the PNP power operation TS requested in the current LAR were derived. Thus, the NRC staff finds that reinstating the PNP UFSAR to the version that was in effect just prior to commencing the recent decommissioning process would ensure that the PNP power operations TS requested in this LAR are derived from the analyses and evaluation included in a safety analysis report that supports PNP power operations in accordance with 10 CFR 50.34(b)."*

This confirms that FSAR Revision 35 is the governing licensing basis for all current operations and that its content—including accident analyses, safety classifications, and design basis evaluations—remains binding unless formally amended through NRC processes.

In addition, the reinstated Technical Specifications reimpose key operability requirements. For example, Technical Specification 3.4.4 (PCS Loops – Modes 1 and 2) states:

"Two PCS loops shall be OPERABLE and in operation."

This requirement, combined with the NRC-approved definition of "Operable," reestablishes enforceable conditions necessary to maintain core cooling and safe shutdown in operational modes.

Lastly, the NRC preserved License Condition 2.C.(3), which requires Holtec Palisades to complete the fire protection modifications consistent with its transition to NFPA-805. The condition incorporates all previously submitted commitments and NRC approvals and continues to mandate full compliance with 10 CFR 50.48(c). **The current LAR, and the subject of this petition, is now requesting to change this license condition.**

Reference:

NRC Safety Evaluation related to Amendment No. 276, License No. DPR-20, Palisades Nuclear Plant – ML25157A127, July 24, 2025.

Conclusion

This licensing record demonstrates that Holtec has not removed or revised the licensing basis commitment to maintain a Reactor Coolant Gas Vent System capable of supporting natural circulation through venting of non-condensable gases. FSAR Rev. 35 retains the system description. NRC regulations (10 CFR 50.59 and 50.90) require that any change to a system credited in the FSAR must be submitted through formal licensing action. No such amendment has been requested or approved to remove the RCGVS requirement.

Accordingly, any attempt by Holtec to bypass or defer operability of these valves using NFPA-805 risk-informed method justification alone is procedurally invalid. The commitment remains active in the licensing basis, and all associated safety functions—whether deterministic or risk-informed—must be supported through valid exemption or amendment processes.

VI. Holtec Is Already Acting as if the NFPA-805 License Condition Has Been Changed—Board Must Take Notice

This section brings to the Board's attention a related 10 CFR § 2.206 petition I submitted on July 28, 2025, concerning Holtec's announced plan to begin nuclear fuel loading on or after August 25, 2025—*before* NRC approval of the pending license amendment that is the subject of this 2.309 hearing request. Although the 2.206 petition is directed to the Executive Director for Operations and outside this Board's jurisdiction, it raises facts that directly affect this Board's proceeding and bear on the integrity and urgency of its review.

We raise the 2.206 petition now because Holtec is acting as if the amendment requested in this case has already been granted. Holtec has publicly declared its intent to proceed with fuel loading despite not having completed the NFPA-805 Table S-2 modifications required by License Condition 2.C.(3)(c)2—**the very condition Holtec seeks to amend through the pending LAR (ML25175A275)**. This means:

- Holtec is **actively attempting to bypass the Board's jurisdiction** by moving forward with activities dependent on a license change that remains under ASLB review.
- The NRC Staff, in a July 24, 2025 memo to the Commission (ML25205A193), acknowledged Holtec's July 1, 2025 readiness

notification (ML25182A066) as the basis for allowing fuel receipt and loading on August 25, 2025, effectively **prejudging the license condition change prior to Board resolution**.

- Holtec is inventing a "No Mode" operating status to justify fuel loading while avoiding the technical entry into Mode 6—the only NRC-defined mode in which fuel loading is permitted. This term has **no recognition in NRC regulations or Standard Technical Specifications**, and directly contradicts the mode-based licensing framework applicable to all operating reactors.

If allowed to proceed, Holtec's plan would:

- Nullify this Board's authority to review the proposed amendment under 10 CFR § 2.309 by rendering the issue moot through premature implementation;
- Set a dangerous procedural precedent allowing licensees to treat pending license condition changes as effective before approval;
- Undermine the enforceability of NRC license conditions and reduce public confidence in the NRC adjudicatory process.

Accordingly, **Petitioner respectfully requests that this Board take notice of the July 28, 2025 2.206 petition and its supporting references** —including Holtec's readiness letter (ML25182A066), the NRC Staff's July 24, 2025 memo to the Commission (ML25205A193), and the text of License Condition 2.C.(3)(c)2 in Renewed License DPR-20 (ML25157A127). While the Board cannot rule on the 2.206 petition itself, these facts demonstrate that the license condition at issue in this proceeding is not being honored, and that Holtec's interpretation of its license is already in active dispute.

This information provides further evidentiary basis for the Board to:

- Evaluate whether Holtec's interpretation of its obligations under the current license is credible;
- Understand the procedural urgency of addressing this contention before irreparable licensing consequences occur; and
- Preserve the Board's authority to ensure that NRC licensing actions are not executed prior to completion of the required adjudicatory process.

VII. CONTENTION ONE:

Holtec's License Amendment Request is Deficient Because It Fails to Include the Required Deterministic Method-Based Evaluation or Exemption Request under 10 CFR 50.90 or 50.12 to Justify Deferring the Operability of the Reactor Head Vent and Pressurizer Vent Valves—Systems That Remain Required Under the Plant's Current Licensing Basis as Deterministic Safety Functions Mandated by NUREG-0737 and Appendix R.

Holtec's June 24, 2025 License Amendment Request (LAR) seeks to revise the NFPA-805 implementation schedule and defer completion of the Reactor Coolant Gas Vent System (RCGVS) modification—identified in Table S2-15—based solely on the results of a Probabilistic Risk Method Assessment (PRA), which purports that the modification has negligible impact on core damage frequency (ΔCDF):

> *“Table S2-15… demonstrated a negligible risk reduction… with a Delta CDF <1E-11/yr.”*
>
> — Holtec LAR, Enclosure, p. 3 of 8

However, the reactor head and pressurizer vent valves addressed in Table S2-15 are not merely risk-informed fire protection features. They are also required deterministic method safety systems originally mandated by the NRC in NUREG-0737, Item II.B.1 following the Three Mile Island accident, and reaffirmed under the post-fire protection requirements of 10 CFR 50, Appendix R. These vent valves are essential for ensuring natural circulation core cooling following a loss of offsite power—a shared assumption under both the TMI Action Plan and NFPA-805 transition framework—and remain part of Palisades’ current licensing basis.

While Holtec has submitted a license amendment request under 10 CFR 50.90, it has failed to satisfy either of the following regulatory prerequisites:

- Provide a **deterministic method safety evaluation** demonstrating that deferring the RCGVS modification continues to satisfy the plant’s dual deterministic licensing commitments under NUREG-0737 and Appendix R; or

- Submit a **specific exemption request under 10 CFR 50.12** to justify the departure from those licensing basis requirements.

This omission is not procedural formality—it is a substantive failure to comply with NRC regulations. As explained in **NEI 96-07, Rev. 1**—the NRC-endorsed standard for evaluating changes to the licensing basis and methods—shifting from a deterministic to a probabilistic method of evaluation constitutes a **departure from a method of evaluation** described in the FSAR:

> *"Switching from a deterministic to a probabilistic evaluation model is considered a change in method."*
>
> — NEI 96-07, Rev. 1, Section 4.3.8.1

Under **10 CFR 50.59(c)(2)(viii)**, such a change requires a formal license amendment:

> *"A licensee shall obtain a license amendment pursuant to § 50.90 prior to implementing a proposed change... if the change... would result in a departure from a method of evaluation described in the FSAR."*

Holtec's reliance on PRA method alone—as indicated by its statement that the Table S2-15 vent valve modification is "minimal risk" and does not warrant immediate completion—is insufficient. It does not address the underlying deterministic method purpose of these valves, which is to ensure safe shutdown under accident and fire scenarios that assume no forced coolant flow.

Furthermore, a close reading of the full **Amendment 254 license condition**—which governs Palisades' transition to NFPA-805—makes clear that PRA method analysis alone does not relieve the licensee of obligations tied to deterministic method safety functions. The license condition explicitly states that proposed changes must:

> *"Be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins."*

It further clarifies that NRC approval is still required for any change that:

- Affects a technical specification or license condition;
- Involves a change in method of evaluation; or
- Fails to maintain defense-in-depth or adequate safety margins.

Holtec has not met any of these conditions. It has not demonstrated functional equivalency, submitted an engineering evaluation, or requested an exemption. Nor has it shown that the proposed delay preserves the deterministic method post-accident safety function required by NUREG-0737 or the shutdown capability required under Appendix R.

Conclusion:

Holtec's LAR is procedurally and substantively deficient because it seeks to defer a safety-critical deterministic method requirement—central to both accident mitigation and fire protection licensing bases—based solely on a low ΔCDF value from PRA method screening. This approach violates NRC rules under 10 CFR 50.59, fails to satisfy Amendment 254's conditions, and bypasses the required formal mechanisms (license amendment or exemption) necessary to change a method of evaluation or defer a licensing basis requirement. Accordingly, the LAR must be rejected unless and until Holtec submits a compliant deterministic evaluation or obtains a formal exemption under NRC regulations.

XIII. RELIEF REQUESTED

Pursuant to 10 CFR § 2.309(i)(2), which authorizes the Atomic Safety and Licensing Board (ASLB) to grant appropriate relief within the scope of the proceeding, Petitioner respectfully requests that the ASLB:

1. **Grant this Petition for Hearing and Petition to Intervene** on Holtec's June 24, 2025, License Amendment Request (LAR) (ADAMS Accession No. ML25175A275);

2. **Reject the LAR or suspend its approval** unless and until Holtec:

    - Submits a License Amendment Request under **10 CFR 50.90** to formally revise its prior licensing commitment to complete the reactor and pressurizer head vent valve modifications required under **NUREG-0737, Item II.B.1**;

    - Alternatively, requests and obtains a specific exemption under **10 CFR 50.12** demonstrating compliance with exemption standards

3. **Declare that Holtec may not proceed to fuel load, initiate startup testing, or resume reactor operations** until it has either:

- Completed the Reactor/Pressurizer Head Vent Valve modifications as required in its current licensing basis (i.e., no later than the period of operation following Cycle 28), **or**
- Lawfully altered that commitment through an approved license amendment or exemption.

XIV. Authority of the ASLB Under 10 CFR § 2.309

Under **10 CFR § 2.309(i)(2)**, the ASLB has full authority to:

- **Admit contentions that raise genuine disputes** with a material issue of law or fact;
- **Grant appropriate relief** within the scope of the licensing proceeding;
- **Condition approval or recommend rejection of a license amendment**, if the applicant has failed to meet regulatory standards or circumvented procedural requirements.

Here, Holtec is attempting to substitute a probabilistic risk assessment (PRA) argument in place of a **deterministic licensing requirement** without submitting a formal amendment or exemption. That action is directly challengeable under § 2.309(f)(1)(v) and (vi) as a material failure to comply with NRC regulatory process, which the ASLB has jurisdiction to adjudicate.

Furthermore, consistent with precedent (e.g., *Dominion Nuclear Connecticut, Inc. (Millstone)*, CLI-01-24; and *Pacific Gas and Electric Co. (Diablo Canyon)*, CLI-11-11), **the ASLB has authority to require licensees to obtain NRC approval for changes in method of evaluation** or safety commitment **before implementing them**. As such, the Board has discretion to suspend or condition the LAR unless Holtec complies with 50.90 or 50.12.

XIV. LEGAL PRECEDENT SUPPORTING CONTENTIONS

The following precedents and regulatory guidance support this contention:

1. **10 CFR § 54.3(a) – Definitions**

   The term *Current Licensing Basis (CLB)* is referenced multiple times throughout this petition. Its precise meaning and extensive scope are defined explicitly in the regulatory definition at 10 CFR § 54.3(a), which governs not only the licensing basis itself but also how FSAR-documented commitments—such as NUREG-0737 Item II.B.1—are incorporated and enforced.

   10 CFR § 54.3(a),

   "*The CLB includes NRC regulations in 10 CFR Parts 2, 19, 20, 21, 26, 30, 40, 50, 51, 52, 54, 55, 70, 72, 73, and 100 and their appendices; NRC orders; license conditions; exemptions; and technical specifications. It also includes plant-specific design-basis information as documented in the most recent Final Safety Analysis Report (FSAR) per 10 CFR § 50.71, and licensee commitments remaining in effect that were made in docketed licensing correspondence—such as responses to NRC bulletins, generic letters, enforcement actions, and NRC safety evaluations."*

   Relevance: The definition of CLB is central to the petition, and its exact meaning—established by regulation—supports the argument that any FSAR-based commitment, including NUREG-0737 Item II.B.1,

remains binding unless changed through NRC-approved processes. Holtec's attempt to defer such a commitment by referencing a new PRA-based analysis is a direct alteration of the CLB and must be reviewed under 10 CFR §§ 50.59, 50.90, or 50.12.

2. Dominion Nuclear Connecticut, Inc. (Millstone), CLI-01-24, 54 NRC 349, 366 (2001)

"A licensee who wishes to change a methodology approved in its FSAR must submit a license amendment request pursuant to 10 C.F.R. § 50.90."

Relevance: Holtec's substitution of a PRA-based ΔCDF method in place of the deterministic method of evaluation approved in the FSAR constitutes a change in methodology requiring a license amendment under § 50.90.

3. Pacific Gas and Electric Co. (Diablo Canyon), CLI-11-11, 74 NRC 427, 442 (2011)

"A contention that asserts a licensee may not change a methodology approved in the FSAR without prior NRC approval raises a genuine dispute appropriate for litigation."

Relevance: Holtec's proposed change from a deterministic to a PRA-only basis for Table S2-15 represents the type of change found by the

Commission to trigger NRC approval and supports the admissibility of this contention.

4. Regulatory Guide 1.205, Rev. 2 (ML21048A448), p. 8

"The plant change process does not alter the requirement that changes to the licensing basis must be made in accordance with the requirements of 10 CFR 50.59, 50.90, or 50.54, as applicable."

Relevance: Holtec's participation in the NFPA 805 transition does not exempt it from the obligation to seek NRC approval under § 50.90 or § 50.12 when deferring a licensing basis commitment—such as the NUREG-0737-required vent valve modifications.

5. NEI 04-02, Rev. 3 (ML19351D277), Section 5.3.5.3, p. 42

"A number of steps in the review could identify the need for a license amendment... For example, items may be identified that result in a change to the plant licensing basis or involve a change to the plant's approved methodology."

Relevance: Holtec's plan to defer the S2-15 modification based on a change in method of evaluation (from deterministic to PRA-based) fits this scenario and therefore requires a license amendment.

6. NextEra Energy Seabrook, LBP-11-2, 73 NRC 28, 65 (2011)

“We find that the Petitioners have raised a genuine dispute with the Application... as to whether the [PRA] methodology was properly implemented, and whether the proposed change constitutes a change to the licensing basis that requires a license amendment.”

Relevance: This case confirms that challenges to PRA-based licensing basis changes—absent a corresponding license amendment—are admissible and appropriate for adjudication before the Licensing Board.

7. NEI 96-07, Rev. 1 (ML003771157), Section 4.3.8.1

“Switching from a deterministic to a probabilistic evaluation model is considered a change in method.”

Relevance: Holtec’s use of PRA to replace a deterministic FSAR commitment constitutes a method change requiring prior NRC review under § 50.59(c)(2)(viii), and likely a license amendment under § 50.90.

Summary

These precedents and guidance documents consistently affirm that:

- Replacing a deterministic method evaluation method with a probabilistic method,
- Deferring FSAR-defined commitments, or
- Altering the licensing basis in any material way

requires prior NRC approval under **10 CFR §§ 50.59, 50.90, or 50.12**. Holtec's proposal to defer NFPA 805 Modification S2-15 using a PRA-only justification falls squarely within the scope of these requirements and supports the admissibility and substance of this contention.

Holtec's License Amendment Request does **none** of these things. Instead, it attempts to justify deferral of a safety-critical, post-TMI licensing requirement (NUREG-0737, Item II.B.1) using only a PRA method-derived ΔCDF metric. This approach is inconsistent with governing NRC case law, guidance, and regulatory requirements.

As such, Holtec's LAR is procedurally invalid and legally deficient. This petition raises an admissible and well-supported contention that warrants full adjudicatory review.

IV. Palisades Fire Protection Noncompliance History and Pattern of Delays

The following summary provides a historical overview of the Palisades Nuclear Plant's longstanding pattern of fire protection noncompliance, enforcement actions, and reliance on deferrals and exemptions to avoid timely implementation of NRC-mandated safety requirements. This historical pattern is relevant and admissible as background information under NRC precedent that allows the Atomic Safety and Licensing Board (ASLB) to consider the full context of a licensee’s performance and regulatory posture, particularly where it affects credibility, enforcement equity, and the justification for further extensions.

1. 1978 NRC Order Requiring Compliance (ML020800287)

The NRC issued an enforcement order in 1978 requiring Palisades to implement specified fire protection improvements to comply with Appendix A of Branch Technical Position APCSB 9.5-1. This early action shows that fire protection deficiencies were identified at Palisades over four decades ago and required formal intervention .

2. 1996 Civil Penalty for Fire Protection Violations (ML003705300)

In 1996, Palisades was fined $50,000 for violations of fire protection regulations, including failure to maintain fire barriers and implement required surveillance procedures. The NRC found that these were Severity Level III violations and that corrective actions were not timely. This marks a significant civil penalty for sustained noncompliance .

3. 2008 Enforcement Description (ML083260577)

This document describes the NRC's fire protection enforcement basis from 2006–2008, during which Palisades was again cited for repeated noncompliance with Appendix R requirements. The licensee was granted enforcement discretion, deferring regulatory action while pursuing NFPA 805 transition planning. This set a precedent for using NFPA 805 as a shield against prior enforcement .

4. 2008 Progress Report on NFPA 805 Transition (ML091550665)

Palisades reported progress on implementing NFPA 805 but noted delays in evaluating fire PRA and plant modification schedules. The document reflects a repeated pattern: use of the NFPA 805 framework to delay enforcement of earlier Appendix R noncompliance issues, rather than to strengthen safety promptly .

5. 2016 LAR to Defer NFPA 805 Modifications (ML16344A088)

Holtec (then Entergy) submitted a License Amendment Request proposing to delay NFPA 805-required modifications beyond the initial schedule, citing technical justifications not based on PRA, but on planned shutdown for decommissioning. These delays affected the same vent valve systems at issue in the current LAR .

6. 2016 NRC Public Meeting Summary (ML16344A086)

The meeting summary highlights NRC staff discussions with Entergy on delaying fire protection modifications under NFPA 805 due to “low safety significance” and shutdown planning. No PRA risk thresholds were formally applied at that time. This indicates the NRC’s deference was conditional—not precedent-setting for indefinite delays .

7. 2018 Commitment Change Notification (ML18039A244)

Entergy notified the NRC of its intent to reclassify the implementation of specific NFPA 805 Table S2 items as post-shutdown commitments—specifically referencing the head and pressurizer vent valves. This move sought to avoid compliance by linking it to a planned end of operations .

8. 2018 NRC RAI on Commitment Change (ML18059A820)

The NRC issued a Request for Additional Information asking Entergy to justify the fire protection commitment changes, questioning the safety impact of withdrawing from previously approved NFPA 805 commitments. This shows that NRC staff did not accept the deferral without further scrutiny .

9. 2019 NRC RAI on Ongoing Deferrals (ML19122A485)

This follow-up RAI continued to probe the implications of shifting safety commitments beyond reactor operation. The agency again emphasized that critical systems—such as those affecting natural circulation and containment isolation—could not be eliminated without proper license amendments .

Legal Basis for ASLB Consideration of Palisades' Background Performance

In *Vermont Yankee Nuclear Power Corp.*, ALAB-138, 6 AEC 520 (1973), the ASLB ruled that historical regulatory compliance and enforcement matters may be considered when evaluating license amendments, particularly when credibility, completeness, or accuracy of representations are in question. Similarly, in *Commonwealth Edison Co. (Zion Station)*,

ALAB-616, 12 NRC 419 (1980), the Licensing Board held that licensee patterns of conduct and delayed corrective action were admissible in determining whether a proposed change satisfies public safety standards.

This history documents a consistent regulatory pattern at Palisades: chronic noncompliance with fire protection rules, reliance on deferral, enforcement discretion, and justification of delays based on administrative or strategic transitions—not on robust technical or safety-based evaluations. The current LAR continues that trend by substituting a negligible PRA metric for a long-standing deterministic licensing basis requirement (NUREG-0737, Item II.B.1). This pattern of behavior should be taken into account by the ASLB in its evaluation of the reasonableness and legality of Holtec's proposed extension.

Let me know if you'd like this section formatted for insertion directly into your petition, or to include visual tables or timeline charts summarizing this compliance history.

Continued Delays Conclusion

Holtec's request to delay the fire protection modifications for the reactor and pressurizer head vent valves is based entirely on a PRA-derived core damage frequency (CDF) estimate. This probabilistic argument does not

negate Palisades' binding licensing basis obligations under NUREG-0737, nor does it justify a change in method of evaluation under applicable NRC regulations or guidance. Moreover, this request is not an isolated occurrence. Palisades has a documented, decades-long history of delaying or deferring fire protection compliance—beginning with Appendix R deficiencies in the 1970s and continuing through repeated postponements of NFPA 805 commitments well into the 2010s. These delays were often based on administrative justifications such as planned shutdown or licensing transitions, not technical or safety-based arguments. Holtec's current LAR continues that pattern by attempting to substitute a reduced-risk PRA finding for a deterministic licensing requirement without submitting the necessary license amendment or exemption request. For these reasons, the LAR is both procedurally and legally deficient and should be rejected.

IVI. Roadmap Demonstrating Compliance with 10 CFR § 2.309 Requirements

A. Compliance with Petition Admissibility Standards (10 CFR § 2.309(f)(1))

This petition fully satisfies the admissibility standards under 10 CFR § 2.309(f)(1), which require that each contention:

1. **Provide a specific statement of the issue of law or fact to be raised;**
2. **Provide a brief explanation of the basis for the contention;**
3. **Demonstrate that the issue is within the scope of the proceeding;**
4. **Demonstrate that the issue is material to the findings the NRC must make;**
5. **Provide supporting facts or expert opinions; and**
6. **Show a genuine dispute with the applicant on a material issue of law or fact.**

This petition meets all six criteria, as detailed below:

1. Specific Statement of Legal or Factual Issue

The petition raises a narrow and well-defined contention: that Holtec's License Amendment Request (LAR), which proposes to defer the completion of Table S2-15 (Reactor/Pressurizer Head Vent Valve Modification), is **procedurally deficient** and **unjustified** because Holtec failed to include a required **deterministic safety evaluation**, as would be required for either:

- a change to the licensing basis under 10 CFR § 50.90, or
- an exemption request under 10 CFR § 50.12.

This is **not a general challenge to the use of PRA or NFPA-805**, but a targeted objection to Holtec's failure to follow proper regulatory procedure for deferring a previously approved safety commitment embedded in a license condition.

2. Brief Explanation of Basis

The petition explains that Holtec's treatment of Table S2-15—as no longer necessary based on low PRA risk (ΔCDF < 1E-11/yr)—represents a **functional change in safety methodology**, departing from the previously accepted **deterministic basis** without submitting:

- a new deterministic evaluation under applicable NRC review standards, or
- a license amendment or exemption request as required by NEI 96-07, Rev. 1 and NRC precedent.

The petition highlights that Table S2-15 was previously reviewed and accepted by the NRC in its February 27, 2015 Safety Evaluation (ML15007A191) as essential to Palisades' fire protection and post-accident cooling capability.

3. Demonstration that the Issue Is Within the Scope of the Proceeding

The issue is squarely within the scope of this proceeding. Holtec's June 24, 2025 LAR (ML25175A275) explicitly requests a change to the **license condition governing the implementation schedule for Table S2 modifications**, including S2-15.

This petition does **not challenge prior licensing bases, regulatory frameworks, or NRC rules**, and it is **not an enforcement request under 10 CFR 2.206**. It is a direct response to Holtec's pending license amendment request under 10 CFR § 50.90 and is therefore properly within the jurisdiction of this adjudicatory proceeding.

4. Demonstration that the Issue Is Material to NRC's Decision

The petition raises a contention that, if granted, would **require the NRC to withhold or condition approval of Holtec's LAR** until the licensee submits a valid and complete basis for deferring S2-15. Because Holtec's LAR omits a deterministic evaluation and does not seek an exemption, the petition argues that the LAR does not meet NRC regulatory standards.

If the NRC were to approve the LAR as submitted, it would represent a material reduction in licensed safety commitments **without due process or technical justification**, potentially violating the Administrative Procedure Act and NRC precedent.

5. Provision of Sufficient Supporting Information

The petition provides adequate support for the contention, including:

- Holtec's own statements in the June 24, 2025 LAR (Enclosure, pp. 2–5), which describe S2-15 as having negligible PRA impact and propose deferring its implementation;
- The current licensing basis, including Table S2-15, as part of the NRC-approved NFPA-805 transition license conditions;

- NRC guidance documents (e.g., NEI 96-07, Reg Guide 1.174, NUREG-0737 Item II.B.1);
- NRC Safety Evaluation documents that previously reviewed and accepted these modifications as part of defense-in-depth.

No expert opinion is required to assert that Holtec must comply with the procedural requirements of 10 CFR § 50.90 or § 50.12 before deferring a license condition.

6. Demonstration of a Genuine Dispute on a Material Issue of Law or Fact

This petition directly disputes Holtec's implied position that it may defer S2-15 implementation **without providing a deterministic safety justification**, and without seeking formal NRC approval through amendment or exemption. The petition identifies specific text from Holtec's LAR (e.g., the use of the phrase "minimal risk impact" and the intent "to further assess the need to complete" S2-15) and explains how this position is inconsistent with NRC regulations and prior licensing conditions.

This constitutes a **genuine material dispute** with both the legal process Holtec has followed and the technical basis it has offered in the LAR.

Conclusion on Admissibility Compliance

Accordingly, this petition:

- Clearly identifies a **specific and reviewable issue** of law and fact;
- Provides a precise and **regulation-based objection** to Holtec's LAR;
- **Falls squarely within the scope** of the licensing amendment proceeding;
- Raises a matter that is **material to the NRC's decision** whether to approve or deny the LAR;
- Provides **sufficient factual support and documentation**; and
- Demonstrates a **genuine dispute** over both the process and the omission of a deterministic safety analysis.

Therefore, this petition fully satisfies the admissibility requirements of 10 CFR § 2.309(f)(1) and should be accepted for hearing.

IVII. Board's Authority to Admit and Adjudicate the Petition (10 CFR § 2.309(i))

The Atomic Safety and Licensing Board (ASLB) has full jurisdiction and authority to admit and adjudicate this petition under 10 CFR § 2.309(i), as follows:

1. **Jurisdiction Over License Amendment Requests**

   The ASLB has clear jurisdiction over this proceeding under 10 CFR § 2.309, as it involves a license amendment request affecting the plant's licensing basis and operational safety requirements.

2. **Authority to Admit Contentions and Grant Relief**

   Under 10 CFR § 2.309(i)(2), the Board has authority to:

   - Admit contentions that raise genuine disputes of material fact or law;
   - Impose conditions on license amendments or recommend denial;
   - Ensure compliance with NRC procedural and substantive requirements.

3. **Applicable Precedents Confirm Board Authority**

NRC and federal case law confirms the Board's authority to enforce compliance with licensing procedures and prevent circumvention of NRC regulations, including:

- *Dominion Nuclear Connecticut, Inc. (Millstone),* CLI-01-24;
- *Pacific Gas & Electric Co. (Diablo Canyon),* CLI-11-11;
- *Seabrook Station (NextEra Energy),* LBP-11-2;
- *Union of Concerned Scientists v. NRC,* 735 F.2d 1437 (D.C. Cir. 1984).

4. **Petition Squarely Within ASLB Scope**

The petition challenges Holtec's attempt to bypass regulatory requirements without submitting a proper license amendment or exemption. The Board's authority under 10 CFR § 2.309 includes the ability to:

- Order licensees to obtain appropriate NRC approvals;
- Reject or condition LARs that fail to comply with NRC licensing processes;

- Prevent licensees from substituting PRA-based justifications for deterministic safety requirements without formal regulatory approval.

ASLB Authority Conclusion:

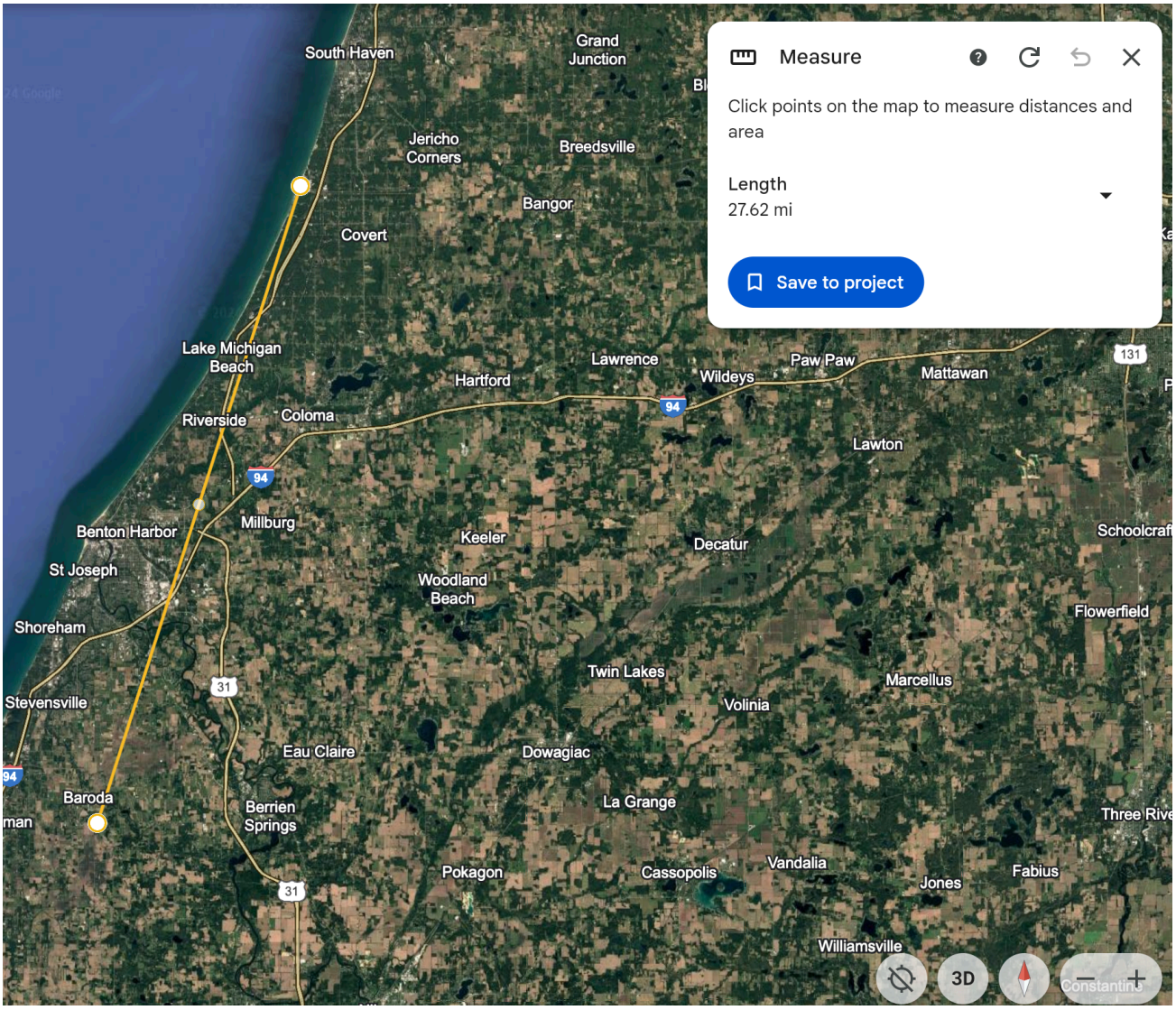
The petition presents an issue that is within the clear jurisdiction and authority of the ASLB under NRC regulations and case law and meets all applicable requirements for admission.

Respectfully submitted,

Alan Blind - Petitioner and Petition Writer

1000 West Shawnee Road, Baroda, Michigan

Palisades Plant Distance to Alan Blind Residence, 1000 West Shawnee Road, Baroda, Michigan: Google Earth



Declaration of Alan Blind, a.k.a Arthur Alan Blind

In Support of Petition for Hearing and Intervention Regarding Holtec's License Amendment Request to Defer NFPA 805 Modifications (RCGVS Vent Valves, Table S2-15)

I, Alan Blind, declare under penalty of perjury that the statements contained in the accompanying petition are true and correct to the best of my knowledge and belief.

I have more than 40 years of experience in the nuclear power industry, the majority of which was spent in executive-level roles involving oversight of plant safety, engineering programs, and NRC compliance at licensed nuclear power facilities. My professional roles have included:

- **1975 to 1997** – Project Engineer through Site Vice President, Cook Nuclear Plant (American Electric Power)
- **1997 to 2002** – Vice President, Nuclear Operations, Indian Point Nuclear Plant (Consolidated Edison of New York)
- **2006 to 2013** – Engineering Director, Palisades Nuclear Plant (Entergy Nuclear Operations)

- **2013** – Retired

I began my nuclear career in 1975 as a Project Engineer at the DC Cook Nuclear Plant, where I was directly involved in the industry's response to the Browns Ferry Fire. I had responsibility for analyzing fire vulnerabilities and supporting the implementation of the newly emerging 10 CFR 50, Appendix R fire protection requirements.

Beginning in 1979, I was assigned responsibility at DC Cook for reviewing the NRC's TMI Action Plan requirements—specifically NUREG-0578 and NUREG-0737—and for developing and implementing safe shutdown strategies and supporting plant modifications. This included engineering responsibility for post-accident monitoring systems, natural circulation support systems, and installation strategies for reactor coolant venting consistent with Item II.B.1 of NUREG-0737.

In addition to my engineering and leadership responsibilities, I held a Senior Reactor Operator (SRO) Certification and was a qualified Shift Technical Advisor (STA) at DC Cook, a Pressurized Water Reactor (PWR)—the same reactor design as Palisades. These roles required in-depth technical understanding of the reactor systems, event response procedures, and compliance with NRC licensing and safety requirements.

Later, as Engineering Director at Palisades from 2006 through the end of 2012, I held direct responsibility for managing the plant's transition to NFPA 805, including the technical analysis, development, and implementation of required plant modifications and all discussions with NRC staff. I led formal interactions with NRC staff, including both written correspondence and in-person meetings, to support Entergy's request for enforcement discretion during the transition period. This effort resulted in NRC's issuance of the ML083260577 letter—referenced in this petition—which in 2008 granted enforcement discretion for 10CFR50 Appendix R violations stemming from NRC findings in 1996, and forms the basis for my statement that Appendix R requirements remain in effect, at the present, until all required modifications are completed. I was personally involved in the preparation and justification of this request and represented Entergy in the detailed discussions with NRC that led to its approval.

My responsibilities also included direct technical oversight of the Reactor Coolant Gas Vent System (RCGVS), ensuring its integration into the NFPA 805 licensing basis and fire protection license condition. This included the development of Table S2-15, which explicitly committed to the installation of reactor head and pressurizer vent valve modifications for safe shutdown following post-accident and fire scenarios—modifications Holtec now

seeks to delay or alter under its current license amendment requestThroughout my career, I had direct responsibility for plant organizations tasked with ensuring compliance with key NRC regulatory requirements, including:

- 10 CFR 50, Appendix R (Fire Protection Program Requirements)
- NUREG-0578 and NUREG-0737, including Item II.B.1 (Reactor Coolant System Vents for Natural Circulation)
- NUREG-0878 (Fire Protection Programs for Operating Reactors)
- NFPA 805 (Risk-Informed, Performance-Based Fire Protection Standard)
- NEI 96-07, Rev. 1 (Guidelines for 10 CFR 50.59 Evaluations)

As part of those responsibilities, I also directed or personally conducted operability evaluations required under plant Technical Specifications, following NRC Inspection Manual guidance. These evaluations were used to assess degraded or non-conforming conditions that could impact safety system performance, and required a thorough understanding of the licensing basis, applicable design criteria, and NRC enforcement expectations.

Importantly, I witnessed firsthand how the industry's understanding of 10 CFR 50.59 evolved over the decades starting in the late 1980 with design basis issues at the Millstone Nuclear Plant. Early ambiguity around what constituted a licensing basis change or a "change in method of evaluation" was resolved through collaborative work between the Nuclear Energy Institute (NEI) and the NRC, resulting in NEI 96-07, Rev. 1 and its endorsement by the NRC. That guidance clarified what constitutes a change in method and emphasized the procedural pathways that must be followed—either through a license amendment under 10 CFR § 50.90 or an exemption under § 50.12—when a licensee proposes to alter the safety analysis or licensing commitments. I relied on this guidance throughout the latter part of my career to ensure licensing basis integrity and compliance.

As a qualified Plant Emergency Plan Director, I also gained firsthand operational experience with systems credited for post-accident natural circulation, including the RCGVS, especially under station blackout and fire-induced damage scenarios. I was directly involved in NRC-evaluated drills and recovery plans at Palisades and other sites that demonstrated the critical role of head and pressurizer venting in maintaining core cooling following transient or fire events.

Based on my technical and regulatory expertise, and my review of NRC guidance and Palisades-specific licensing documents, it is my professional conclusion, NOT an opinion, that Holtec's June 24, 2025 License Amendment Request—by proposing to delay completion of Table S2-15 without also submitting a deterministic safety evaluation or seeking an exemption under 10 CFR § 50.12—fails to meet NRC procedural and licensing requirements. While Holtec references low PRA significance for this item, NRC regulations and accepted guidance (including NEI 96-07 and NRC Safety Evaluations) make clear that PRA alone cannot be used to substitute for, defer, or eliminate a deterministic licensing commitment embedded in a license condition.

This declaration is submitted in support of a petition that raises a genuine and material dispute on a legal and regulatory issue directly tied to a pending License Amendment Request. The petition does not challenge the use of PRA generally or any existing NRC rules. Rather, it contests Holtec's attempt to bypass required NRC approval pathways for modifying a license condition previously reviewed and accepted based on deterministic safety criteria.

I am the author of the petition and the designated representative of the petitioners in this matter.

Printed Name: Alan Blind

Signature: Alan Blind

Executed in accordance with 10 CFR § 2.304(d)

Date: July 30, 2025

Address: 1000 W. Shawnee, Eaton, MI 49101

Phone Number: 269-303-6396

Certificate of Service

I hereby certify that copies of the foregoing **Petition for Hearing and Request to Intervene Regarding Holtec's License Amendment Request to Change the NFPA 805 Full Compliance Date for the Reactor Coolant Gas Vent System (Table S2-15)** have been served on the following persons via the NRC's Electronic Information Exchange (EIE) system in accordance with 10 CFR § 2.305(c) and the Commission's rules for electronic filing:

- **Office of the Secretary of the Commission**

  U.S. Nuclear Regulatory Commission

  Washington, DC 20555-0001

  E-mail: hearing.docket@nrc.gov

- **Office of the General Counsel**

  U.S. Nuclear Regulatory Commission

  Washington, DC 20555-0001

  E-mail: ocaamail@nrc.gov

- **Atomic Safety and Licensing Board Panel**

  U.S. Nuclear Regulatory Commission

Washington, DC 20555-0001

Via Electronic Filing System (E-Filing)

- **Counsel for Holtec Palisades, LLC / Palisades Energy, LLC**

  (Service via EIE system to counsel of record as identified in NRC's E-Filing system.)

I certify that this filing has been submitted through the NRC's EIE system in accordance with the Commission's rules on electronic submissions.

Respectfully submitted,

Printed Name: Alan Blind

Signature: Alan Blind Date July 30, 2025

Attachment A

ML25204A056

Public Comment Opposing NRC's Preliminary No Significant Hazards Consideration (NSHC) Determination for Holtec Palisades License Amendment Request

Docket ID NRC-2025-0313 | ML25181A005

PUBLIC SUBMISSION

SUNI Review Complete
Template=ADM-013
E-RIDS=ADM-03

ADD: Justin Poole, Susan Lent, Mary Neely
Comment (2)
Publication Date: 7/18/2025
Citation: 90 FR 34019

As of: 7/23/25, 9:27 AM
Received: July 23, 2025
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Comments Due: August 18, 2025
Submission Type: Web

Docket: NRC-2025-0313
Holtec Decommissioning International, LLC, on behalf of Holtec Palisades, LLC; Palisades Nuclear Plant; License Amendment Request

Comment On: NRC-2025-0313-0001
Holtec Palisades, LLC; Palisades Nuclear Plant; License Amendment Application

Document: NRC-2025-0313-DRAFT-0002
Comment on FR Doc # 2025-13501

Submitter Information

Name: Alan Blind
Address:
Baroda, MI, 49101
Email: a.alan.blind@gmail.com
Phone: 269-303-6396

General Comment

I am submitting comments concerning the NRC Staff’s preliminary finding—based on Holtec’s safety evaluation—that there are no significant safety issues associated with the proposed license amendment. I disagree with this conclusion. The attached document provides a more detailed explanation of my evaluation and the reasons I believe the safety issues are significant and warrant further review

Attachments

FRN Comments

To: Office of Administration, ATTN: Program Management, Announcements and Editing Staff

Via: https://www.regulations.gov, Docket ID NRC-2025-0313

Subject: Public Comment Opposing NRC's Proposed No Significant Hazards Consideration Determination for Palisades LAR (ML25181A005)

Date: August 1, 2025

Dear NRC Staff,

This comment is submitted in direct response to the NRC's preliminary finding of no significant hazards consideration (NSHC) for Holtec Palisades' June 24, 2025 License Amendment Request (LAR), as published in the Federal Register and docketed under ML25181A005.

This public comment is submitted in conjuction with a Petition for Hearing and Leave to Intervene under 10 CFR 2.309. The submission of both filings is a procedural step intended to preserve the Atomic Safety and Licensing Board's (ASLB) opportunity to consider the §2.309 contentions and requested actions before the NRC finalizes its NSHC determination. The ASLB is being asked to consider, among other contentions, whether Holtec's License Amendment Request fails to meet

the submittal requirements of **10 CFR 50.90** and **10 CFR 50.92**, including the obligation to provide a complete and accurate basis for the proposed change and an adequate safety evaluation in accordance with **10 CFR 50.9(a)**.

As stated in the NRC's Federal Register Notice:

> *"If a hearing is requested and the Commission has not made a final determination on the issue of no significant hazards consideration, the Commission will make a final determination, taking into account the hearing request, and any comments received, which will serve to establish when the hearing is held."*

Accordingly, by filing both this public comment—addressing the NRC Staff's preliminary determination of no significant hazards consideration—and the Petition for Hearing and Leave to Intervene at the same time, while the NSHC finding remains preliminary, I respectfully request that the NRC Staff defer any final action on both the NSHC determination and the associated license amendment. This deferral is necessary to preserve meaningful public participation, as contemplated by NRC regulations, and to ensure that the Atomic Safety and Licensing Board (ASLB) is not preempted from exercising its authority to consider and act upon the

contentions raised in the §2.309 petition, before any licensing decision by the Staff is finalized.

Scope and Purpose of This Comment

This comment challenges the technical and regulatory basis for the NRC staff's preliminary determination of no significant hazards consideration—but only as it pertains to **Item S2-15**, the delayed completion of the Reactor Head and Pressurizer Vent Valve modification required by **NFPA-805** and **NUREG-0737**.

To be clear: I do **not** oppose the entire license amendment request, nor do I comment on the NSHC determination related to **S2-13** (the Component Cooling Water modification). This comment is narrow in scope and focused exclusively on whether Holtec's justification for its NSHC conclusion is consistent with NRC regulatory requirements and precedent, specifically with respect to Item S2-15.

Furthermore, while this comment is procedurally distinct from the additional §2.309 petition, the arguments presented herein directly support and inform the contentions raised in that petition. In particular, I will assert via the §2.309 petition that Holtec has made two critical errors:

1. It incorrectly determined that the proposed deferral of S2-15 does not involve a significant safety hazard, the focus of these comments; and

2. It failed to submit a deterministic safety evaluation, as required, to demonstrate continued compliance with NRC regulations and Technical Specifications during the period of delay.

Licensing Basis for the Reactor Head and Pressurizer Vent Valves

The current Palisades licensing basis (CLB) requirements trace their origin to two pivotal events in nuclear safety regulation:

- the 1975 fire at the Browns Ferry Nuclear Power Plant, and
- the 1979 accident at the Three Mile Island (TMI) Nuclear Power Plant.

These events led the U.S. Nuclear Regulatory Commission (NRC) to impose deterministic safety requirements that remain in effect for all Pressurized Water Reactors (PWRs), including Palisades. As a direct result, two interdependent regulatory frameworks were established:

1. The **TMI Action Plan (NUREG-0737)**, which requires operable reactor vessel head and pressurizer vent valves to support natural circulation cooling during a loss of forced flow; and

2. **10 CFR 50, Appendix R** (and its Palisades-specific **NFPA-805** successor), which requires plants to achieve and maintain safe shutdown following a fire—assuming loss of offsite power.

Together, these frameworks mandate that the vent valves remain operable during both accident and fire conditions. The required modification identified in S2-15 serves this dual license basis and license condition purpose. The term "operable" is defined in accordance with the Technical Specifications definition of “Operable” and is further clarified by **NRC Inspection Manual Chapter 9900**, *Technical Guidance for Assessing Operability Determinations and Resolution of Degraded and Non-Conforming Conditions.*

As documented in NRC correspondence, Consumers Power Company (CPCo) formally committed to installing and operating the Reactor Coolant Gas Vent System (RCGVS) following the TMI accident. In its March 12, 1985 letter to the NRC, CPCo stated:

> *“Item II.B.1, CPCo committed to install a Reactor Coolant Gas Vent System (RCGVS) designed to remotely vent gases from the reactor vessel head and pressurizer steam space during post-accident situations and to issue procedures on the use of the RCGVS… Additionally, CPCo committed to routinely cycle the RCGVS valves only during testing and to conduct the testing only in cold shutdown condition.”*
>
> *— CPCo Letter, B. D. Johnson to NRC, March 12, 1985*

This commitment was incorporated into the Palisades **Final Safety Analysis Report (FSAR)**. In FSAR Update No. 28 (2006), Palisades explicitly documented its licensing obligation under NUREG-0737, Item II.B.1. That same commitment remains incorporated in FSAR Revision 35, which is also cited in Holtec’s own LAR submittals for restart. FSAR Chapter 4.8 states:

> *“The Primary Coolant Gas Vent System (PCGVS) is designed to vent steam or noncondensible gases from the reactor vessel head and pressurizer areas of the Primary Coolant System. This is done to assure core cooling during natural circulation is not inhibited. This system was installed pursuant to NUREG-0737, Topic II.B.1.”*
>
> *— FSAR Chapter 4, Rev. 31, p. 4.8-1*

Holtec has confirmed that FSAR Rev. 35 forms the basis for its planned restart:

> *"The Updated Final Safety Analysis Report (UFSAR), now titled the Defueled Safety Analysis Report (DSAR), will be updated… to reflect the docketed version that was in effect prior to the 10 CFR 50.82(a)(1) certifications, PNP UFSAR Revision 35… The DSAR change back to the PNP POLB UFSAR will be accomplished under the 10 CFR 50.59 process and be implemented coincident with the associated license amendments."*
>
> *— Holtec LAR, ML23348A148, Section 3.2.3.1*

Thus, these valves and their supporting control systems are not enhancements—they are **required safety systems** forming part of the deterministic licensing basis. Their operability under both fire and accident conditions is essential for compliance with the current NRC licensing basis for Palisades.

Regulatory Significance of License Conditions and the High Bar for NRC Staff Review

This comment also respectfully reminds the NRC Staff that the Commission's decision to incorporate requirements from NUREG-0737, 10

CFR 50 Appendix R, and NFPA-805 into the Palisades license—by making them enforceable **license conditions**—was not arbitrary. It reflects the NRC's formal judgment that these safety functions are essential to plant safety and must be met in full unless properly revised through an amendment or exemption.

As the NRC itself has stated:

> *"Once a license condition is imposed, it becomes part of the licensing basis and is legally binding on the licensee. Any modification, removal, or relaxation of the license condition requires prior NRC approval through a license amendment under 10 CFR 50.90 or an exemption under 10 CFR 50.12."*
> *— Regulatory Guide 1.174, Rev. 3, Section 2.2.1, ADAMS Accession No. ML19342C905*

Because these requirements have been elevated to license condition status, **the threshold for NRC approval of any delay or change is, by design, high**. The license condition at issue (Amendment 254, Paragraph 2.C.(3)) is not satisfied by meeting one criterion alone. It clearly states that any proposed change must **not affect other license conditions, must**

preserve defense-in-depth, and must maintain adequate safety margins. These are cumulative requirements.

Accordingly, as NRC Staff evaluates Holtec's justification for concluding that the proposed deferral of the S2-15 modification presents no significant safety hazard, it must do so with the same rigor the Commission applied when the license condition was originally imposed. The public and the licensing basis both depend on this level of scrutiny. The use of simplified screening criteria—without addressing the full scope of the license condition—falls short of that standard.

For these reasons, I respectfully urge the NRC Staff to apply the full weight of the license condition's criteria in its review and to reject any conclusion of "no significant hazards consideration" that does not clearly meet all the required safety thresholds.

Rebuttals to Holtec's NSHC Statements

Holtec Claim:

"This change does not alter accident analysis assumptions, add any initiators, or affect the function of plant systems…"

Response:

This is inaccurate. The S2-15 modification is necessary to ensure post-accident venting of non-condensable gases and to support natural circulation cooling—functions explicitly credited in the Palisades Final Safety Analysis Report (FSAR) and required under NUREG-0737. These safety functions remain enforceable through the plant's Current Licensing Basis (CLB). Delaying the fire-qualified upgrade directly affects accident analysis assumptions by undermining the operability of the Reactor Coolant Gas Vent System (RCGVS) during fire-induced loss of offsite power (LOOP) scenarios.

Importantly, **NUREG-0737 Item II.D.1 that Implements NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report**: **requires that:**

> *"All PWR licensees and applicants shall provide a vent path from the reactor vessel head and from the pressurizer steam space to permit removal of noncondensable gases that may inhibit natural circulation. These paths shall have adequate flow capacity and be capable of being remotely operated from the control room."*
>
> *— NUREG-0737, Clarification of TMI Action Plan Requirements*, November 1980

This requirement remains in force and is directly relevant to the S2-15 modification, which involves upgrading the control circuitry and cable routing to ensure that the valves can be reliably operated remotely from the control room under fire and accident conditions. Holtec's delay of this upgrade impacts not only the safety function but also the required method of actuation.

Moreover, Holtec has failed to acknowledge that its proposed change impacts an existing license condition—specifically, Amendment 254, DPR-20, Paragraph 2.C.(3)—which requires that any fire protection program change must not affect a license condition, must preserve defense-in-depth, and must maintain safety margins. These criteria are cumulative, and Holtec's NSHC justification does not evaluate any of them.

Holtec Claim:

"The proposed change does not require any plant modifications which affect the performance capability of the structures, systems, and components relied upon to mitigate the consequences of postulated accidents…"

Response:

Holtec acknowledges that S2-15 is incomplete. Without fire-hardened cabling and control systems, the RCGVS valves may not function during a fire-induced loss of offsite power (LOOP)—a condition specifically required by both Appendix R and NUREG-0737 license basis and license conditions. In particular, failure to complete the S2-15 modifications undermines the control room operability requirement found in **NUREG-0737, Item II.D.1**, which explicitly states that the vent paths *"shall be capable of being remotely operated from the control room.*" This requirement is not fulfilled until the full S2-15 modification is complete.

The performance capability of the RCGVS is therefore not theoretical—it is a functional safety requirement tied to both post-accident heat removal and fire protection. The S2-15 modification exists to satisfy that dual requirement, and its deferral materially affects system readiness and licensing basis compliance.

Holtec Claim:

"This change does not create the possibility of a new or different kind of accident…"

Response:

Incorrect. A new failure mode is introduced: the simultaneous loss of forced cooling and loss of primary coolant system venting during a fire-induced LOOP. Without reliable venting, natural circulation cooling fails, and the plant cannot reach or maintain safe shutdown. This is a previously unanalyzed accident scenario under current license basis conditions.

Holtec Claim:

“This change does not involve a significant reduction in a margin of safety.”

Response:

It does. These valves are credited support functions for Primary Coolant System operability. Fire-hardened control systems and remote operability from the control room—explicitly required by NUREG-0737—are part of the definition of “operable” to ensure availability under design-basis conditions. Their absence compromises a defense-in-depth feature for core cooling. Yet Holtec has not submitted a deterministic safety evaluation or 10 CFR 50.12 exemption as required by NRC regulation.

Conclusion

The NRC's proposed finding that Holtec's LAR involves no significant hazards consideration is both procedurally flawed and substantively unsupported. The proposed deferral of NFPA-805 modification S2-15:

- Alters accident analysis assumptions
- Undermines required system operability
- Introduces a previously unexamined failure scenario
- Reduces the safety margin for natural circulation under fire/accident conditions
- Fails to meet the remote operability requirement explicitly imposed by **NUREG-0737, Item II.D.1**

We respectfully request that this comment be entered as formal input under **10 CFR § 50.92(c)** and be considered in conjunction with the **concurrently submitted Petition for Hearing and Leave to Intervene** under **10 CFR § 2.309**. As acknowledged in the Federal Register Notice:

> *"If a hearing is requested and the Commission has not made a final determination on the issue of no significant hazards consideration,*

the Commission will make a final determination... which will serve to establish when the hearing is held."

We therefore request that the NRC **withhold final action** on the NSHC finding and associated license amendment until the ASLB has reviewed and resolved the safety and regulatory issues raised in this comment and the separate §2.309 hearing petition.

Impact of NRC Fast-Track Review Schedule and Request to Defer Final Action

In a June 27, 2025 acceptance letter (ADAMS Accession No. ML25181A808), the NRC Staff acknowledged Holtec's request to expedite review of the subject license amendment request (LAR) and stated a target completion date of October 24, 2025. While the NRC agreed to pursue an accelerated review schedule, it also emphasized that the forecasted completion timeline may change due to several factors, including "**hearing-related activities**." By filing this public comment and the related §2.309 Petition for Hearing and Leave to Intervene concurrently—while the NRC's NSHC determination remains preliminary—I respectfully invoke one such hearing-related activity that, per the NRC's own guidance, must be factored into its review schedule.

Accordingly, I request that the NRC Staff defer final action on both the NSHC finding and the license amendment itself until the Atomic Safety and Licensing Board (ASLB) has reviewed the safety and regulatory contentions raised in the §2.309 filing. Allowing the LAR to proceed under an expedited schedule—despite the pendency of a properly filed §2.309 petition—would undermine public participation rights and short-circuit the Board's authority to evaluate whether Holtec's LAR satisfies the requirements of 10 CFR 50.90, 50.92, and 50.9(a).

Respectfully submitted,

Alan Blind

1000 West Shawnee Road

Baroda, Michigan 49101

a.alan.blind@gmail.com

Addendum – References and Citations Supporting This Comment

The following references support the technical, regulatory, and legal arguments presented in this public comment. Each document is cited in either the body of this comment or the concurrently submitted Petition for Hearing and Leave to Intervene:

1. **Federal Register Notice**

   License Amendment Request to Change NFPA 805 Full Compliance Date

   89 Fed. Reg. 54012 (July 18, 2025), Docket ID NRC-2025-0313

2. **Holtec License Amendment Request (LAR)**

   License Amendment Request to Change the Full Compliance Implementation Date for the Fire Protection Program Transition License Condition

   ADAMS Accession No. ML25175A275

3. **NRC Acceptance Letter for LAR Review**

   Acceptance of Proposed License Amendment Request to Change NFPA 805 Implementation Date

   ADAMS Accession No. ML25181A808

4. **NUREG-0737**

   Clarification of TMI Action Plan Requirements

   ADAMS Accession No. ML051400209

5. **NUREG-0578**

   TMI-2 Lessons Learned Task Force Status Report

   (December 1979), Section 2.1.2 – Reactor Coolant System Vents

6. **Palisades FSAR Revision 35**

Final Safety Analysis Report – Current Licensing Basis

ADAMS Accession No. ML23031A292

7. **Holtec LAR Supporting Document**

Technical Specifications and Bases – Holtec Palisades

ADAMS Accession No. ML23348A148

8. **Regulatory Guide 1.174, Rev. 3**

An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis

ADAMS Accession No. ML19342C905

9. **Regulatory Guide 1.205, Rev. 2**

Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants

ADAMS Accession No. ML21048A448

10. **NRC Inspection Manual Chapter (IMC) 9900**

Technical Guidance for Operability Determinations and Resolution of Degraded and Nonconforming Conditions

ADAMS Accession No. ML11300A069

11. **NEI 96-07, Revision 1**

Guidelines for 10 CFR 50.59 Evaluations

ADAMS Accession No. ML003771157

12. **NEI 04-02, Revision 3**

Guidance for Implementing a Risk-Informed, Performance-Based Fire Protection Program Under 10 CFR 50.48(c)

ADAMS Accession No. ML19351D277

13. **NRC Safety Evaluation Report for License Amendment No. 254**

Transition to NFPA 805 Fire Protection Program

ADAMS Accession No. ML15007A191

14. **NRC Enforcement Discretion Letter (2008)**

Extended Enforcement Discretion for Fire Protection Deficiencies During NFPA 805 Transition

ADAMS Accession No. ML083260577

15. **Consumers Power Company Letter (1985)**

Reactor Coolant Gas Vent System Commitment to NRC

ADAMS Accession No. ML062400216

16. **NUREG-1424**

Safety Evaluation Report Related to the Full-Term Operating License for Palisades Nuclear Plant

ADAMS Accession No. ML18057A616

17. **10 CFR 50.48 and Appendix R**

Fire Protection Program Requirements

18. **10 CFR 50.90 and 10 CFR 50.12**

License Amendment and Exemption Request Procedures

19. **10 CFR 50.59(c)(2)(viii)**

Method of Evaluation Requirements