



December 8, 2023

Subject: Limited Work Authorization Requirements Applicable to SMR, LLC
(Project No. 99902049)

SMR, LLC (SMR), a wholly owned subsidiary of Holtec International, is considering pursuing a Limited Work Authorization (LWA) as part of a Construction Permit (CP) application. Several portions of 10 CFR Chapter I are applicable to the submittal of LWA applications associated with CP applications. These include sections of 10 CFR Part 2, 10 CFR Part 50, and 10 CFR Part 51.

SMR held a public meeting with the NRC on November 1, 2023, seeking clarity on some aspects of these regulations. One aspect of the requirements that remains uncertain is the level of design information (preliminary or final) required in an LWA application. SMR considers "preliminary" design information to be consistent with that required in a Preliminary Safety Analysis Report (PSAR) as part of a CP application, and considers "final" design information to be consistent with that required in a Final Safety Analysis Report (FSAR) as part of an Operating Licensing (OL) application or an application submitted under 10 CFR 52. The NRC stated that SMR could consider submitting a white paper further exploring the requirements to support continued engagement on the topic. SMR has developed the following discussion to further explain SMR's view of the regulations.

Relevant Regulatory Requirements

10 CFR 50.10(d)(3) defines the required technical content for submittal of an LWA.

10 CFR 50.10(d)(3)(i):

(d) *Request for limited work authorization.*

...

(3) The application must include:

(i) A safety analysis report required by 10 CFR 50.34, 10 CFR 52.17 or 10 CFR 52.79 of this chapter, as applicable, a description of the activities requested to be performed, and the design and construction information otherwise required by the Commission's rules and regulations to be submitted for a construction permit or combined license, but limited to those portions of the facility that are within the scope of the limited work authorization. The safety analysis report must demonstrate that activities conducted under the limited work authorization will be conducted in compliance with the technically-relevant Commission requirements in 10 CFR Chapter I applicable to the design of those portions of the facility within the scope of the limited work authorization;



10 CFR 50.34 differentiates the requirements for contents of a CP application and an OL application.

10 CFR 50.34:

- (a) *Preliminary safety analysis report.* Each application for a construction permit shall include a preliminary safety analysis report...
- (b) *Final safety analysis report.* Each application for an operating license shall include a final safety analysis report...

SMR Discussion of Regulatory Requirements

10 CFR 50.10(d)(3) defines the required technical content of the LWA application. The required information is:

“A safety analysis report required by 10 CFR 50.34, 10 CFR 52.17¹ or 10 CFR 52.79 of this chapter, as applicable...”

In the case of an LWA intended to be coupled with an application under the 10 CFR 50 framework, SMR believes that 10 CFR 50.34 is the only applicable regulation of the three listed. SMR notes that 10 CFR 50.34 covers both preliminary and final safety analysis reports (PSAR and FSAR). Paragraph (d)(3)(i) does not specify which report is applicable, but SMR believes that a PSAR is the intended report, given that an LWA precedes (or coincides with) the PSAR submitted in a CP application in a Part 50 application.

The regulation further requires:

“...the design and construction information otherwise required by the Commission’s rules and regulations to be submitted for a construction permit or combined license, but limited to those portions of the facility that are within the scope of the limited work authorization.”

SMR understands this to mean that the regulation requires information in an LWA to be consistent with the application (CP or combined license (COL)) with which it is intended to be coupled. Specifically, the contents of the LWA should be consistent with either:

- (1) design and construction information that is required to be submitted for a CP (i.e., preliminary information in accordance with 10 CFR 50.34(a)), or
- (2) design and construction information that is required to be submitted for a COL (i.e., final design information in accordance with 10 CFR 52.79).

SMR recognizes that the Federal Register Notice (FRN) associated with the 2007 update to the LWA regulations (72 FR 57416 dated Oct 9, 2007) states that the LWA must provide final design information.

1. 10 CFR 52.17 is specific to an Early Site Permit (ESP), which could be referenced in a CP or a COL. The ESP governs information related to a site for a nuclear power facility (i.e., a site safety analysis report), as opposed to information for the facility itself. SMR is looking for clarity on contents of LWAs related to the nuclear power facility, so 10 CFR 52.17 is not referenced further in this white paper.



Quoting page 57433:

The safety analysis report, which may be a stand-alone document or incorporated into the construction permit or combined license application's preliminary or FSAR, as applicable, must describe the LWA activities that the applicant seeks to perform, provide the final design for the structures to be constructed under the LWA and a safety analysis for those portions of the structure, and provide a safety analysis of the design demonstrating that the activities will be conducted in accordance with applicable Commission safety requirements.

It is SMR's position that the FRN expectation for "final design information" is only partially consistent with 10 CFR 50.10(d)(3)(i), which requires design and construction information otherwise required by a CP or a COL, as applicable. The expectation for "final design information" is consistent with a Part 52 COL application that requires final design information but is inconsistent with the Part 50 CP application that only requires preliminary design information. Therefore, SMR reads the FRN expectation for "final design information" to refer only to an LWA coupled with a COL application. Regardless, SMR asserts that the Federal Register language does not supersede the Code of Federal Regulations.

SMR Construction Plans and Scope of Hypothetical LWA

In the public meeting on November 1, 2023, NRC staff stated that additional information about SMR's construction goals and plans for an LWA would support further preapplication engagement. SMR is considering pursuing an LWA prior to an anticipated mid-2026 CP application for constructing SMRs at the Palisades site. SMR anticipates submitting the LWA as early as the end of 2025 (i.e., ahead of the CP application) to support issuance of the LWA and start of construction activities by the end of 2027 (before anticipated NRC issuance of the CP). The following provides a hypothetical LWA scope for illustrative purposes; additional details are provided in Enclosure 2. A future LWA scope may be different than what is identified herein.

LWA construction would include the foundation that supports the containment and containment enclosure structure; the adjacent reactor auxiliary building and control building foundations would also be constructed. Pre-construction activities would include site preparation and excavation; LWA construction would proceed to install pilings, a mud-mat, and the foundation as necessary for each building. Permanently installed structures would be used to stabilize the excavations and support construction of the foundations.

SMR Evaluation of Hypothetical LWA

SMR evaluated construction of the containment/containment enclosure structure foundation.

If SMR submitted a CP application without an LWA, preliminary design information would be sufficient to support approval². After receiving approval, SMR would construct the foundation and update the FSAR to reflect the as-built design, as needed.

2. SMR notes that finality may be requested for portions of the CP application or the LWA application. If finality is requested, final design information is necessary to support the application, and an amendment is necessary if design changes are made during construction. For simplicity and clarity, this discussion assumes that finality is not requested for any portion of the CP or LWA applications.



If SMR constructed the foundation under an LWA, the technical regulations, quality assurance requirements, and NRC oversight would remain identical to those applied to the construction under a CP. Given that there would be identical technical regulations, oversight, and physical construction for a foundation constructed under either an LWA or a CP, SMR contends that preliminary information remains sufficient to support NRC approval of an LWA application coupled with a Part 50 CP application.

This discussion similarly applies to the discussion of changes during construction. Minor design changes that occur after a CP application are identified in the FSAR, without an amendment to the CP, and are subsequently reviewed during the OL application. Design changes where the change may alter the evaluation and recommendation to issue the CP require an amendment. Similarly, for an LWA application that is coupled with a Part 50 CP application, the as-built design should be reflected in the FSAR, without an amendment to the LWA (unless changes are pursued that may alter the evaluation and recommendation to issue the LWA).

Conclusion

It is SMR's position that the applied technical requirements, quality assurance, and NRC oversight are the same when constructing the same structure under either (1) a Part 50 CP or (2) an LWA coupled with a Part 50 CP; therefore, the required SAR content for the structure in either application should be the same. While SMR acknowledges that the FRN expects final design information, SMR asserts that the controlling Federal Regulation requires Part 50 applicants to submit information consistent with a CP application. The regulation and the evaluation above support SMR's contention that preliminary information is sufficient for a SAR associated with a Part 50 LWA application, just as it is sufficient for a SAR associated with a Part 50 CP application.

SMR appreciates the opportunity to engage with the NRC and the feedback provided by the staff.