NEXTera ENERGY POINT BEACH

NRC 2022-0022
10 CFR 50.90

July 11, 2022

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington D C 20555-0001

RE: Point Beach Nuclear Plant, Units 1 and 2
Docket Nos. 50-266 and 50-301
Renewed Facility Operating Licenses DPR-24 and DPR-27

Response to Request for Supplemental Information (RSI) Regarding License Amendment Request (LAR) 297, Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, "Provide Risk Informed Extended Completion Times - RITSTF Initiative 4b"

References:

1). License Amendment Request 297, Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, "Provide Risk Informed Extended Completion Times - RITSTF Initiative 4b", May 20, 2022 (ADAMS Accession No. ML22140A131)

2). Technical Specification Task Force (TSTF) letter to the NRC, "TSTF Comments on Draft Safety Evaluation for Traveler TSTF-505, 'Provide Risk-Informed Extended Completion Times' and Submittal of TSTF-505, Revision 2", Revision 2, dated July 2, 2018 (ADAMS Accession No. ML18183A493)

3). NRC email memorandum dated June 27, 2022, Point Beach Nuclear Plant, Units 1 and 2 TSTF-505 Amendment Draft Supplemental Information Needed

In Reference 1, NextEra Energy Point Beach, LLC (NextEra) requested amendments to Renewed Facility Operating Licenses DPR-24 and DPR-27 for Point Beach Nuclear Plant Units 1 and 2 (Point Beach), respectively. The proposed license amendments would modify the Point Beach Technical Specifications (TS) to permit the use of Risk Informed Completion Times in accordance with TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b" (Reference 2).

In Reference 3, the NRC requested supplemental information (RSI) determined necessary to complete their acceptance review. The enclosure to this letter provides the requested supplemental information. The attachment to the enclosure provides Enclosure 4, Revision 1, which supersedes and replaces Enclosure 4 of Reference 1 with revisions to the seismic penalty discussion, selected references, and minor editing.

The supplements included in this response provide additional information that clarifies the application, do not expand the scope of the application as originally noticed and should not change the NRC Staff's original proposed no significant hazards consideration determination as published in the *Federal Register.*

In accordance with 10 CFR 50.91(b)(1), a copy of this license amendment request is being forwarded to the designee for the State of Wisconsin.

This letter contains no new regulatory commitments.

Should you have any questions regarding this submittal, please contact Mr. Michael Davis, Fleet Licensing Manager, at 319-851-7032.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on the 11th day of July 2022.

Sincerely,

Dianne Strand
General Manager, Regulatory Affairs

cc: USNRC Regional Administrator, Region III
Project Manager, USNRC, Point Beach Nuclear Plant
Resident Inspector, USNRC, Point Beach Nuclear Plant
Public Service Commission of Wisconsin

Enclosure
Attachment - LAR 297, Enclosure 4, Revision 1

Point Beach Units 1 and 2

Response to Request for Supplemental Information (RSI) Regarding
License Amendment Request 297, Revise Technical Specifications to Adopt
Risk Informed Completion Times TSTF-505, Revision 2,
"Provide Risk Informed Extended Completion Times - RITSTF Initiative 4b"

In an electronic memorandum dated June 27, 2022 (Reference 1) the NRC staff of the Office of Nuclear Reactor Regulation (NRR) requested supplemental information (RSI) regarding License Amendment Request (LAR) 297, Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, "Provide Risk Informed Extended Completion Times - RITSTF Initiative 4b" (Reference 2) for Point Beach Nuclear Plant Units 1 and 2 (Point Beach), as indicated below. NextEra's response follows:

RSI #1

Section 3.2 of Nuclear Energy Institute (NEI) 06-09A (Agencywide Documents Access Management System (ADAMS) Accession No. ML12286A322) discusses scope of the probability risk analysis (PRA). It states that other sources of risk (i.e., seismic, other external events) must be quantitatively assessed if they contribute significantly to configuration-specific risk. It also states that consideration is made of both core damage frequency (CDF) and large early release frequency (LERF) metrics. Bounding analyses or other conservative quantitative evaluations are permitted where realistic PRA models are unavailable.

The discussion in section 2 of Enclosure 4 to the license amendment request (LAR) (ML22140A131) provides unclear and potentially contradictory information about consideration of seismic risk in the risk-informed completion time (RICT) calculations. Section 2 of Enclosure 4 to the LAR states that seismic risk is addressed for risk-managed technical specifications using a bounding seismic "adder." However, it is unclear to the U.S. Nuclear Regulatory Commission (NRC) staff whether this is the seismic penalty approach or something different. In addition, information is not provided explaining this approach, how it was developed, and how it will be used in the application (specifically, if it is added to each proposed RICT).

The discussion in section 2 of Enclosure 4 to the LAR appears to indicate that the contribution of seismic risk is insignificant. Not considering seismic risk in the RICT calculations would constitute a deviation from NEI 06-09-A and the licensee's discussion during the pre-submittal meeting on September 16, 2021 (see slide 7 of ML21253A015). If the licensee is deviating from NEI 06-09-A, the LAR does not provide sufficient information, referring instead to Electric Power Research Institute (EPRI) report 3002020744, "Investigation of Seismic Probabilistic Risk Assessment (SPRA) Quantification to Simplify PRA Models Used to Assess Risk-Informed Completion Times." This report was not included as part of the LAR and has not been submitted by the licensee on the docket to support this application. This report is not publicly available, and the NRC staff has neither reviewed nor endorsed the report in the past. Therefore, the NRC staff does not have the ability to review the basis if the licensee is deviating from endorsed guidance and precedent.

Therefore, the LAR is unclear about the approach that the licensee proposes to use for consideration of seismic risk in the RICT application (seismic penalty or "adder" or not including seismic risk). Further, insufficient information is provided in the LAR for any approach proposed by the licensee.

Request:

a. Provide, with justification, the seismic CDF and seismic LERF penalty factors that will be added to each proposed RICT, consistent with NEI 06-09-A. If necessary, provide any changes to the information in the LAR that are impacted by the response to this item. OR

b. Provide a detailed technical justification for deviating from NEI-06-09-A on the consideration of seismic risk in the proposed RICTs (i.e., from the seismic penalty approach). The justification should include

the basis for applicability of the approach for implementation of a RICT at Point Beach. If the justification for deviating from NEI-06-09-A is EPRI report 3002020744, include the report for NRC staff review.

NextEra's Response to RSI #1:

a. Consistent with NEI 06-09-A, RICT estimates presented in Table E1-2 of Enclosure 1 of Reference 2 include an 'addend' to account for the contribution from seismic Core Damage Frequency (CDF) and Large Early Release Frequency (LERF). The seismic CDF addend is determined by updating the IPEEE seismic CDF (1.31E-5 /yr) by integrating the 2013 EPRI seismic hazard curve with the plant-level fragility curve. This process results in an updated seismic CDF estimate of 6.24E-6 /yr, based on the 2013 EPRI seismic hazard curve. This value (6.24E-6/yr) is treated as the ΔCDF contribution from seismic events and is added to the ΔCDFs calculated from internal events, internal flood, and internal fire quantifications for every LCO scenario in Table E1-2 of Enclosure 1.

   The seismic LERF addend is determined by multiplying the seismic CDF addend by the ratio of LERF to CDF from the current internal events PRA model. This ratio is calculated to be 0.042. This ratio is calculated from the Unit 1 baseline internal events LERF (9.81E-8/yr) and the Unit 1 baseline internal events CDF (2.36E-6/yr). The same ratio is determined using the Unit 2 baseline internal events LERF (9.63E-8/yr) and the Unit 2 baseline internal events CDF (2.30E-6/yr). Multiplying the seismic CDF addend (6.24E-6E-5/yr) by the ratio of 0.042 results in a seismic LERF estimate of 2.62E-7/yr. This value (2.62E-7/yr) is treated as the ΔLERF contribution from seismic events and is added to the ΔLERFs calculated from internal events, internal flood, and internal fire quantifications for every LCO scenario in Table E1-2 of Enclosure 1.

b. As discussed in NextEra's response to item (a) above, the amendment request (Reference 2) does not deviate from NEI 06-09-A. However, it is recognized that the discussion of EPRI Report 3002020744 in Enclosure 4 of Reference 2 may inadvertently give that impression. The attachment to this letter provides Enclosure 4, Revision 1, of Reference 2, which supersedes and replaces the previous Enclosure 4 by deleting the EPRI Report 3002020744 discussion, revising selected references, and minor editing. The changes to Enclosure 4 are evidenced by revision bars in the right-hand margin.

RSI #2

Attachment 1 of the LAR related to Technical Specifications Task Force (TSTF) Traveler TSTF-439 "Eliminate Second Completion Times Limiting Time from Discovery of Failure to Meet an LCO [limiting condition for operation]" (ML060120272), states:

> *Several Point Beach Required Actions include "second" CTs that are proposed for removal. Historically, second CTs were imposed for certain Required Actions to establish a limit on the maximum allowable time for any combination of Conditions that would result in continuous failure to meet an LCO. TSTF-439-A, Revision 2 (Reference 5.8), removed the second CTs [completion times] from the STS [standard technical specifications] of NUREG 1431. In approving the TSTF, the NRC Staff noted that second CTs complicate the implementation of RICT Program, and that the TS controls coupled with licensee configuration risk management programs provide adequate assurance against inappropriate use of combinations of Conditions that result in a single contiguous occurrence of failing to meet the LCO. Resolving these plant-specific variations by removal of the second CTs where inconsistent with the Required Actions of TSTF-505, Revision 2, does not affect the applicability of TSTF-505, Revision 2, or the NRC's model safety evaluation…*

TSTF-439 discusses the Maintenance Rule and the Reactor Oversight Process as two programs which would provide a strong disincentive to continued operation with concurrent multiple inoperabilities of the type the second CTs were designed to prevent.

In addition to these programs, TSTF-439 added a requirement to section 1.3 of the TSs to require administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls should consider plant risk and shall limit the maximum contiguous time of failing to meet the LCO. This TS requirement, when considered with the regulatory processes discussed above, provide an equivalent or superior level of plant safety without the unnecessary complication of the TSs by second CTs on some specifications.

Request: Provide the plant-specific TS controls as well as the configuration risk management programs to support removal of the proposed second CTs.

NextEra's Response to RSI #2:

At Point Beach, programmatic and administrative controls are in place which prohibit prolonged periods of failing to satisfy an LCO, as discussed below:

Maintenance Rule

Point Beach is subject to the Maintenance Rule requirements of 10 CFR 50.65. These comprehensive program requirements provide greater assurance of safe operation and LCO Condition management as was intended than does the second Completion Times of the current TS. Specifically,

- 10 CFR 50.65 requires licenses to monitor the performance or condition of SSCs against licensee-established goals to ensure that the SSCs are capable of fulfilling their intended functions and conduct appropriate corrective action when the performance or condition does not meet established goals. More specifically, the performance and condition monitoring requirements of 10 CFR 50.65(a)(1) and (a)(2) identify and reconcile equipment deficiencies and maintenance practices that cause unacceptable levels of unavailability or multiple entries into TS ACTIONs.

- 10 CFR 50.65(a)(3) requires an evaluation of the effectiveness of the performance monitoring activities required by 10 CFR 50.65(a) at least once every refueling cycle, not to exceed 24 months. The evaluation is conducted in accordance with the guidance contained in NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants". The evaluation includes an evaluation of the goals established under 10 CFR 50.65 (a)(1), a review of the SSCs subject to 10 CFR 50.65(a)(2), associated corrective actions and problem resolution, and relevant industry operating experience.

- 10 CFR 50.65(a)(4) requires the risk impact of inoperable risk-significant equipment to be assessed and managed before performing maintenance activities on equipment significant to public health and safety. The risk assessments are conducted using NextEra's maintenance rule procedures developed based on NUMARC 93-01 guidance. The risk assessments determine the aggregate effect of the maintenance activity on plant safety and identifies measures to alleviate the consequences that might occur as a result of the maintenance. Such measures serve to minimize the duration of plant configurations resulting from an LCO not being met.

Reactor Oversight Process

Point Beach is subject to the NRC's Reactor Oversight Process (ROP) and employs NextEra's ROP procedures developed using the guidelines of NEI 99-02, "Regulatory Assessment Performance Indicator Guideline." NEI 99-02 describes the tracking and reporting of mitigating system performance indicators and is endorsed by RIS 2001-11, "Voluntary Submission of Performance Indicator Data." Extended unavailability of systems important to safety due to multiple entries into the ACTIONs affect the NRC's evaluation of Point Beach performance under the ROP and thereby provides a strong disincentive for extending periods that an LCO is not met.

Administrative Controls

NextEra Fleet administrative procedures prohibit the application of LCO Conditions in a manner which extend indefinitely periods of failing to satisfy an LCO, which is consistent with the administrative controls recommended in TSTF-439, Revision 2. Specifically, NextEra Fleet Administrative procedure OP-AA-100-1000, Conduct of Operations, states:

> *"It may be possible to alternate between Actions in such a manner that operation could continue indefinitely without satisfying an LCO. Doing so, however, would be inconsistent with the basis for the Allowed Outage Time, and is NOT allowed (AR 2007220)"*

Current TS and TS Bases controls

TSTF-439, Revision 2, removed the second Completion Time discussion and example provided in Section 1.3, Completion Times, from the Standard Technical Specifications - Westinghouse Plants of NUREG-1431, Revision 3. However, Point Beach TS 1.3, Completion Times, is not proposed for change. This is because no changes are proposed to TS 3.6.6, Containment Spray and Cooling Systems, which retains second Completion Times for the following TS 3.6.6, Conditions:

- Condition A - One containment spray train inoperable.
- Condition C - One or two accident fan cooler unit(s) inoperable.
- Condition D - One required accident fan cooler unit service water outlet valve inoperable.

Similarly, the second Completion Time for Condition F (below) of TS 3.7.8, Service Water (SW) System, is retained:

- Condition F - One or more opposite unit containment accident fan cooler unit SW outlet motor-operated valves open AND Opposite unit containment accident fan cooler unit SW flowpath not isolated.

As such, the existing controls which prohibit prolonged periods of failing to satisfy LCO 3.6.6 or LCO 3.7.8 remain applicable, including the second Completion Times of LCO 3.6.6, Conditions A, C and D, and LCO 3.7.8, Condition F, the second Completion Time discussions in the corresponding TS Bases sections, and the second Completion Time example provided in Point Beach TS 1.3, Completion Times.

References:

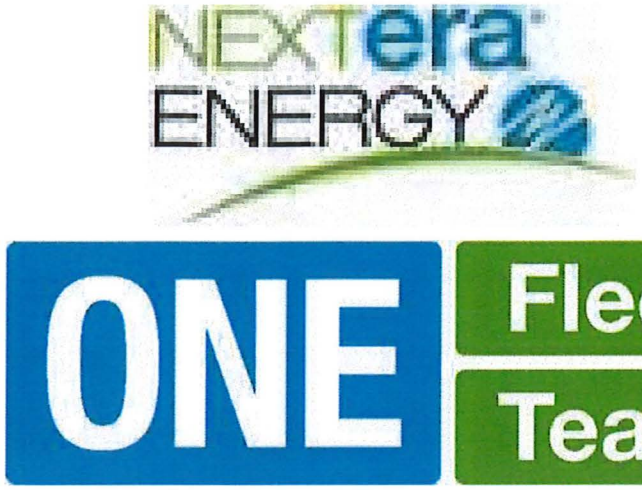
1). NRC email memorandum dated June 27, 2022, Point Beach Nuclear Plant, Units 1 and 2 TSTF-505 Amendment Draft Supplemental Information Needed

2). License Amendment Request 297, Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, "Provide Risk Informed Extended Completion Times - RITSTF Initiative 4b", May 20, 2022 (ADAMS Accession No. ML22140A131)

ATTACHMENT containing
ENCLOSURE 4, Revision 1

(14 pages follow)

PBN 4b LAR Enclosure 4, Other Sources of Risk



Probabilistic Risk Assessment Group

PBN-BFJR-22-007

Revision 1

July 2022

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1.0 Introduction and Scope

Section 3 of the Nuclear Regulatory Commission's (NRC) Final Safety Evaluation (Reference 1, 2) for NEI 06-09, Revision 0-A, "Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines" (Reference 3) and Section 4.0, item 5 for Reference 3, require that the License Amendment Request (LAR) provide a justification for excluding any risk sources determined to be insignificant to the calculation of configuration-specific risk, and provide a discussion of any conservative or bounding analyses to be applied to the calculation of Risk-Informed Completion Times (RICTs) for sources of risk not addressed by the PRA models.

This attachment provides information supporting justification of excluding sources of risk not addressed by the Point Beach Nuclear Plant (PBNP) PRA.

The scope of this enclosure is consideration of the hazards listed in Table E4-1 for applicability to PBNP. Seismic events in particular are evaluated quantitatively in Section 2.2, and the other listed external hazards are evaluated and screened as low risk in Table E4-1.

Revision Summary:

Revision 1: Incorporated reference clarifications.

2.0 Technical Approach

The guidance contained in NEI 06-09 Rev, 0-A states that all hazards that contribute significantly to incremental risk of a configuration must be quantitatively addressed in the implementation of RMTS. The process of assessing the risk from Other Hazards starts by identifying a comprehensive list of potential hazards that could affect the site. Each identified hazard is then characterized to describe specifically how the hazard could impact the plant. Finally, a progressive screening process is used that includes:

- A qualitative screening of hazards based on their limited potential impact, using a set of screening criteria listed in Table E4-2 below;
- A quantitative screening based on conservative estimates of the hazard and consequences, using the screening criteria listed in Table E4-2 below; or
- A detailed quantification of specific hazard scenarios. Hazard scenarios that do not screen out qualitatively or quantitatively are included in the PRA.

Table E4-2 summarizes the qualitative and quantitative screening criteria used in this analysis.

The methodologies used for identification, characterization, qualitative screening, and quantitative assessment are documented in the fleet procedure, PRA Configuration Control and Model Maintenance. These methods are consistent with the screening and assessment processes identified in the supporting requirements of Parts 6 and 7 of the ASME/ANS PRA Standard Addendum A (Reference 4), as endorsed by NRC Regulatory Guide 1.200 Rev. 2 (Reference 6).

2.1 High Winds (WPRA):

The high winds hazard was screened from applicability in the Point Beach IPEEE (Reference 7) based on a CDF of 3.4E-7 /yr (Figure 1.4-1 of IPEEE). Note that in other sections of the IPEEE, a high winds CDF value of 2.6E-7 /yr is stated; however, the NRC's TER and SER quotes the higher value so that is what will be used here. This conclusion is consistent with the screening criteria in Section 6-2 of the ASME/ANS RA-Sa 2009. Significant plant modifications installed since the IPEEE will lower the high winds CDF; therefore, continuing to screen this hazard from applicability based on the low risk determined in the IPEEE is judged to be conservative. The significant plant modifications that are not included in the IPEEE evaluation include:

- Added two new emergency diesel generators in a new building
- Relocated the B-Train 4,160 VAC switchgear to a new building
- Added three new sets of safety-related batteries
- Added three new safety related battery chargers
- Added two new 125 VDC distribution panels
- Added two new motor-driven AFW pumps
- Added missile protection for condensate storage tank (CST)
- Protected CST level instrumentation
- Incorporated strategies for FLEX, including low-leakage RCP seals,
- AFW cross-tie capabilities, and portable equipment for inventory makeup and decay heat removal

2.2 Seismic

The original seismic CDF (~1995) estimate from IPEEE (Reference 7) is 1.31E-5 /yr using the 1993 seismic hazard curves developed by LLNL. It is estimated in the IPEEE that a reduction to 1.1E-5 /yr would be obtained once the seismic upgrades, committed to be performed in the USI A-46 program, were completed. The Point Beach seismic CDF estimate was revised to 6.24E-6 /yr using the 2013 EPRI seismic hazard curves. The EPRI seismic hazard curves (GMRS) were submitted to the NRC (Reference 9) in response to the Fukushima 50.54(f) request for information. The ratio of LERF to CDF from the current Internal Events model is 0.042 (9.81E-8 / 2.36E-6 for Unit 1 and 9.63E-8 / 2.30E-6 for Unit 2). Applying this current LERF/CDF ratio to the revised seismic CDF estimate provides an estimated seismic LERF value of 2.62E-7 /yr (6.24E-6 * 0.042).

2.3 Risks from Hazard Challenges

While the direct CDF contribution from beyond design basis hazard conditions can be shown to be non-significant without a full PRA, there may be risks that are related to the fact that some external hazards can cause a plant challenge even for hazard severities that are less than the design basis limit. For example, high winds, tornadoes, and seismic events below design basis levels can cause extended loss of offsite power

conditions. Additionally, depending on the site, external floods can challenge the availability of normal plant heat removal mechanisms.

The approach to be taken in this step is to identify the plant challenges caused by the occurrence of the hazard within the design basis and evaluate whether the risks associated with these events are either already considered in the existing PRA model or they are not significant to the risk. Section 2.2 provides the analysis of the beyond design basis seismic hazards for the PBNP site, and Table E4-1 provides an analysis of the representative external hazards for PBNP.

The review and disposition of each external hazard is addressed in Table E4-1. All external hazards were screened from applicability to PBNP, Units 1 and 2 per a plant-specific evaluation in accordance with GL 88-20 and updated to use the criteria in ASME PRA Standard RA-Sa-2009. Table E4-1 provides a summary of the other external hazards screening results. Table E4-2 provides a summary of the progressive screening approach for external hazards.

Table E4-1
Evaluation of Risks from External Hazards

External Hazard	Evaluation	Disposition for RICT Program
Aircraft Impacts	One airport was identified that fell within the takeoff / landing crash probability footprint from DOE-STD-3014:The Manitowoc County Airport is 11 nautical miles from Point Beach Nuclear Plant. This airfield is restricted to general aviation only, but does have significant number of daily operations (~100). The total CDF from crashes not involving containment is 1.82e-8 /yr. LERF from containment impact is 3.74E-10/yr.	Screened based on low probability of aircraft crash and small target size of SR structures. It is concluded that no unique PRA model for Aircraft Impacts is required in order to assess configuration risk for the RICT Program. Screening criteria PS4.
Avalanche	Avalanche impacting transmission lines or switchyard or SR structures	Excluded due to site topography that would not support snow buildup that would lead to an avalanche. Screening criteria C3.
Biological Event – Animal Infestation	Animal infestation (e.g., squirrels building nests) in transmission structures causing LOOP, in onsite structures causing equipment failure. Note, a LOOP event occurred at Fermi 2, 9/14/2012 due to animal (bird) intrusion; offsite power was recovered in ~3.5 hrs. (EPRI TR-30020000697, July 2013) LOOP at Fermi 2 in 1988 due to a raccoon.	Included implicitly in LOOP initiator. Slow developing with limited impact. Screening criteria C4, C5.
Biological Event – Aquatic Grown	Storm-induced intake clogging is a more credible scenario to cause intake blockage than normal aquatic growth. Slow developing hazard, can be detected and managed. Plant programs are in place to periodically inspect and clean Differential pressure across the SW strainers and the service water header pressure are alarmed in the control room. (ARB C01 A 1-5, ARB C01 A 2-5, ARB C01 A 3-5, AOP-9A) SW strainer plugging and failure to operate are modeled in the Point Beach PRA.	Organic Material in Water is a more credible scenario to cause intake blockage than normal aquatic growth. Screening criteria C1, C3, C5.
Biological Event – Organic Material in Water	Storm induced clogging of SW screen wash and/or SW strainers are addressed in detail in the SW System Notebook. In summary, storms large enough to cause intake clogging have warning time. The screen wash system functions to remove such debris.	Slow developing hazard, can be detected and managed. Screening criteria C3, C5.
Coastal Erosion	Coastal erosion undermining SW structure (river, lake, ocean intake), causing loss of UHS.	Excluded based on design of plant. Screening criteria C3

Table E4-1
Evaluation of Risks from External Hazards

External Hazard	Evaluation	Disposition for RICT Program
Drought	Drought resulting in low water level in UHS (lake, river).	Excluded since the capacity of the Ultimate Heat Sink (UHS) is not impacted by drought. Screening criteria C3.
External Flooding	The external flooding hazard at the site was recently evaluated as a result of the post-Fukushima 50.54(f) Request for Information and the flood hazard reevaluation report (FHRR) was submitted to NRC for review on March 12, 2015 (Reference 10). The results indicate that flooding from all hazards, except local intense precipitation, are bounded by the current licensing basis (CLB) and do not pose a challenge to the plant. Flooding from local intense precipitation was subsequently evaluated (Reference 11). Point Beach's focused evaluation and Mitigating Strategies Assessment (MSA) for flooding (Reference 12) conclude that the current station procedures for implementing the FLEX strategy provide an acceptable method of assuring safe shutdown.	This external hazard is effectively screened based on being an event of equal or lesser damage potential than previous events for which the plant has been designed. It is concluded that no unique PRA model for External Flooding is required in order to assess configuration risk for the RICT Program. Screening criteria C1.
Extreme Winds and Tornados (including generated missiles)	Significant plant modifications installed since the IPEEE will lower the high winds CDF; therefore, continuing to screen this hazard from applicability based on the low risk determined in the IPEEE is judged to be conservative. The significant plant modifications that are not included in the IPEEE evaluation include: o Added two new emergency diesel generators in a new building o Relocated the B-Train 4,160 VAC switchgear to a new building o Added three new sets of safety-related batteries o Added three new safety related battery chargers o Added two new 125 VDC distribution panels o Added two new motor-driven AFW pumps o Added missile protection for condensate storage tank (CST) o Protected CST level instrumentation o Incorporated strategies for FLEX, including low-leakage RCP seals, o AFW cross-tie capabilities, and portable equipment for inventory makeup and decay heat removal	The High Winds hazard was screened from applicability in the IPEEE. This conclusion is consistent with the screening criteria in Section 6-2 of the ASME/ANS RA-Sa 2009. Significant plant modifications installed since the IPEEE will lower the High Winds CDF; therefore, screening this hazard from applicability based on the IPEEE is judged to be conservative. It is concluded that no unique PRA model for Extreme Winds and Tornados is required in order to assess configuration risk for the RICT Program. Screening criteria PS4.

Table E4-1
Evaluation of Risks from External Hazards

External Hazard	Evaluation	Disposition for RICT Program
Fog	Fog / mist leading to transportation accidents.	Fog and mist may increase the frequency of accidents involving aircraft, ships, or vehicles. This weather condition is included implicitly in the accident rate data for these Transportation Accidents. Screening criteria C4.
Forest Fires	Forest fires in the plant vicinity were evaluated as having a minimal potential impact on the plant and are bounded by the effects of a loss of offsite power.	Included implicitly in LOOP initiator. Forest & grass are somewhat distant from the plant with no immediate impact on equipment. It is concluded that no unique PRA model for External Fires is required in order to assess configuration risk for the RICT Program. Screening criteria C1, C3, C4, C5.
Frost	Weight of ice failing transmission lines, causing LOOP.	Included implicitly in weather-related LOOP. Screening criteria C4.
Hail	Extreme sized hail, causing failure of SR equipment due to direct impact; Extreme sized hail impacting transmission lines, causing LOOP.	Building design for high wind and missiles is bounding. Included implicitly in weather-related LOOP initiator. Screening criteria C1, C4.
High Summer Temperature - Air	High air temperature impacting ventilation or high water temperature impacting UHS.	Plant AC ventilation is designed for extreme heat load. Slow developing hazard, can be detected and managed. Screening criteria C1, C5.
High Summer Temperature - Water	High water temperature in lake / river, reducing effectiveness of UHS.	Plant is designed for extreme high Lake Michigan temperature. Slow developing hazard, can be detected and managed. Screening criteria C1, C5.
High Tide, Lake Level, or River Stage	Site flooding due to the combined effects of high tide, hurricane or other extreme storms, intense precipitation, storm surge, tsunami, and wave runup. Flooding can result in excess leakage into site buildings, but can potentially cause failure of structures, doors or penetrations due to hydrostatic and/or hydrodynamic loads and impacts from floating debris.	High Tide and River Stage hazards are not applicable to Point Beach since Point Beach is not located on an ocean or a river. Lake Level hazard is included in External Flooding PRA documented in IPEEE. Screening criteria C3, C4.

Table E4-1
Evaluation of Risks from External Hazards

External Hazard	Evaluation	Disposition for RICT Program
Hurricane		Not applicable to Point Beach since Point Beach is not located in a Hurricane zone. Screening criteria C3.
Ice Cover	Weight of ice failing transmission lines, causing LOOP.	Included implicitly in weather-related LOOP. Screening criteria C4.
Accidents From Nearby Facilities	There are no industrial or military facilities in the vicinity of Point Beach Nuclear Plant which would cause: 1) pressure wave that would fail a SR structure, 2) sufficient ground vibration for relay chatter, 3) control room habitability issues, or 4) chemical release into the water sufficient to impact the UHS. PBNP Site calculation concluded that there were no hazardous chemicals on or near the site which would cause control room habitability issues.	It is concluded that no unique PRA model for Accidents From Nearby Facilities is required in order to assess configuration risk for the RICT Program. Screening criteria C1, C3.
Landslide	Landslide impacting transmission lines or switchyard or SR structures	Excluded due to site topography that would not support landslide of any significance. Screening Criteria C3.
Lightning	Direct lightning strike on SY or multiple strikes on transmission lines causing LOOP Lightning causing electrical over-current, failing of SR electrical equipment Lightning causing fire in electrical equipment	Included implicitly in weather-related LOOP. The plant grounding system provides protection to emergency AC power to reduce the likelihood of lightning-induced failure. Screening Criteria C1, C4.
Low Lake Level or River Stage		Excluded based on location of intake which is approximately 22 feet below the surface of Lake Michigan. Screening Criteria C3.
Low Winter Temperature - Air	Low temperature impacting Heat Sink	Seasonal Readiness process prepares site for reliable operation sustained cold weather periods. Screening Criteria C1, C5.
Low Winter Temperature - Water	Low temperature impacting Heat Sink	Excluded based on location of intake which is approximately 22 feet below the surface of Lake Michigan. Screening Criteria C1, C3.

Table E4-1
Evaluation of Risks from External Hazards

External Hazard	Evaluation	Disposition for RICT Program
Meteorite or Satellite Impact	Meteorite penetrating SR structure, failing SR equipment or causing fire or flood due to direct impact or due to concrete spalling.	Conservative bounding assessment shows that these events can be screened. Extremely unlikely for satellite debris of any significant size to hit the site. Any such strike would be localized and not expected to cause direct core damage. Screening Criteria PS4, C2.
Pipeline Accidents (e.g., natural gas)	There are no pipelines in the vicinity of Point Beach Nuclear Plant.	It is concluded that no unique PRA model for Pipeline Accidents is required in order to assess configuration risk for the RICT Program. Screening criteria C3.
Release of Chemicals Stored at the Site	PBNP Site calculation concluded that there were no hazardous chemicals on or near the site which would cause control room habitability issues.	It is concluded that no unique PRA model for Release of Chemicals Stored at the Site is required in order to assess configuration risk for the RICT Program. Screening criteria C1.
River Diversion	River diversion resulting in low water level in UHS (lake, river).	Excluded since UHS does not depend on a river. Screening criteria C3.
Sand or Dust Storm	Sand overloading air filters, which fail allowing sand to impact mechanical / electrical equipment.	Plant equipment is protected from or designed to preclude foreign material. Screening criteria C1, C3
Seiche		Included in External Flooding PRA documented in IPEEE.
Snow	Structural failure due to weight of snow Snowfall / drifts plugging air intakes, causing failure of SR equipment (e.g., DGs)	Plant design includes snow loads and other bounding loads. Included implicitly in weather-related LOOP initiator. Screening criteria C1, C4, C5.
Soil Shrink-Swell Consolidation	Soil shrink causing differential movement of SR structures or buried pipe.	Excluded based on structures founded on bedrock and/or engineered fill. Screening criteria C3
Storm Surge	Site flooding due to the combined effects of high tide, hurricane or other extreme storms, intense precipitation, storm surge, tsunami, and wave runup. Flooding can result in excess leakage into site buildings, but can potentially cause failure of structures, doors or	Included in External Flooding PRA documented in IPEEE.

Table E4-1
Evaluation of Risks from External Hazards

External Hazard	Evaluation	Disposition for RICT Program
	penetrations due to hydrostatic and/or hydrodynamic loads and impacts from floating debris.	
Toxic Gas	Chemical release from toxic gas release, impacting CR habitability.	There are no hazardous chemicals on or near the site which would cause control room habitability issues. Screening criteria C3.
Transportation Accidents	Ship-related hazards are screened based on the relatively flat slope of the lake bottom in the vicinity of the intake structure, the pump house structure, and the quantity and type of materials shipped. These are not expected to change. Thus, this hazard does not need to be assessed periodically. The nearest major highway, Interstate 43, is located more than 11 miles from Point Beach Nuclear Plant. The only other numbered highway in the vicinity of Point Beach Nuclear Plant is Wisconsin State Highway 42, which at its nearest point is approximately 4000 feet from the center of Point Beach Nuclear Plant. The nearest railway is approximately 10 miles from Point Beach Nuclear Plant. Impact from a large vehicle is not likely since the area with three of four transmission lines is not the main access road to the plant for trucks. While a truck could potentially cause damage to one of the lines, there is always at least one line which would not be affected and thus a loss of offsite power will not occur.	It is concluded that no unique PRA model for Transportation Accidents is required in order to assess configuration risk for the RICT Program. Screening criteria C1, C2, C3, C4.
Tsunami	Site flooding due to the combined effects of high tide, hurricane or other extreme storms, intense precipitation, storm surge, tsunami, and wave runup. Flooding can result in excess leakage into site buildings, but can potentially cause failure of structures, doors or penetrations due to hydrostatic and/or hydrodynamic loads and impacts from floating debris.	Not applicable to Point Beach since Point Beach is not located on an ocean. Screening criteria C3.
Turbine-Generated Missiles	PBNP site evaluation determined the conservative estimate of CDF from turbine wheel failure is 2.35E-08 /yr for Unit 1 and 2.33E-08 /yr for Unit 2. This low CDF total allows the risk from turbine missiles to be screened quantitatively based (CDF < ~1e-7 /yr). Because turbine missiles are not expected to have sufficient energy to penetrate containment because the containment has 3 foot thick	It is concluded that no unique PRA model for Turbine-Generated Missiles is required in order to assess configuration risk for the RICT Program. Screening criteria PS4.

Table E4-1
Evaluation of Risks from External Hazards

External Hazard	Evaluation	Disposition for RICT Program
	reinforced concrete walls and ceiling and because the containment liner should prevent spalling, the ratio of CDF to LERF from internal events would apply. LERF is approximately an order of magnitude less than CDF for Point Beach. Therefore, LERF for Unit 1 is estimated to be 2.35E-09 and Unit 2 LERF 2.33E-09.	
Volcanic Activity	Volcanoes can cause direct impact from hot lava or volcanic dust clogging filters and impacting ventilation systems	Excluded due to distance from nearest potentially active volcano. Screening criteria C3, C5
Waves	Site flooding due to the combined effects of high tide, hurricane or other extreme storms, intense precipitation, storm surge, tsunami, and wave runup. Flooding can result in excess leakage into site buildings, but can potentially cause failure of structures, doors or penetrations due to hydrostatic and/or hydrodynamic loads and impacts from floating debris.	Included in External Flooding PRA documented in IPEEE.

E4-2: Progressive Screening Approach for Addressing External Hazards			
Event Analysis	**Criterion**	**Source**	**Comments**
Initial Preliminary Screening	C1. Event damage potential is < events for which plant is designed.	NUREG/CR-2300 and ASME/ANS Standard RA-Sa-2009	
	C2. Event has lower mean frequency and no worse consequences than other events analyzed.	NUREG/CR-2300 and ASME/ANS Standard RA-Sa-2009	
	C3. Event cannot occur close enough to the plant to affect it.	NUREG/CR-2300 and ASME/ANS Standard RA-Sa-2009	
	C4. Event is included in the definition of another event.	NUREG/CR-2300 and ASME/ANS Standard RA-Sa-2009	Not used to screen. Used only to include within another event.
	C5. Event develops slowly, allowing adequate time to eliminate or mitigate the threat.	ASME/ANS Standard	
Progressive Screening	PS1. Design basis hazard cannot cause a core damage accident.	ASME/ANS Standard RA-Sa-2009	
	PS2. Design basis for the event meets the criteria in the NRC 1975 Standard Review Plan (SRP).	NUREG-1407 and ASME/ANS Standard RA-Sa-2009	
	PS3. Design basis event mean frequency is < 1E-5/y and the mean conditional core damage probability is < 0.1.	NUREG-1407 as modified in ASME/ANS Standard RA-Sa-2009	
	PS4. Bounding mean CDF is < 1E-6/y.	NUREG-1407 and ASME/ANS Standard RA-Sa-2009	
Detailed PRA	Screening not successful. PRA needs to meet requirements in the ASME/ANS PRA Standard.	NUREG-1407 and ASME/ANS Standard RA-Sa-2009	

3.0 References

1. Nuclear Regulatory Commission (NRC), "Final Revised Model Safety Evaluation of Traveler TSTF-505, Revision 2, 'Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4b'", ADAMS Accession No. ML18253A085, dated November 21, 2018.
2. Risk-Infomed Technical Specification Task Force,TSTF Comments on Draft Safety Evaluation for Traveler TSTF-505, 'Provide Risk-Informed Extended Completion Times' and Submittal of TSTF-505, Revision 2," ADAMS Accession No. ML18183A493, dated July 2, 2018.
3. Nuclear Energy Institute (NEI),"Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines," ADAMS Accession No. ML12286A322 Revision 0-A, dated November 2006.
4. ASME/ANS,"Addenda to ASME/ANS RA-S-2008 Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," RA-Sa-2009, dated February 2, 2009.
5. NRC, NUREG 1855 "Guidance on the Treatment of Uncertainties Associated with PRAs in Risk-Informed Decision Making," ADAMS Accession No. ML17062A466, Revision 1, dated March 2017.
6. NRC, Regulatory Guide 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities", Revision 2, March 2009 (ADAMS Accession No. ML090410014).
7. Wisconsin Electric letter to NRC, Summary Report On Individual Plant Examination Of External Events For Severe Accident Vulnerabilities Point Beach Nuclear Plant, Units 1 and 2, VPNPD-95-056, June 30, 1995.
8. Not Used.
9. NEE letter to NRC, *NextEra Energy Point Beach. LLC Seismic Hazard and Screening Report (CEUS Sites), Response NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding Recommendation 2.1 of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident*, NRC 2014-0024, March 31, 2014.
10. NEE Letter to NRC, NextEra Energy Point Beach, LLC, Response to NRC 10 CFR 50.54(f) Request for Information Regarding Near-Term Task Force Recommendation 2.1, Flooding - Submittal of Flooding Hazards Revaluation Report, NRC 2015-0017, March 12, 2015. (ADAMS Accession No. ML15071A413)
11. NEE Letter to NRC, *NextEra Energy Point Beach, LLC, Focused Evaluation for Local Intense Precipitation,* NRC 2017-0032, June 22, 2017. (ADAMS Accession No. ML17173A082).
12. NEE Letter to NRC, *NextEra Energy Point Beach, LLC's Notification of Full Compliance with Order EA-12-049 Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events and Submittal of Final Integrated Plan*, NRC 2015-0072, December 16, 2015. (ADAMS Accession No. ML15350A085).