

**From:** Scott Wall  
**Sent:** Thursday, August 1, 2024 3:37 PM  
**To:** Schultz, Eric  
**Cc:** Mack, Kenneth; Phillabaum, Jerry; Mack, Jarrett  
**Subject:** Final RAI - Point Beach 1 & 2 - License Amendment Request to Modify Containment Average Air Temperature Requirements (EPID No. L-2024-LLA-0088)

Dear Mr. Schultz,

By letter dated June 26, 2024 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML24178A265), NextEra Energy Point Beach, LLC (the licensee) submitted a license amendment request (LAR) for Point Beach Nuclear Plant, Units 1 and 2 (Point Beach). The proposed amendment modifies Point Beach Technical Specifications (TS) 3.6.5, "Containment Air Temperature," by relocating to licensee control, limits on the containment average air temperature measurement which account for instrument uncertainty, and conforming changes to the TS Bases.

The NRC staff has reviewed the submittals and determined that additional information is needed to complete its review. The specific questions are found in the enclosed request for additional information (RAI). On August 1, 2024, the NextEra staff indicated that a response to the RAIs would be provided by August 30, 2024.

If you have questions, please contact me at 301-415-2855 or via e-mail at [Scott.Wall@nrc.gov](mailto:Scott.Wall@nrc.gov).

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Docket Nos. 50-266 and 50-301

Enclosure:  
Request for Additional Information

cc: Listserv

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**RAI (CONTAINMENT AIR)**

**REQUEST FOR ADDITIONAL INFORMATION**

**LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS TO**

**MODIFY TECHNICAL SPECIFICATIONS CONTAINMENT AVERAGE**

**AIR TEMPERATURE REQUIREMENTS**

**NEXTERA ENERGY POINT BEACH, LLC**

**POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2**

**DOCKET NOS. 50-266 and 50-301**

By letter dated June 26, 2024 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML24178A265), NextEra Energy Point Beach, LLC (the licensee) submitted a license amendment request (LAR) for Point Beach Nuclear Plant, Units 1 and 2 (Point Beach). The proposed amendment modifies Point Beach Technical Specifications (TS) 3.6.5, "Containment Air Temperature," by relocating to licensee control, limits on the containment average air temperature measurement which account for instrument uncertainty, and conforming changes to the TS Bases.

The NRC staff determined that the following information is needed to complete its review.

**Nuclear Systems Performance Branch (SNSB) Questions**

The regulations in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Appendix A, "General Design Criteria [GDC] for Nuclear Power Plants", establishes the minimum requirements for the principal design criteria for water-cooled nuclear power plants. The principal design criteria establish the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components (SSCs) important to safety. Point Beach was licensed prior to the GDC of 10 CFR 50, Appendix A. The Point Beach Final Safety Analysis Report (FSAR) (ML24116A078), Section 1.3, lists plant-specific GDCs to which Point Beach was licensed, which are similar in content to the 1967 proposed GDCs published for public comment.

**Regulatory Basis**

The applicable 10 CFR 50, Appendix A, GDCs are applicable:

- GDC 13, "Instrumentation and Control," as it relates to providing instrumentation to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety, including those variables and systems that can affect the fission process, the integrity of the reactor core, the reactor coolant pressure boundary, and the containment and its associated systems. (Similar to Point Beach 1967 GDC 12, "Instrumentation and Control Systems")
- GDC 16, "Containment design," as it relates to providing a reactor containment and associated systems to establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment and to assure that the containment design conditions important to safety are not exceeded for as long as postulated accident conditions require. (Similar to Point Beach 1967 GDC 10, "Reactor Containment").
- GDC 50, "Containment design basis," as it relates to designing the reactor containment structure, including access openings, penetrations, and the containment heat removal system so that the containment structure and its internal compartments can

accommodate, without exceeding the design leakage rate and with sufficient margin, the calculated pressure and temperature conditions resulting from any loss-of-coolant accident. (Similar to Point Beach 1967 GDC 49, "Reactor Containment Design Basis").

### **SNSB-RAI-1**

The licensee proposes to change TS limiting conditions for operation (LCO) 3.6.5 from its existing value of:

- a.  $\leq 116.3^{\circ}\text{F}$  based on three averaged temperature channels,
- b.  $\leq 115.7^{\circ}\text{F}$  based on two averaged temperature channels, or
- c.  $\leq 112.5^{\circ}\text{F}$  based on a single temperature channels

to a single value of  $\leq 120^{\circ}\text{F}$ . The licensee will account for instrument uncertainty and will retain the requirement to use the arithmetic average of available containment temperature instrument channels in the licensee-controlled TS Bases.

In the June 26, 2024, application, the licensee stated:

By specifying that the containment average air temperature measurement must be based on the arithmetic average of representative locations within containment and account for measurement uncertainty calculated in accordance with DG-101, these TS Bases changes ensure that the measured containment average air temperature will not exceed the value assumed in plant safety analyses.

- a. Describe how the uncertainty calculations discussed in the TS Bases for TS 3.6.5 are incorporated into surveillance test acceptance criteria for SR 3.6.5.1.
- b. Describe the operator actions taken if the surveillance test containment temperature limit is exceeded and how those actions ensure initial containment temperature remains within the bounds of the existing safety analyses.

### **SNSB-RAI-2**

Point Beach FSAR, Table 14.3.4-24, "Containment Integrity LOCA Analysis Parameters," provides the initial containment temperature used in the Loss of Coolant Accident (LOCA) containment safety analysis as  $120^{\circ}\text{F}$  which is the analytical limit (AL) input to obtain conservative containment response for pressure, temperature, sump temperature, and available net positive suction head for pumps that draw water from containment sump during the LOCA recirculation phase. Since the proposed TS LCO 3.6.5 value is  $120^{\circ}\text{F}$ , the same numerical value as the AL, provide responses to the following:

- a. What is the overall containment temperature instrument loop uncertainty currently incorporated into the  $120^{\circ}\text{F}$  AL based on the existing temperature measurement instruments in the current plant configuration?
- b. In which plant document is this value included and controlled?

- c. How is instrument loop uncertainty controlled if the current value changes due to future actions (e.g. replacing with different model, supplier, or less or more precise instruments), to ensure that the AL of 120°F is not changed and the containment safety analysis is not impacted?

### **SNSB-RAI-3**

The LAR enclosure, Section 3.2 states:

The determination of the containment average air temperature shall be based on an arithmetic average of two or more containment temperature instruments from selected representative locations within containment. The proposed change is acceptable since it provides for a measured containment average air temperature more representative of the overall containment atmosphere while continuing to account for instrument measurement uncertainty.

- Provide the criteria, justification, and any limitations on instrument selection to determine their arithmetic average containment temperature in order to confirm that it is equal to or less than the value necessary to ensure the containment safety analyses remains valid.

### **Instrumentation & Controls Branch (EICB) Questions**

10 CFR 50.36, "Technical Specifications," requires, in part, that the TS shall be included by applicants for a license authorizing operation of a production or utilization facility.

10 CFR 50.36(c) requires that TS include items in five specific categories related to station operation. These categories are (1) Safety limits, limiting safety system settings, and limiting control settings, (2) LCOs (3) Surveillance requirements (SRs), (4) Design features, and (5) Administrative controls.

The regulation in 10 CFR 50.36(c)(2)(ii)(C) requires that TS LCOs of a nuclear reactor be established for an SSC that is part of the primary success path and which functions or actuates to mitigate a design-basis accident (DBA) or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

### **EICB-RAI-1**

In the LAR, the licensee stated, in part, that:

As previously described in Reference 6.1, the instrument uncertainty was calculated to combine the random effects that influence instruments such as accuracy, drift, calibration tolerance, and environmental effects such as ambient temperature. The calculations were performed in accordance with Point Beach Design and Installation Guidelines Manual DG-101, "Instrument Setpoint Methodology" (Reference 6.3), which establishes a consistent approach for the analysis of instrument loop uncertainties and their effect on safety-related setpoints and process indications.

In the LAR, the licensee indicates that Reference 6.1 is:

US NRC letter to NextEra Energy Point Beach, LLC Point Beach Nuclear Plant, Units 1 and 2 - Issuance of Amendment to Revise Technical Specification Operating Limits to Include Measurement Uncertainty (TAC Nos. ME5906 and ME5907), January 30, 2012 (ADAMS Accession No. ML113540147)

Reference 6.1 is the NRC safety evaluation of a March 23, 2011, LAR for Point Beach (ML110830009). This March 23, 2011, LAR, the licensee includes the Calculation 2006-0035 Rev. 1, "RWST [Refueling Water Storage Tank] Temperature, Containment Average Air Temperature and Spray Additive Tank Level Uncertainty/Setpoint Calculation." Calculation 2006-0035, Rev. 1, in part, calculated the uncertainty of the containment average air temperature. This calculation also referred to Calculation 2005-0028 Rev. 0, "Vendor Calculation / Evaluation Review Form."

- Please provide the following documents:
  - DG-101, "Instrument Setpoint Methodology," Rev. 8.
  - Calculation 2005-2028 Rev. 0, "Containment Air Temperature Indication Loop Uncertainty"

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