Indianapolis, IN
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844-81-FANCO

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Docket Number 99902156

26 October 2026
U.S. Nuclear Regulatory Commission
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Washington, D.C. 20555-0001

Subject: 1st American Nuclear Co., Justification that Installation of Conventional Island Structures, Systems, and Components for the EAGL-1 are Preconstruction Activities, Docket Number 99902156

References:

1. Letter, 1st American Nuclear Co. to U.S. NRC Document Control Desk, "1st American Nuclear Co. Regulatory Engagement Plan, Revision 0," February 10, 2026 (ML26048A512).

This letter transmits the licensing white paper, "Justification that Installation of Conventional Island Structures, Systems, and Components for the EAGL-1 are Preconstruction Activities", which 1st American Nuclear Co. (FANCO) is providing to the U.S. Nuclear Regulatory Commission (NRC) to support pre-application engagement on activities that can be considered preconstruction and do not need NRC approval.

FANCO submits this white paper to request feedback from the NRC on FANCO's justification that the installation of the CI can proceed ahead of NI construction, on the basis that these activities fall outside the definition of "construction" set out at 10 CFR 50.10(a)(1). If the NRC staff agrees with this justification, FANCO intends to install the CI without a limited work authorization (LWA) or an exemption from NRC requirements.

This white paper, pre-application engagement, and the associated preconstruction activities will support the EAGL-1 lead-bismuth eutectic cooled fast reactor. The submittal schedule is in support of the FANCO Regulatory Engagement Plan (Reference 1).

The FANCO methodology and planned follow-on pre-application engagement(s) are provided in Enclosure 1 which is categorized as proprietary and are denoted by [[ ]]. Enclosure 2 is the redacted non-proprietary version. Please note that this white paper is subject to change; updates will be communicated through appropriate channels or by revising this document.

Enclosure 1 contains proprietary information that FANCO maintains in confidence and withholds from public disclosure. FANCO requests that the information in Enclosure 1, which is proprietary in its entirety, be withheld from public disclosure in accordance with 10 CFR 2.390, "Public inspections, exemptions, requests for withholding," and 10 CFR 9.17, "Agency records exempt from public disclosure." An affidavit supporting this request for withholding is provided in Enclosure 3.

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Enclosure 1 does not contain export control information. Information in this submittal may be disclosed to Foreign Nationals only in accordance with the requirements of 15 CFR 730 and 10 CFR 810, as applicable.

If you have any questions or need any additional information, please contact me at mcatts@fanuclear.com or (910) 616-0992.

Sincerely,

Michelle Malone

Michelle Malone

Executive Vice President, Regulatory Affairs, Licensing, and Quality, 1st American Nuclear Co.

Enclosures:

1. Justification that Installation of Conventional Island Structures, Systems, and Components for the EAGL-1 are Preconstruction Activities (Proprietary)
2. Justification that Installation of Conventional Island Structures, Systems, and Components for the EAGL-1 are Preconstruction Activities (Non-Proprietary)
3. 1st American Nuclear Co. Affidavit and Request for Withholding from Public Disclosure (10 CFR 2.390) (Non-Proprietary)

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Enclosure 2

EAGL-WP-2026-32-001 R0 Non-Proprietary

Justification that Installation of Conventional Island Structures, Systems, and Components for the EAGL-1 are Preconstruction Activities

(Non-Proprietary)

IMPORTANT NOTICE

This is a non-proprietary version of Enclosure 1.

Portions of the enclosure that are proprietary have been removed and are indicated by an open and closed bracket as shown here [[ ]].

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Justification that Installation of Conventional Island Structures, Systems, and Components for the EAGL-1 are Preconstruction Activities

1st American Nuclear Co.

EAGL-WP-2026-32-001 R0 Non-Proprietary

Date Effective: October 26, 2026

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1. Introduction

1st American Nuclear Co. (FANCO) is developing the EAGL-1, a Generation IV, 600 MWt, 240 MWe lead-bismuth eutectic cooled fast reactor. FANCO's plant design separates the reactor and its safety-related systems, referred to here as the Nuclear Island (NI), from the balance-of-plant power conversion equipment, referred to as the Conventional Island (CI). **[[**

]] The CI encompasses the tie-in point and all power conversion systems, including the turbine-generator, condensate system, feedwater system, waste heat rejection systems, related auxiliaries, plant electrical switchyard, and other balance-of-plant equipment.

FANCO submits this white paper to request feedback from the NRC on FANCO's justification that the installation of the CI can proceed ahead of NI construction, on the basis that these activities fall outside the definition of "construction" set out at 10 CFR 50.10(a)(1). If the NRC staff agrees with this justification, FANCO intends to install the CI without a limited work authorization (LWA) or an exemption from NRC requirements. FANCO recognizes that, as stated in SECY-25-0074, activities undertaken in accordance with the staff positions described in that paper are entirely at the prospective applicant's risk.

FANCO's EAGL-1 deployment model, called Bridge Power™, commissions the CI's turbine-generator equipment early and operates it on commercially available package steam boilers or another commercial heat source until the NI is complete and ready to supply steam. The CI consists of commercially available power-generation equipment built to industrial codes and standards, with enhanced requirements where needed, rather than nuclear-qualified components. On that basis, FANCO's position is that installation of the CI can proceed without a Construction Permit (CP), Limited Work Authorization (LWA), or exemption, provided the boundary between the NI and the CI is designed appropriately.

FANCO's reasoning draws on the NRC staff's SECY-25-0074, "Expedited Construction of Certain Structures, Systems, and Components," which lays out a strategy for confirming, on a design-specific basis, when non-safety SSCs fall outside the construction definition.

2. EAGL-1 and Conventional Island Overview

The EAGL-1 core sits within a four-loop primary system, each loop pairing a reactor coolant pump with a steam generator; coolant circulates from the core, through the steam generators and pumps, and back to the reactor vessel, which is itself enclosed in a guard vessel. The core is fueled with high-assay low-

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enriched uranium (HALEU) oxide in a hexagonal arrangement of driver assemblies, with reactivity controlled by control rods.

FANCO has acquired the technology portfolio originally developed by Columbia Basin Consulting Group, a nuclear engineering firm established in 1998. This foundation is supported by a leadership and senior engineering team with direct operational and engineering experience from major U.S. fast reactor programs, including the Fast Flux Test Facility (FFTF), Experimental Breeder Reactor-II (EBR-II), Versatile Test Reactor, Advanced Burner Reactor, and the Global Nuclear Energy Partnership (GNEP).

This technology portfolio is based on technology developed within the US advanced liquid-metal fast reactor programs and data available through the IAEA and various U.S. sources. The design was advanced with support from the Pacific Northwest National Laboratory through GAIN awards and with a grant award under the Department of Energy Advanced Reactor Demonstration Program.

The CI is a conventional Rankine-cycle power block: a turbine, generator, and condenser, together with feedwater and heat-rejection equipment, converting the plant's 600 MW thermal output into 240 MW electrical output. FANCO intends to source the CI's major equipment from established turbine and conventional power industrial suppliers, and to build it to industrial codes and standards, supplemented by enhanced requirements where needed. A CI SSC that instead needs special treatment would be addressed as described in the last paragraph of Section 3.

Figure 2.1, Simplified Diagram of the EAGL-1 NI and CI Separation

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3. Technical Basis for Preconstruction Treatment

3.1 Safety Classification Approach

FANCO plans to classify EAGL-1 SSCs following NEI 18-04, the risk-informed, performance-based methodology the NRC endorsed in Regulatory Guide 1.233. That methodology classifies SSCs into three categories: Safety-Related (SR); Non-Safety-Related with Special Treatment (NSRST), covering SSCs needed either for a risk-significant function or for adequate defense-in-depth; and Non-Safety-Related with No Special Treatment (NST), covering everything else. NRC guidance also makes clear that an SSC providing essential support to an SR or NSRST SSC should be classified at that higher category, even where the supporting SSC does not itself appear in the plant's risk model.

FANCO intends to classify EAGL-1 SSCs using the SSC safety classification process in NEI 18-04, Revision 1 (Reference 9), as endorsed by the NRC in Regulatory Guide (RG) 1.233, Revision 0 (Reference 8). The process is shown in Figure 3.1. It is applied to each SSC function, using the results of the probabilistic risk assessment (PRA) and the licensing basis event evaluation as inputs. An SSC that FANCO selects to perform a required safety function is classified as SR. An SSC that is not required to perform a safety function; FANCO's working design target is that every CI SSC is classified as NST; none needed for a required safety function, none risk-significant, and none needed for adequate defense-in-depth. Although NEI 18-04’s three-category scheme and the safety-related and non-safety-related definitions in 10 CFR 50.2 are different frameworks, meeting this target is, on its own, a sufficient basis for concluding that no CI SSC meets criteria (i) through (iv) of 10 CFR 50.10(a)(1). Criteria (v) through (vii) are addressed in Sections 3.3 and 4.3.

Should the design ultimately require any SSC typically within the CI footprint to be classified NSRST (for example, standby diesel generators or an auxiliary feedwater function), FANCO would either locate that SSC within the NI scope or identify it for a separate LWA or 10 CFR 50.12 exemption request and would not treat its installation as a pre-construction activity.

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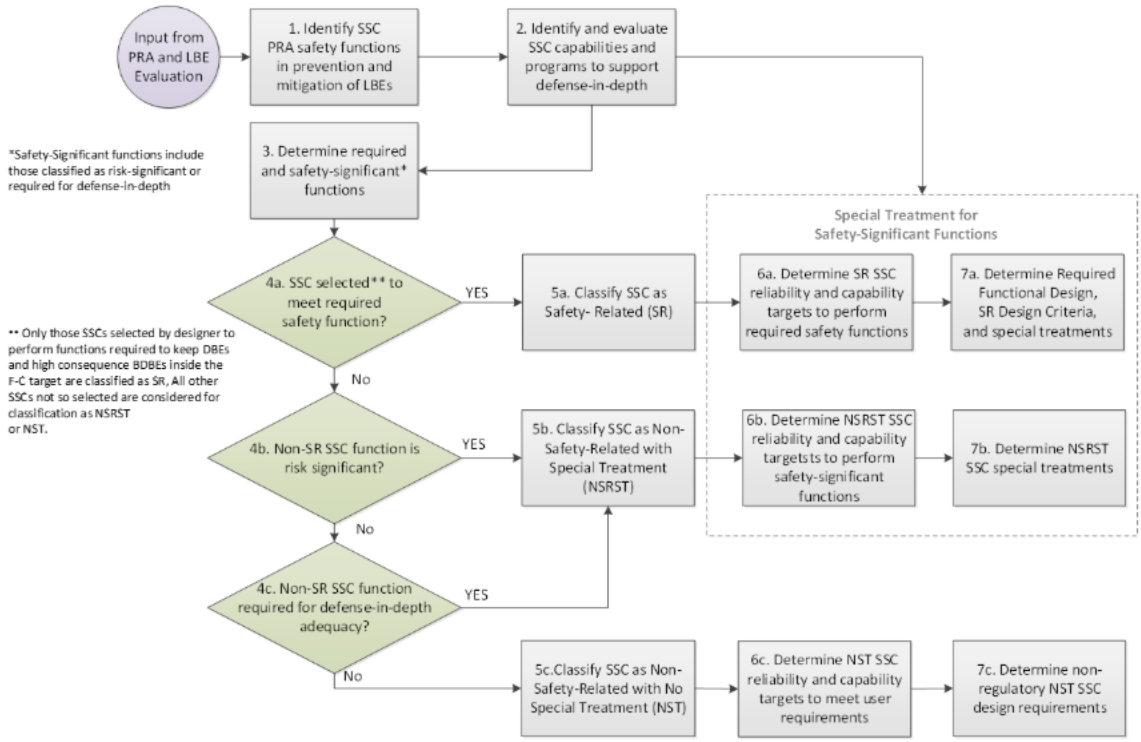
Figure 3.1, SSC Function Safety Classification Process



Source: NEI 18-04, Revision 1, Figure 4-1 (Reference 9), as endorsed by RG 1.233, Revision 0 (Reference 8). Reproduced without modification.

As described in Section 6, a future submittal will document how FANCO implements this process for the EAGL-1, including how the RG 1.233 clarifications are addressed, the resulting classification of each CI SSC, and the PRA and defense-in-depth evaluations that support each NST determination.

FANCO's safety case would rely exclusively on NI equipment to mitigate licensing basis events, with no credit given to any CI system for reactivity control, core cooling, coolant boundary integrity, containment, or heat removal. FANCO’s intention is that the PRA will be a multi-functional tool for risk analysis of postulated off-normal events. CI equipment such as normal plant control systems, turbine bypass, and CI feedwater may be modeled realistically in the probabilistic risk assessment (PRA), but no CI SSC would be relied upon to meet the acceptance criteria of any licensing basis event. Several inherent features of the EAGL-1 design support this approach. The lead-bismuth eutectic primary coolant operates close to atmospheric pressure and does not boil until 3038° F (1,670° C), which removes high-pressure safety systems and depressurization accidents from the design basis. Because lead-bismuth eutectic does not energetically react with air or water the way sodium does, the design also eliminates the Intermediate Heat Transfer System and the need to inert equipment cells that sodium-cooled fast reactors require to guard against primary coolant-leaks, simplifying the NI, CI interface.

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Following a loss of primary pump power, density differences between hot and cool coolant drive natural circulation that removes decay heat without any pump or CI input. FANCO is currently evaluating three candidate decay heat removal (DHR) concepts, **[[**
]] and notes that all three sit entirely within the NI boundary.

3.3 Nuclear Island and Conventional Island Separation

FANCO intends to make the NI, CI boundary physically separated: every SSC classified safety-related, under either 10 CFR 50.2 or the eventual NEI 18-04 classification, would sit inside the NI, with the CI limited to non-safety equipment. **[[**

]] The CI encompasses the tie-in point(s) and all power conversion systems, including the turbine-generator, condensate system, feedwater system, waste heat rejection systems, related auxiliaries, plant electrical switchyard, and other balance-of-plant equipment.

No CI equipment would be credited for any safety function, nor relied on to meet security, fire protection, or emergency preparedness requirements of the NI or safety-significant SSCs; FANCO's defense-in-depth case would rest on NI equipment alone. FANCO recognizes some equipment needed for Part 73 security, fire protection, or emergency preparedness may need to sit within the CI footprint and would not install or activate any such equipment without prior NRC approval.

3.4 Conventional Island Interaction and the Bridge Power Concept

FANCO's design intent is that no CI SSC has a direct effect on any of the criteria in 10 CFR 50.10(a)(1)(i)–(iv), and that the indirect effect of any CI SSC failure, inadvertent actuation, or deliberate manipulation, including a resulting reactor trip or safety-system actuation, is “so low as to be considered negligible” (72 FR 57416, 57429; see also SECY-25-0074). Given the lead-bismuth eutectic primary system's low operating pressure and its natural-circulation response to lost pump power, a loss of CI heat removal would register as a change in plant parameters sensed by NI instrumentation, leading to a controlled shutdown, consistent with SECY-25-0074's discussion of comparable balance-of-plant scenarios. FANCO's position is that this indirect chain of impacts carries a negligible effect on safety. The transient analysis will be provided in a future submittal.

Commercially, FANCO plans to source the CI's turbine-generator-condenser package from established turbine industry suppliers as an integrated, commercially available unit, with enhanced requirements specified where needed. Under FANCO's “Bridge Power” concept, that package would first run on steam from sources, for example, from commercially available package boilers, generating power before the EAGL-1 NI is licensed and constructed. Once the NI is complete and fueled, the plant's heat transport piping would be reconfigured to connect the NI's steam output to the CI.

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4. Regulatory Basis

This section lays out the regulatory framework FANCO is relying upon and then describes each of the seven criteria in 10 CFR 50.10(a)(1) as they would apply to the EAGL-1 CI. As with Section 3, the conclusions below are preliminary; they reflect FANCO's current design intent and reasoning, not a final safety determination.

4.1 Defining Safety-Related SSCs and Construction

10 CFR 50.2 defines "safety-related structures, systems and components" to mean "those structures, systems and components that are 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."

10 CFR 50.10(a) defines "construction" by reference to two mutually exclusive lists of activities. Under 10 CFR 50.10(a)(1), the activities constituting construction are "the driving of piles, subsurface preparation, placement of backfill, concrete, or permanent retaining walls within an excavation, installation of foundations, or in-place assembly, erection, fabrication, or testing," when performed for: "(i) Safety-related structures, systems, or components (SSCs) of a facility, as defined in 10 CFR 50.2; (ii) SSCs relied upon to mitigate accidents or transients or used in plant emergency operating procedures; (iii) SSCs whose failure could prevent safety-related SSCs from fulfilling their safety-related function; (iv) SSCs whose failure could cause a reactor scram or actuation of a safety-related system; (v) SSCs necessary to comply with 10 CFR part 73; (vi) SSCs necessary to comply with 10 CFR 50.48 and criterion 3 of 10 CFR part 50, appendix A; and (vii) Onsite emergency facilities necessary to comply with either § 50.160 or § 50.47 and appendix E to this part, as applicable." 10 CFR 50.10(a)(1)(i)–(vii).

By contrast, 10 CFR 50.10(a)(2) provides that "construction does not include" ten enumerated categories of activity. As relevant to the CI, these include: "excavation," 10 CFR 50.10(a)(2)(v); erection of "support buildings . . . for use in connection with the construction of the facility," 10 CFR 50.10(a)(2)(vi); "building of service facilities," 10 CFR 50.10(a)(2)(vii); and "procurement or fabrication of components or portions of the proposed facility occurring at other than the final, in-place location at the facility," 10 CFR 50.10(a)(2)(viii).

The rulemaking that adopted the current definition of "construction" illustrates the line between these two lists with a balance-of-plant example: "An example SSC that would not be within the scope of construction is a cooling tower that is used to cool the turbine condenser. However, a cooling system that is used for both safety and non-safety functions would fall within the definition of construction." 72 FR 57416, 57432 (Oct. 9, 2007); see also SECY-25-0074, (ADAMS Accession No. ML25157A119). FANCO's conventional island closely parallels this example: the CI's turbine, condenser, CI heat sink, and

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supporting balance-of-plant equipment serve no safety function, and no CI system is credited for any safety function of the NI.

4.2 SECY-25-0074

In SECY-25-0074, NRC staff described a strategy for confirming, on a design-by-design basis, which SSCs genuinely warrant pre-license NRC oversight, and which do not. The paper recognizes that in many advanced reactor designs, a balance-of-plant failure can still end in a reactor scram, not because the failed equipment directly trips the reactor, but because the resulting change in plant conditions is sensed by the nuclear side of the plant, which then acts on its own. Where that chain of causation produces only a negligible safety consequence, the staff's paper indicates that installation of the SSC in question could be determined not to be construction, depending on the specific design of the facility. The paper further observes that, for a plant licensed under the RG 1.233 methodology, an SSC classified NST would generally be expected to fall outside criteria (i) through (iv), since its safety impact under that methodology would already be negligible. SECY-25-0074 is a staff information paper rather than a Commission policy decision, and the staff noted that applying its approach will depend heavily on the specific design of the plant.

If a non-safety SSC turns out to have a direct effect on one of the seven criteria, or an indirect effect that is more than negligible, FANCO would submit an exemption request.

4.3 Preliminary Evaluation of the 10 CFR 50.10(a)(1) Criteria

The following walks through each criterion in turn. Each conclusion is preliminary and remains to be substantiated in a future licensing submittal.

Criterion (i): Safety-related SSCs

Because FANCO's design plan keeps every safety-related SSC inside the NI (Section 3.3), no CI SSC is expected to be safety-related, and criterion (i) is not expected to apply to any CI SSC.

Criterion (ii): SSCs relied on to mitigate accidents or transients

FANCO's safety analysis is expected to demonstrate that NI SSCs alone can bring the EAGL-1 to, and maintain it in, a safe shutdown condition for all licensing basis events, including anticipated operational occurrences and postulated accidents, and can meet the 10 CFR 50.34(a)(1) and 10 CFR 100.11 limits, as applicable. No CI SSC would be credited in that analysis, and no emergency operating procedure step would rely on CI equipment. CI equipment such as normal plant control systems, turbine bypass, and CI feedwater is expected to operate in response to some anticipated operational occurrences and may be modeled realistically in the PRA but would not be relied upon to meet event acceptance criteria and would remain NST. On that basis, no CI SSC is expected to meet criteria (ii).

Criterion (iii): SSCs whose failure could disable a safety-related SSC

FANCO expects that a loss of the CI heat sink will result in a loss of secondary-side heat removal, prompting the NI to shut the reactor down in a controlled manner, while the NI's natural circulation and

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passive DHR system continues to remove decay heat without any CI input. On that basis, a CI SSC failure does not directly prevent any NI safety-related SSC from performing its function, and any indirect effect is so low as to be considered negligible; no CI SSC is therefore expected to meet criterion (iii).

FANCO also recognizes that criterion (iii) covers physical interactions between CI and NI SSCs, not only functional ones. Two such interactions will be addressed in the CI layout and in a future submittal (see Section 6): first, seismic interaction, in which failure of a CI structure such as the turbine building during a design basis earthquake could damage adjacent NI SSCs (a seismic Category II/I concern); and second, turbine missiles, consistent with Regulatory Guide 1.115, “Protection Against Turbine Missiles.” FANCO intends to address both through CI siting, turbine orientation relative to the NI, and separation distance, so that failure of any CI structure or of the turbine-generator could not prevent an NI safety-related SSC from performing its function. Where separation alone cannot demonstrate this, FANCO would identify the affected CI SSC for a separate LWA or exemption request.

Building the CI ahead of the NI may also call for permanent subgrade retention or ground improvement features, such as secant pile walls, to stabilize CI foundations while the adjacent NI excavation is later performed. Because 10 CFR 50.10(a)(1) expressly lists the driving of piles, subsurface preparation, and permanent retaining walls within an excavation, and because such features could affect the soil-structure interaction response of NI structures, FANCO is requesting staff feedback on these features separately (Table 2). FANCO's preferred approach is to site the CI far enough from the NI so that no permanent CI-side retention is needed. Where that is not achievable, FANCO would either treat such features as temporary and not credited in the NI design or perform them under a quality assurance program meeting 10 CFR Part 50, Appendix B, and include them in a separate LWA or exemption request if they are to be credited.

Criterion (iv): SSCs whose failure could cause a scram or safety-system actuation

A loss of CI heat removal capability is expected to result in a reactor shutdown, which the transient analysis in a future submittal will evaluate. Consistent with SECY-25-0074's discussion of comparable cases, FANCO views this as an indirect chain of causation, the CI failure changes plant parameters, which the NI senses, which then actuates the reactor protection system on its own, and given the EAGL-1's low operating pressure, high lead-bismuth eutectic boiling point, and the passive decay heat removal approach described in Section 3.1, once selected and confirmed by analysis, the indirect effect of this chain of causation is so low as to be considered negligible.

FANCO expects this indirect pathway to resemble anticipated-operational-occurrence categories already well understood in reactor safety analysis: [[

]]. FANCO expects to provide justification in a future application.

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If FANCO's future transient analysis finds that a specific CI SSC's failure carries a more-than-negligible effect, FANCO intends to pursue a 10 CFR 50.12 exemption.

Criteria (v) through (vii): Security, fire protection, and emergency preparedness

FANCO's design plan does not rely on any CI equipment to meet Part 73 security requirements, the fire protection requirements of 10 CFR 50.48 and Appendix A Criterion 3, or the emergency preparedness requirements of 10 CFR 50.160 or 10 CFR 50.47 and Appendix E. On that basis, no CI SSC is expected to meet criteria (v), (vi), or (vii), pending confirmation of this design intent. FANCO recognizes some equipment serving these functions may still need to be sited within the CI footprint and would not install or place any such equipment in service without prior NRC approval.

5. Environmental Considerations

CI preconstruction work remains subject to all applicable federal, state, and local environmental permitting requirements, including air permits, stormwater and discharge permits, and similar approvals, independent of, and regardless of the outcome of, any NRC action under 10 CFR 50.10. Separately, FANCO anticipates that the environmental report accompanying any EAGL-1 construction permit application will describe the CI and its environmental effects, including as part of the cumulative impacts analysis, consistent with the NRC's treatment of preconstruction activities under 10 CFR Part 51 and the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 et seq.

Should a 10 CFR 50.12 exemption prove necessary for a specific CI SSC under any of the 10 CFR 50.10(a)(1) criteria, that exemption request will be subject to environmental review under 10 CFR Part 51, beginning with whether a categorical exclusion applies under 10 CFR 51.22, "Criterion for categorical exclusion; identification of licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review," and, if not, whether an environmental assessment is required under 10 CFR 51.21, "Criteria for and identification of licensing and regulatory actions requiring environmental assessments." Upon submission of any exemption request, FANCO will evaluate and communicate whether the request is expected to qualify for the accelerated 30-day exemption and environmental assessment determination process outlined in SECY-25-0074. In SECY-25-0074, the NRC staff stated that, where a categorical exclusion does not apply, it plans to issue its exemption and environmental assessment determination within 30 days for exemption requests associated with sites that have an approved early site permit, an existing environmental assessment or environmental impact statement that addresses the impacts of the exemption, or another bounding environmental analysis.

FANCO anticipates that the CI environmental work could be referenced in, or otherwise inform, any such future assessment for the Nuclear Island.

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6. Path Forward

FANCO intends to combine the evaluation in this white paper, the NRC staff's feedback on it, and the results of any follow-on white papers addressing other EAGL-1 CI activities into a future submittal. Depending on the scope of the staff's feedback, that submittal may be a revision to this white paper or a Licensing Topical Report (LTR), as needed.

The activities in Table 1 fall within the express exclusions of 10 CFR 50.10(a)(2), can proceed without prior NRC approval, and will not be addressed further in the future submittal. The activities in Table 2 are the candidate preconstruction activities for which this white paper, and any follow-on white papers, provide FANCO's justification; they will be carried forward into the future submittal.

The intent of the future submittal will be to set out the decision logic FANCO applies to determine whether a given CI activity is preconstruction. It is expected to include a process for SSC classification which applies the NEI 18-04 methodology endorsed in RG 1.233 (Section 3.1 and Figure 3.1). Because the pre-construction treatment of the CI depends on every CI SSC being classified as NST, the submittal will provide the NRC staff with a preliminary classification of CI SSCs and a basis for how those classifications were assigned.

If the future submittal takes the form of an LTR and the NRC approves it, FANCO intends that applicants for an EAGL-1 construction permit could reference it in their applications. An applicant referencing an approved LTR could then perform the justified CI activities based on the approved decision logic and provided preliminary classifications of CI SSCs, rather than seeking a separate LWA or exemption for each one. This would narrow the site-specific NRC review needed for CI activities and shorten the overall EAGL-1 deployment schedule, consistent with the objectives of SECY-25-0074 and the ADVANCE Act (References 2 and 3).

7. Conclusion

The EAGL-1's passive, near-atmospheric primary system, its decay heat removal capability contained entirely within the NI, and the physical and functional separation between the NI and a CI built from commercially available equipment, with enhanced requirements where needed, provide the basis for treating CI installation as preconstruction under 10 CFR 50.10(a)(1).

FANCO submits this white paper to request feedback from the NRC on FANCO's justification that installation of the CI can proceed ahead of Nuclear Island construction, on the basis that these activities fall outside the definition of "construction" set out at 10 CFR 50.10(a)(1). If the NRC staff agrees with this justification, FANCO intends to install the CI without a limited work authorization (LWA) or an exemption from NRC requirements, recognizing that any such activities are undertaken at FANCO's risk.

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Table 1: Planned Preconstruction Activities (No Feedback Requested)

FANCO considers the following activities already well settled as preconstruction under 10 CFR 50.10(a)(2); they are not addressed further in this white paper and are not planned for inclusion in the future submittal.

Category	Activity	Basis
Site Preparation	Site exploration, clearing, grading, and drainage/erosion control across the EAGL-1 site.	Expressly listed in 10 CFR 50.10(a)(2).
Access Control	Erection of fencing and other access control measures.	Expressly listed in 10 CFR 50.10(a)(2).
Excavation	General site excavation not associated with NI foundations.	Expressly listed in 10 CFR 50.10(a)(2).
Support Facilities	Temporary construction offices, storage, warehouse/shop facilities, and concrete batch plants.	Expressly listed in 10 CFR 50.10(a)(2).
Service Facilities	Roads, parking, exterior utilities and lighting, potable water, and sanitary sewerage facilities.	Expressly listed in 10 CFR 50.10(a)(2).
Off-Site Fabrication	Fabrication of CI components (e.g., turbine-generator packages) at a location other than their final, in-place location.	Expressly listed in 10 CFR 50.10(a)(2).

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Table 2: Potential Preconstruction Activities (Feedback Requested)

The following activities are the subject of this white paper and any related follow-on white papers and are the activities FANCO plans to carry into the future submittal.

Category	Activity	Basis (Section Reference)
CI Foundations	Foundations and below-grade work for the CI turbine building, condenser bay, and associated structures.	Criteria (i)–(iii), (v)–(vii) — Sections 3.3, 4.3.
CI Power Conversion Equipment	Fabrication, delivery, and installation of the turbine-generator-condenser system and associated feedwater/heat rejection systems.	Criteria (iii), (iv) — Sections 3.4, 4.3.
Bridge Power Equipment	Installation of temporary package steam boilers and interconnecting piping supporting interim CI operation before NI completion.	Criterion (iv) — Section 3.4.
CI Electrical Systems	Installation of the CI switchyard and non-Class 1E electrical distribution serving the CI.	Criteria (i), (iii) — Section 3.3.
Subgrade Retention / Ground Improvement	Permanent secant pile walls, retaining structures, or ground improvement installed to stabilize CI foundations during later NI excavation.	Criteria (i), (iii) — Section 4.3.

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8. References

1. "Domestic Licensing of Production and Utilization Facilities," Code of Federal Regulations, 10 CFR 50.
2. NRC Staff, SECY-25-0074, "Expedited Construction of Certain Structures, Systems, and Components," August 28, 2025 (ADAMS Accession No. ML25157A119).
3. Executive Order 14300, "Ordering the Reform of the Nuclear Regulatory Commission," May 23, 2025; Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy (ADVANCE) Act of 2024 (Public Law 118-67).
4. NRC Staff, Exemption from 10 CFR 50.10(a)(1)(iv) for TerraPower Kemmerer Power Station, effective May 7, 2025 (ADAMS Accession No. ML25119A329).
5. NRC Staff, Final Safety Evaluation of TerraPower, LLC Topical Report NATD-LIC-RPRT-0001, "Regulatory Management of Natrium Nuclear Island and Energy Island Design Interfaces," September 28, 2023 (ADAMS Accession No. ML23257A258).
6. NRC Interim Staff Guidance COL/ESP-ISG-4, "Interim Staff Guidance on the Definition of Construction and on Limited Work Authorizations," February 9, 2009 (ADAMS Accession No. ML082970729).
7. "Reactor Site Criteria," Code of Federal Regulations, 10 CFR 100.
8. Regulatory Guide 1.233, "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," Revision 0, June 2020 (ADAMS Accession No. ML20091L698).
9. Nuclear Energy Institute, "Risk-Informed Performance-Based Technology Inclusive Guidance for Non-Light Water Reactor Licensing Basis Development," NEI 18-04, Revision 1, August 29, 2019 (ADAMS Accession No. ML19241A472).
10. Federal Register, Volume 72, pp. 57416 and 57427, October 9, 2007 (LWA Final Rule).
11. FANCO Regulatory Engagement Plan, EAGL-1 Liquid Heavy Metal Fast Reactor, Revision 0, February 10, 2026 (NRC Project No. 99902156, ADAMS Accession No. ML26048A512).
12. "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," Code of Federal Regulations, 10 CFR 51.
13. "Physical Protection of Plants and Materials," Code of Federal Regulations, 10 CFR 73.
14. Regulatory Guide 1.115, “Protection Against Turbine Missiles,” Revision 2, January 2012.

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Indianapolis, IN
Richland, WA

844-81-FANCO

ENCLOSURE 3

32-AFF-2026-001

Affidavit and Request for Withholding from Public Disclosure

(10 CFR 2.390)

FANCO Non-Proprietary Information

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AFFIDAVIT

I, Michelle Malone, Executive Vice President, Regulatory Affairs, Licensing, and Quality, of 1st American Nuclear Co. (FANCO), do hereby affirm and state:

(1) I am authorized to execute this affidavit on behalf of FANCO. I am further authorized to review information submitted to or discussed with the U.S. Nuclear Regulatory Commission (NRC) and to apply for the withholding of that information from public disclosure. The purpose of this affidavit is to provide the information required by 10 CFR 2.390(b) in support of FANCO's request for proprietary treatment of certain information contained in Enclosure 1 to FANCO's letter 32-LTR-2026-001, "Justification that Installation of Conventional Island Structures, Systems, and Components for the EAGL-1 are Preconstruction Activities."

(2) I have knowledge of the criteria used by FANCO in designating information as proprietary and confidential.

(3) Pursuant to paragraph (b)(4) of 10 CFR 2.390, the following is furnished for consideration by the NRC in determining whether the information sought to be withheld from public disclosure should be withheld:

(a) The information sought to be withheld from public disclosure in Enclosure 1 is identified within double square brackets ([[ ]]), is owned by FANCO and has been held in confidence by FANCO.

(b) The information sought to be withheld is not available to the public and, to the best of my knowledge and belief, has not been disclosed publicly.

(c) The information is of a type customarily held in confidence by FANCO, and there is a rational basis for doing so. The information sought to be withheld consists of FANCO's EAGL-1 design and licensing approach, including planning and commercialization information, certain of which is predecisional in nature. FANCO limits access to this information in order to maintain its confidentiality.

(d) The information is being transmitted to, and is to be received by, the NRC in confidence under the provisions of 10 CFR 2.390.

(e) Public disclosure of the information sought to be withheld is likely to cause substantial harm to FANCO's competitive position. This information was developed at significant cost to FANCO, and its disclosure would allow competitors to reduce their own expenditure of resources and to improve their competitive position by drawing on FANCO's licensing approach, sequencing, and schedule, thereby depriving FANCO of the opportunity to realize an adequate return on its

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investment.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 26th day of October 2026.



_____

Michelle Malone

Executive Vice President, Regulatory Affairs, Licensing, and Quality

1st American Nuclear Co.

mcatts@fanuclear.com

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