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BLUECORE

LMP METHODOLOGY AND SSC CLASSIFICATION APPROACH

White Paper · Nautilus Floating Nuclear Power Plant

BLU-WP-000003 · REVISION 0 · NOVEMBER 2026

NON-PROPRIETARY VERSION

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TOTAL PAGES 51, INCLUDING THIS COVER PAGE

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Revision	Date	Description	Prepared By
0	12 NOV 2026	Initial issue	Tony Mack

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NON-PROPRIETARY VERSION

Proprietary information has been redacted per 10 CFR 2.390(a)(4). See Affidavit BLU-CORR-000009.

Redacted text is marked with [[ ]] brackets followed by one or more category letters identifying the basis for withholding:

(a) Reactor design parameters, engineering methodologies, safety system configurations, containment design, and related technical information

(b) Planned submittal scope, sequencing, and targeted dates for regulatory engagement

(c) Vendor and supplier relationships, procurement strategy, and partnership terms

(d) Competitive advantage information, novel regulatory positions, and first-mover licensing strategies

White text within the brackets preserves the original page layout. The redacted text has been replaced with dummy characters and cannot be recovered.

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1 INTRODUCTION AND PURPOSE

1.1 Purpose

This white paper describes how Bluecore Energy, Inc. (Bluecore) proposes to apply the Licensing Modernization Project (LMP) methodology of Nuclear Energy Institute (NEI) 18-04, Revision 1, as endorsed in Regulatory Guide (RG) 1.233, to the Nautilus Floating Nuclear Power Plant. The methodology would govern two related activities within a Title 10 of the Code of Federal Regulations (CFR) Part 50 construction permit application: identification and categorization of licensing basis events, and safety classification of structures, systems, and components (SSCs). The defense-in-depth evaluation of NEI 18-04 Section 5 applies to both activities. **[[**

]]a.

Bluecore requests informal written feedback from U.S. Nuclear Regulatory Commission (NRC) staff on the topics listed in Section 10 and below. **[[**
]]bd. This white paper is identified in Section 4.2 of the Bluecore Regulatory Engagement Plan, BLU-PLAN-000001, Revision 0.

Bluecore requests NRC staff feedback regarding anticipated roadblocks to the following topics:

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Upon formal submittal to the NRC, Bluecore will concurrently transmit a copy of this document to the U.S. Coast Guard (USCG) and provide an informational copy to the American Bureau of Shipping.

1.2 Scope

This white paper addresses the following topics:

- The basis for proposing the LMP methodology for a new Part 50 LWR application.
- The adaptations Bluecore proposes in order to apply NEI 18-04 to a PWR, including reconciliation of the LMP safety-related category with the definition in 10 CFR 50.2.
- The site characteristics of an offshore mooring location that affect the LMP risk metrics.
- The maritime initiating events Bluecore will include in licensing basis event identification.
- A design position on safe shutdown independent of shore-side systems, and the preliminary classification of maritime-specific SSCs that follows from it.
- The relationship between SSC classification and the Coast Guard-NRC jurisdictional framework.

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The following topics are outside the scope of this white paper and will be addressed in the submittals identified in Section 11:

- PRA results and final SSC classification lists.
- Special treatment specifications for individual SSCs.
- Chapter 15 accident analysis methods and source term methodology.
- Physical security analysis, including target set identification and security-related events, which will be addressed in the Physical Security and Cybersecurity Framework white paper. Section 5.5 describes how physical security considerations interface with the classification process.

1.3 Deployment Concept Addressed in This White Paper

Regulatory Engagement Plan Revision 0 (BLU-PLAN-000001, transmitted September 2026) describes the reference deployment as a barge moored at a pier-side berth in the Port of Long Beach. [[

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1.4 Facility Description Relevant to Classification

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2 LICENSING CONTEXT

2.1 Part 50 Licensing Basis

Bluecore's licensing framework is 10 CFR Part 50, using the two-step construction permit and operating license sequence. The safety case is organized around the General Design Criteria of 10 CFR 50 Appendix A, supplemented for the maritime deployment as described in the Principal Design Criteria Supplementation topical report. Bluecore proposes the LMP methodology as an applicant methodology within this Part 50 framework. The proposal does not seek to replace any Part 50 requirement. Any departure from a Part 50 requirement will be requested as an exemption under 10 CFR 50.12.

2.2 Basis for Proposing the LMP Methodology

Bluecore's starting point for SSC classification is conservative. The Chapter 15 deterministic accident analysis, the single failure criterion for safety-related systems, and the special treatment that Part 50 requires for safety-related SSCs are all retained. Bluecore proposes the LMP methodology to add to this deterministic foundation, not to reduce it. The methodology provides a systematic way to identify additional events, particularly maritime events without precedent in NUREG-0800, and additional SSCs that warrant safety-related classification or special treatment. It also requires an explicit evaluation of defense-in-depth adequacy. Bluecore will use risk insights to justify its classification decisions and to focus attention on the most safety-significant SSCs, not to minimize regulatory requirements.

Part 50 does not prescribe a method for a new applicant to classify SSCs. Operating plants and the large LWR designs certified under Part 52 classified SSCs using deterministic criteria tied to the Chapter 15 design basis accidents, with quality group classification under RG 1.26 and seismic classification under RG 1.29.

NEI 18-04 was written for this situation. It derives the licensing basis from a design-specific PRA evaluated against a frequency-consequence target, and it classifies SSCs according to the safety functions that the PRA and the deterministic analysis credit. RG 1.233 endorses NEI 18-04 for non-LWR designs. Bluecore requests NRC acceptance of its use for the BC-15, subject to the adaptations described in Section 3.

Figure 2-1 shows how Bluecore will apply the classification process across the major areas of the facility. The same process is applied to every SSC, whether it is located on the barge, in the subsea links, or on shore. Maritime codes and other industry standards are sources of special treatment once

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a classification has been made; they are not separate classification methods. The categories shown are preliminary and will be confirmed through the PRA and the integrated decision-making process (Sections 6 and 7).

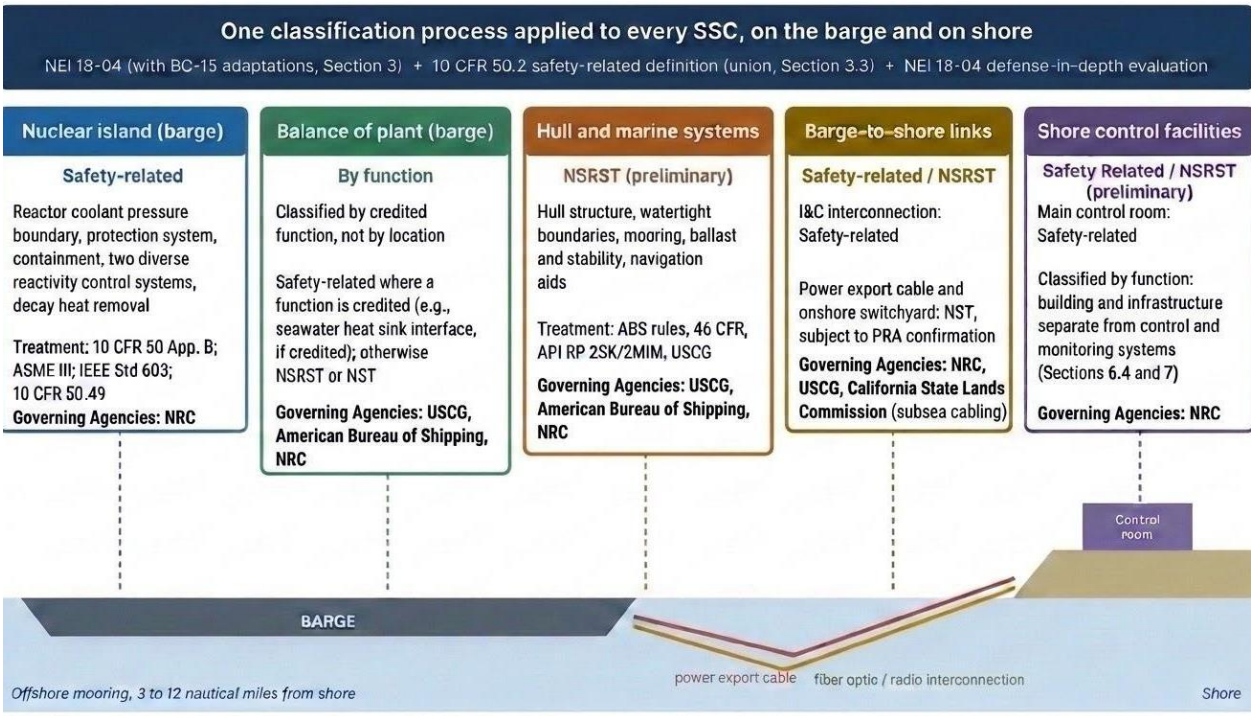

Figure 2-1: Application of the BC-15 Classification Process Across the Facility (Preliminary)

Bluecore's reasons for proposing the methodology for the BC-15 are as follows:

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- The NRC's final rule establishing 10 CFR Part 53, published March 30, 2026 and effective April 29, 2026, is largely based on the LMP methodology and is available to any reactor

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technology, including LWRs. Bluecore's application remains under Part 50. The Part 53 rule shows that the NRC applies LMP concepts across reactor technologies.

2.3 Relationship to Chapter 15 Analysis

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2.4 Precedent

Terrestrial Energy USA's white paper on safety classification of Integral Molten Salt Reactor SSCs (ML21323A014) correlated a classification scheme developed for Canadian Nuclear Safety Commission review with the NRC safety-related and NSRST categories. Bluecore has followed the structure of that correlation in Appendix A. [[

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NRC staff has also applied a frequency-based licensing basis event process to an LWR. NUREG-1860, Volume 2, Appendix E, applied the technology-neutral framework to a currently licensed PWR using a Level 2 Standardized Plant Analysis Risk (SPAR) model. The process identified 34 licensing basis events, including station blackout and anticipated transient without scram sequences. NUREG-1860 is a feasibility study and does not represent a staff position. Bluecore cites it as evidence that a PRA-based licensing basis event process is workable for an LWR.

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3 APPLICATION OF NEI 18-04 TO THE BC-15

3.1 Overview

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NEI 18-04 Figure 5-4 describes an integrated process that begins with initial design capabilities and a frequency-consequence target derived from top-level regulatory criteria. The PRA identifies event sequences, which are grouped into event sequence families and assigned to the NEI 18-04 frequency categories listed in Table 3-1. The risks of these licensing basis events are evaluated against the frequency-consequence target and the cumulative risk targets. SSCs are then classified according to the functions they perform in preventing and mitigating licensing basis events, and defense-in-depth adequacy is evaluated for both plant capability and programmatic measures. The integrated decision-making process described in NEI 18-04 Section 5.9 reviews and documents each step. NEI 18-04 identifies a standing panel as one means of carrying out this process. The process is iterative and is repeated as the design and PRA mature.

Bluecore will apply this process as written, except for the adaptations summarized in Part B of Table 3-1 and discussed in Sections 3.3 through 3.6. Section 3.4 also identifies elements of the referenced methodologies that Bluecore has intentionally not adopted, and why.

3.2 Crosswalk Summary

Table 3-1 is divided into two parts. **Part A** lists the NEI 18-04 elements that Bluecore will use as written, consistent with the methodology the NRC endorsed in RG 1.233. **Part B** lists the elements that Bluecore has adapted for an LWR licensed under Part 50. The Part B adaptations are the principal subject of this white paper and are the elements on which Bluecore most needs NRC feedback. Each adaptation adds a deterministic requirement or an LWR-specific standard to the NEI 18-04 process; none removes an NEI 18-04 requirement.

Table 3-1: Application of NEI 18-04 Elements to the BC-15

NEI 18-04 Element	NEI 18-04 Basis	BC-15 Application	Status
Part A. Elements adopted as written (NRC-endorsed methodology, RG 1.233)			

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NEI 18-04 Element	NEI 18-04 Basis	BC-15 Application	Status
Frequency-consequence target	Section 3, Figure 3-1	[[ ]]a.	**Adopted as written**
Licensing basis event frequency categories	Anticipated operational occurrence: 1E-2 per plant-year and above. Design basis event: 1E-4 to 1E-2. Beyond design basis event: below 1E-4, with upper bound frequency above 5E-7.	[[ ]]a.	**Adopted as written**
Cumulative risk targets	10 CFR 20.1301 annual dose limit and the NRC quantitative health objectives	[[ ]]a.	**Adopted as written**
Non-safety-related categories (with and without special treatment)	Section 4	[[ ]]a.	**Adopted as written**
Defense-in-depth evaluation	Section 5	[[ ]]a.	**Adopted as written**
Integrated decision-making process	Section 5	[[ ]]a.	**Adopted as written**
Part B. Elements adapted for the BC-15 LWR (NRC feedback requested)			
Probabilistic risk assessment standard	ASME/ANS RA-S-1.4 (non-LWR PRA standard), endorsed with exceptions and clarifications in trial RG 1.247.	[[Information withheld from public disclosure pursuant to 10 CFR 2.390(a)(4). See Affidavit BLU-CORR-000009. Information withheld from public disclo]]ad.	**Adapted (Section 5.1)**
Risk metrics	Dose-based frequency-consequence target and cumulative risk targets	[[Information withheld from public disclosure pursuant to 10 CFR 2.390(a)(4). See Affidavit BLU-CORR-0000]]ad.	**Adapted (Section 5.1)**
Source term	Mechanistic source term	[[Information withheld from public disclosure pursuant to 10 CFR 2.390(a)(4). See Affidavit BLU-CORR-0]]ad.	**Adapted (Section 3.4)**
Design basis accident selection	Design basis events analyzed crediting only safety-related SSCs, with conservative assumptions	[[Information withheld from public disclosure pursuant to 10 CFR]]ad.	**Adapted (Section 3.4)**

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NEI 18-04 Element	NEI 18-04 Basis	BC-15 Application	Status
Deterministic criteria by frequency category	None beyond the design basis accident analysis	**[[** Information withheld from public disclosure pursuant to 10 CFR 2.390(a)(4). See Affidavit BLU-CORR-000009. Information withheld from public disc **]]ad**.	**Adapted (Section 3.6)**
Safety-related definition	SSCs selected for required safety functions for design basis events and high-consequence beyond design basis events	**[[** Information withheld from public disclosure pursuant t **]]ad**.	**Adapted (Section 3.3)**

Source: NEI 18-04, Revision 1, as endorsed in RG 1.233 (NEI 18-04 Basis column).

3.3 Reconciliation of the Safety-Related Category with 10 CFR 50.2

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Reconciliation is needed because the two definitions come from different regulatory frameworks. NEI 18-04 was developed for non-LWRs, and RG 1.233 notes that the NEI 18-04 safety-related category is not the same as the definition in 10 CFR 50.2. The BC-15 is an LWR licensed under Part 50, where the 10 CFR 50.2 definition and the requirements that depend on it continue to apply. **[[**

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The two definitions of safety-related differ. 10 CFR 50.2 defines safety-related SSCs as those "relied upon to remain functional during and following design basis events to assure: (1) The integrity of the reactor coolant pressure boundary; (2) The capability to shut down the reactor and maintain it in a safe shutdown condition; or (3) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the applicable guideline exposures set forth in § 50.34(a)(1) or § 100.11 of this chapter, as applicable."

NEI 18-04, Revision 1, as endorsed in RG 1.233, defines safety-related SSCs in two parts:

> "SSCs selected by the designer from the SSCs that are available to perform the [required safety functions] to mitigate the consequences of [design basis events] to within the [licensing basis event frequency-consequence] target, and to mitigate [design basis accidents] that only rely on the [safety-related] SSCs to meet the dose limits of 10 CFR 50.34 using conservative assumptions."

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> "SSCs selected by the designer and relied on to perform [required safety functions] to prevent the frequency of [beyond design basis events] with consequences greater than the 10 CFR 50.34 dose limits from increasing into the [design basis event] region and beyond the [frequency-consequence] target."

Bracketed terms expand abbreviations used in the original text. The principal difference is the event set to which each definition is tied. The 10 CFR 50.2 definition is tied to the deterministic design basis events of Chapter 15 and to three specific functions: reactor coolant pressure boundary integrity, safe shutdown, and limiting offsite dose. The NEI 18-04 definition is tied to the events identified by the PRA and to the frequency-consequence target, and it also captures SSCs that prevent high-consequence beyond design basis events from becoming more frequent. Each definition can therefore identify SSCs that the other does not.

Bluecore proposes that the BC-15 safety-related set be the union of two groups:

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3.4 Design Basis Accidents

Bluecore will define the BC-15 design basis accident set as the combination of two sources. **[[**

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The following elements of the referenced methodologies are intentionally not adopted, or are modified, for the BC-15:

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3.5 Single Failure Criterion

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3.6 Supplemental Deterministic Criteria by Frequency Category

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For anticipated operational occurrences:

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For design basis events:

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4 SITE CHARACTERISTICS AFFECTING RISK METRICS

4.1 Offshore Mooring Location

[[ ]]a. At these distances the plant is seaward of state submerged lands, which extend 3 geographical miles (approximately 3 nautical miles) from the coastline under the Submerged Lands Act, and within the 12-nautical-mile territorial sea of the United States. [[

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4.2 Exclusion Area Boundary and Dose Evaluation Point

The frequency-consequence target is evaluated at the exclusion area boundary. [[

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4.3 Population and Cumulative Risk Metrics

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In land-based applications, the NEI 18-04 methodology assesses the quantitative health objectives based on the mean individual prompt fatality risk within a 1-mile boundary of the exclusion area boundary and the mean individual latent cancer fatality risk within a 10-mile radius. [[

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4.4 Offshore Environmental and Operational Conditions

The offshore location affects the licensing basis event identification and classification in the following ways:

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5 LICENSING BASIS EVENT IDENTIFICATION

5.1 PRA Scope at the Construction Permit Stage

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At the construction permit stage the PRA will reflect preliminary design information. Classifications made at the construction permit stage are preliminary and will be confirmed with the as-designed PRA at the operating license stage.

5.2 Event Sequence Families

Event sequences will be grouped into families that challenge plant safety functions in a similar manner, with a common plant response and, where a release occurs, a common source term. Each family will be assigned a frequency category based on its mean frequency, with the uncertainty distribution considered at the category boundaries as NEI 18-04 describes.

5.3 Maritime Initiating Events

In addition to the initiating events evaluated for a land-based PWR, Bluecore will evaluate the following maritime initiating events:

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Section 5.5 describes how physical security considerations relate to these maritime initiating events and to SSC classification.

5.4 Moored and Transit Conditions

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5.5 Relationship to Physical Security Design

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6 SAFETY FUNCTIONS AND THE CLASSIFICATION PROCESS

6.1 Required Safety Functions

NEI 18-04 Figure 3-3 lists the fundamental safety functions that apply to all reactor technologies: "Control heat generation," "Control heat removal," and "Retain radionuclides." Bluecore will define the BC-15 PRA safety functions as the reactor-specific functions that achieve these fundamental safety functions and will identify the SSCs that perform each function for each event sequence family.

6.2 Classification Logic

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6.3 Design Position: Safe Shutdown Independent of Shore Systems

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The classification of the shore-side SSCs and the mooring system depends on whether the safety case relies on them to achieve and maintain safe shutdown. [[

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Bluecore will identify the electrical loads credited to accomplish or maintain each required safety function, and the power source credited for each load, for the following periods:

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6.4 Control Room Functions and Remote Shutdown Capability

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7 PRELIMINARY CLASSIFICATION OF MARITIME-SPECIFIC SSCS

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Table 7-1 presents Bluecore's preliminary classification of maritime-specific SSCs. The classifications assume the design position in Section 6.3 and will be confirmed through the PRA and the integrated decision-making process. SSCs common to land-based PWRs, such as the reactor coolant pressure boundary, the RPS, and the containment, will be classified in the PRA and SSC Classification topical report. [[

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Table 7-1: Preliminary Classification of Maritime-Specific SSCs

SSC	Functions	Preliminary Category	Basis	Treatment Source
Hull structure	Buoyancy; structural foundation for the containment and NSSS supports	[[ ]]ad	[[ ]]ad.	American Bureau of Shipping rules; 46 CFR; supplemental NRC-specific requirements for hull elements that support the containment and NSSS
Watertight boundaries, cofferdams, bilge systems, and flooding detection	Prevention of progressive flooding; separation of containment from hull deformation	[[ ]]ad	[[ ]]ad	Baseline maritime requirements: American Bureau of Shipping rules; 46 CFR damage stability requirements

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SSC	Functions	Preliminary Category	Basis	Treatment Source
Mooring and station-keeping system	Maintains vessel position and the integrity of shore connections	[[ ]]ad	[[ ]]ad	American Petroleum Institute (API) Recommended Practice (RP) 2SK; API RP 2MIM; American Bureau of Shipping rules
Ballast and vessel stability systems	Maintain intact stability and control heel and trim	[[ ]]ad	[[ ]]ad	American Bureau of Shipping rules; 46 CFR stability requirements
Barge-to-shore interconnection	Carries control and monitoring signals, including manual reactor trip; physical pathways are the subsea fiber optic assemblies, the diverse wireless link, and network equipment	[[ ]]ad	[[ ]]ad.	Graded NQA-1; reliability and availability targets (Section 8.2); cybersecurity program under 10 CFR 73.54
Interconnection loss detection and trip logic on the barge	Detects loss of interconnection and initiates reactor trip	[[ ]]ad	[[ ]]ad	10 CFR 50 Appendix B; IEEE Std 603
Shore-based main control room building and supporting infrastructure	Houses licensed operators; habitability; normal control and emergency response	[[ ]]ad	[[ ]]ad	Graded NQA-1; applicable building codes; supplemented where a credited function requires

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SSC	Functions	Preliminary Category	Basis	Treatment Source
Main control room control, monitoring, and communication systems	Manual reactor trip; plant monitoring, including post-accident monitoring; manual actions beyond the grace period	[[ ]]ad	[[ ]]ad	10 CFR 50 Appendix B and IEEE Std 603 where safety-related; graded NQA-1 otherwise
Alternate shutdown station (BC-15 barge)	Shutdown capability outside the main control room under General Design Criterion 19	[[ ]]ad	[[ ]]ad	10 CFR 50 Appendix B and IEEE Std 603 where safety-related; graded NQA-1 otherwise
Subsea cables and onshore switchyard	Plant output to the grid; offsite power supply	[[ ]]ad	[[ ]]ad	Applicable subsea cable and utility standards
Ultimate heat sink interface	Heat rejection from decay heat removal and normal cooling systems	[[ ]]ad	[[ ]]ad	10 CFR 50 Appendix B where safety-related
Navigation aids and collision warning systems	Reduce ship collision frequency	[[ ]]ad	[[ ]]ad	USCG requirements; 33 CFR
Gravity-independent diverse shutdown system	Reactivity control at any vessel orientation	[[ ]]ad	[[ ]]ad	10 CFR 50 Appendix B; IEEE Std 323; 10 CFR 50.49
Crew boat landing	Personnel and material transfer	[[ ]]ad	[[ ]]ad	American Bureau of Shipping rules; 46 CFR

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]]ad.

[[

]]a.

General Design Criterion 2 requires that SSCs important to safety be designed to withstand the effects of natural phenomena without loss of capability to perform their safety functions. [[

]]ad.

[[

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]]ad.

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8 SPECIAL TREATMENT AND DEFENSE-IN-DEPTH

8.1 Safety-Related SSCs

Safety-related SSCs will receive the special treatment required under Part 50, including 10 CFR 50 Appendix B quality assurance, ASME Code Section III design and fabrication for pressure-retaining components, Institute of Electrical and Electronics Engineers (IEEE) Std 603 for safety systems (the 1991 edition incorporated by reference in 10 CFR 50.55a(h), or the 2018 edition if the NRC's December 2025 proposed incorporation by reference is finalized), and environmental qualification under 10 CFR 50.49. [[

]]a.

8.2 NSRST SSCs

[[

]]d.

For each NSRST SSC, Bluecore will define reliability and capability targets that support the function credited in the PRA or the defense-in-depth evaluation, as NEI 18-04 Section 4 describes. Special treatment will be selected to provide confidence that the targets are met. [[

]]d. The proposed maritime treatment sources are:

- [[

]]ac.

- 46 CFR, for intact and damage stability and for vessel inspection.
- [[

]]a.

- [[

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]]cd.

8.3 Defense-in-Depth Evaluation

Bluecore will evaluate plant capability defense-in-depth and programmatic defense-in-depth following NEI 18-04 Section 5. For each licensing basis event, the evaluation will identify the layers of defense challenged and confirm that no single layer is relied upon exclusively. [[

]]a.

[[

]]ad.

The supplemental deterministic criteria in Section 3.6 provide an additional check on plant capability defense-in-depth for anticipated operational occurrences and design basis events.

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9 RELATIONSHIP TO USCG-NRC JURISDICTION

9.1 Classification as an Input to the Jurisdictional Criterion

The USCG-NRC Coordination and Jurisdictional Oversight white paper (BLU-WP-000001) proposes a function-based criterion for assigning lead agency oversight: whether the function is credited in the nuclear safety basis. [[

]]ad.

9.2 Offshore Jurisdictional Considerations

The offshore location raises jurisdictional questions that did not arise for a pier-side berth. Bluecore is evaluating the following:

- [[

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- [[

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- [[

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- [[

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Bluecore will address these topics in the USCG-NRC Coordination and Jurisdictional Oversight white paper and the Floating Facility Siting Methodology topical report.

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10 TOPICS FOR NRC FEEDBACK

Bluecore requests NRC staff feedback on the following topics:

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3. [[

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4. [[

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5. [[

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6. [[

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10. [[

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11. [[

]]d.

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11 PATH FORWARD

Regulatory agency feedback regarding this white paper will be integrated into the initial submittal sequence listed in Table 11-1; projected submittal timelines are provided in the Regulatory Engagement Plan.

Table 11-1: Planned Initial Submittals

Submittal
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12 ACRONYMS AND ABBREVIATIONS

ANS	American Nuclear Society
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
BC-15	Bluecore-15
CEO	Chief Executive Officer
CFR	Code of Federal Regulations
DHS	Department of Homeland Security
EPZ	Emergency Planning Zone
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IMO	International Maritime Organization
LMP	Licensing Modernization Project
LWR	Light Water Reactor
MWe	Megawatt Electric
MWt	Megawatt Thermal
NEI	Nuclear Energy Institute
NQA-1	Nuclear Quality Assurance-1
NRC	U.S. Nuclear Regulatory Commission
NSRST	Non-Safety-Related with Special Treatment
NSSS	Nuclear Steam Supply System
PRA	Probabilistic Risk Assessment
PWR	Pressurized Water Reactor
RG	Regulatory Guide

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RP	Recommended Practice
RPS	Reactor Protection System
SPAR	Standardized Plant Analysis Risk
SSC	Structures, Systems, and Components
USCG	U.S. Coast Guard

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13 REFERENCES

Bluecore Energy Documents

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U.S. Nuclear Regulatory Commission Documents

FR Doc. 2026-06048, Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors, Final Rule, 91 FR, March 30, 2026, effective April 29, 2026.

ML21323A014, Methodology for Safety Classification of IMSR Structures, Systems and Components, Terrestrial Energy USA, Inc., Report 211108, November 08, 2021.

ML24354A066, Memorandum of Understanding Between the U.S. Nuclear Regulatory Commission and the Marine Minerals Administration, July 21, 2026.

ML26096A081, Memorandum of Understanding Between the U.S. Coast Guard and the Nuclear Regulatory Commission Regarding Civilian Maritime Nuclear Projects, June 2026.

NRC-2024-0045, Incorporation by Reference of Institute of Electrical and Electronics Engineers Standard 603-2018, Proposed Rule, December 2025.

NUREG-0800, Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition.

NUREG-1860, Feasibility Study for a Risk-Informed and Performance-Based Regulatory Structure for Future Plant Licensing, Volumes 1 and 2, December 2007 (ML080440170 and ML080440215).

RG 1.26, Revision 6, Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants, December 2021.

RG 1.29, Revision 6, Seismic Design Classification for Nuclear Power Plants, August 2021.

RG 1.183, Revision 1, Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors, October 2023.

RG 1.200, Revision 3, Acceptability of Probabilistic Risk Assessment Results for Risk-Informed Activities, December 2020.

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RG 1.233, Revision 0, Guidance for a Technology-Inclusive, Risk-Informed, and Performance-Based Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light-Water Reactors, June 2020.

RG 1.247, Revision 1, Acceptability of Probabilistic Risk Assessment Results for Non-Light Water Reactor Risk-Informed Activities, Trial Use, August 2026.

RG 5.81, Revision 2, Target Set Identification and Development for Nuclear Power Reactors. March 2026.

Code of Federal Regulations (NRC)

10 CFR 20.1301, Dose Limits for Individual Members of the Public.

10 CFR Part 50, Domestic Licensing of Production and Utilization Facilities, including Sections 50.2, 50.12, 50.34, 50.49, 50.55a, 50.62, and Appendices A and B.

10 CFR 73.54, Protection of Digital Computer and Communication Systems and Networks.

10 CFR 73.55, Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors Against Radiological Sabotage.

Code of Federal Regulations (USCG and DHS)

33 CFR Part 165, Regulated Navigation Areas and Limited Access Areas.

46 CFR, Shipping.

Industry Standards

American Bureau of Shipping, Requirements for Nuclear Power Systems for Marine and Offshore Applications, October 2024.

American Petroleum Institute, API RP 2MIM, Mooring Integrity Management, First Edition, September 2019 (reaffirmed 2025).

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American Society of Mechanical Engineers/American Nuclear Society, ASME/ANS RA-S-1.1-2024, Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications, 2024 Edition.

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American Society of Mechanical Engineers/American Nuclear Society, ASME/ANS RA-Sa-2009, Addenda to ASME/ANS RA-S-2008, Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications, 2009 Edition.

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International Electrotechnical Commission/Institute of Electrical and Electronics Engineers, IEC/IEEE 80005-1, Utility Connections in Port – Part 1: High Voltage Shore Connection Systems, 2019 Edition.

Nuclear Energy Institute, NEI 17-07, Revision 2, Performance of PRA Peer Reviews Using the ASME/ANS PRA Standard, 2019.

Nuclear Energy Institute, NEI 18-04, Revision 1, Risk-Informed Performance-Based Technology Inclusive Guidance for Non-Light Water Reactor Licensing Basis Development, August 2019.

Pressurized Water Reactor Owners Group, PWROG-19027-NP, Revision 2, Newly Developed Method Requirements and Peer Review, 2020.

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International Conventions and Federal Statutes

Coastal Zone Management Act of 1972, 16 U.S.C. 1451 et seq.

International Maritime Organization, Resolution A.491(XII), Code of Safety for Nuclear Merchant Ships, 1981.

Outer Continental Shelf Lands Act, 43 U.S.C. 1331 et seq.

Rivers and Harbors Act of 1899, Section 10, 33 U.S.C. 403.

Submerged Lands Act, 43 U.S.C. 1301 et seq.

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APPENDIX A CORRELATION OF CLASSIFICATION CATEGORIES

Table A-1 correlates the LMP safety categories with the 10 CFR 50.2 safety-related determination.

Table A-1: Correlation of LMP and 10 CFR 50.2 Categories

LMP Category	Basis for assignment	10 CFR 50.2 Determination
Safety-related, selected under NEI 18-04	Performs a required safety function for a design basis event or high-consequence beyond design basis event, or is relied upon in a design basis accident	Safety-related
Safety-related, selected under 10 CFR 50.2 only	Meets the 50.2 definition for a Chapter 15 event; not risk-significant in the PRA	Safety-related
Non-safety-related with special treatment	Performs a risk-significant function or a function required for defense-in-depth adequacy	Non-safety-related
Non-safety-related with no special treatment	No safety-significant function	Non-safety-related