2.2 PLANT-LEVEL SCOPING RESULTS

Review Responsibilities

Primary - Branches responsible for systems
Secondary - Branch responsible for electrical engineering

2.2.1 Areas of Review

This section addresses the plant-level scoping results for license renewal. 10 CFR 54.21(a)(1) requires the applicant to identify and list structures and components subject to an aging management review (AMR). These are "passive," "long-lived" structures and components that are within the scope of license renewal. In addition, 10 CFR 54.21(a)(2) requires the applicant to describe and justify the methods used to identify these structures and components. The staff reviews the applicant's methodology separately following the guidance in Section 2.1.

The applicant should provide a list of all the plant systems and structures, identifying those that are within the scope of license renewal. If the list exists elsewhere, such as in the UFSAR, it is acceptable to merely identify the reference. The license renewal rule does not require the identification of all plant systems and structures. However, providing such a list may make the review more efficient. On the basis of the DBEs considered in the plant's CLB, and other CLB information relating to nonsafety-related systems and structures and certain regulated events, the applicant would identify those plant-level systems and structures within the scope of license renewal, as defined in 10 CFR 54.4(a). This is "scoping" of the plant-level systems and structures for license renewal. To verify that the applicant has properly implemented its methodology, the staff focuses its review on the implementation results to confirm that there is no omission of plant-level systems and structures within the scope of license renewal.

Examples of plant systems are the reactor coolant, containment spray, standby gas treatment (BWR), emergency core cooling, open and closed cycle cooling water, compressed air, chemical and volume control (PWR), standby liquid control (BWR), main steam, feedwater, condensate, steam generator blowdown (PWR), and auxiliary feedwater systems (PWR).

Examples of plant structures are the primary containment, secondary containment (BWR), control room, auxiliary building, fuel storage building, radwaste building, and ultimate heat sink cooling tower.

Examples of components are the reactor vessel, reactor vessel internals, steam generator (PWR), and light and heavy load-handling cranes. Some applicants may have categorized such components as plant "systems" for their convenience.

After the plant-level scoping, the applicant should identify the portions of the system or structure that perform an intended function, as defined in 10 CFR 54.4(b). Then the applicant should identify those structures and components that are "passive" and "long-lived" in accordance with 10 CFR 54.21(a)(1)(i) and (ii). These "passive," "long-lived" structures and components are those that are subject to an AMR. The staff reviews these results separately following the guidance in Sections 2.3 through 2.5.

The applicant has the flexibility to determine the set of systems and structures it considers as within the scope of license renewal, provided that this set includes the systems and structures that the NRC has determined are within the scope of license renewal. Therefore, the reviewer

need not review all systems and structures that the applicant has identified to be within the scope of license renewal because the applicant has the option to include more systems and components than those defined to be within the scope of license renewal by 10 CFR 54.4.

The following areas relating to the methodology implementation results for the plant-level systems and structures are reviewed.

2.2.1.1 Systems and Structures Within the Scope of License Renewal

The reviewer verifies the applicant's identification of plant-level systems and structures that are within the scope of license renewal.

2.2.2 Acceptance Criteria

The acceptance criteria for the area of review define methods for determining whether the applicant has identified the systems and structures within the scope of license renewal in accordance with NRC regulations in 10 CFR 54.4. For the applicant's implementation of its methodology to be acceptable, the staff should have reasonable assurance that there has been no omission of plant-level systems and structures within the scope of license renewal.

2.2.2.1 Systems and Structures Within the Scope of License Renewal

Systems and structures are within the scope of license renewal as delineated in 10 CFR 54.4(a) if they are

- Safety-related systems and structures that are relied upon to remain functional during and following DBEs [as defined in 10 CFR 50.49(b)(1)] to ensure the following functions:
  - The integrity of the reactor coolant pressure boundary,
  - The capability to shut down the reactor and maintain it in a safe shutdown condition, or
  - The capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the guidelines in 10 CFR 50.34(a)(1), 50.67(b)(2), or 100.11, as applicable.
- Nonsafety-related systems and structures whose failure could prevent satisfactory accomplishment of any of the functions identified in 10 CFR 54.4(a)(1) above.
- Systems and structures relied on in safety analyses or plant evaluations to perform a function that demonstrates compliance with NRC regulations for fire protection (10 CFR 50.48), environmental qualification (10 CFR 50.49), PTS (10 CFR 50.61), ATWS (10 CFR 50.62), and SBO (10 CFR 50.63).

2.2.3 Review Procedures

The reviewer verifies the applicant's scoping results. If the reviewer requests additional information from the applicant regarding why a certain system or structure was not identified by

the applicant as being within the scope of license renewal for the applicant's plant, the reviewer should provide a focused question, clearly explaining what information is needed, explaining why it is needed, and how it will allow the staff to make its safety finding. In addition, other staff members review the applicant's scoping and screening methodology separately following the guidance in Section 2.1. The reviewer should keep these other staff members informed of findings that may affect their review of the applicant's methodology. The reviewer should coordinate this sharing of information through the license renewal project manager.

For the area of review, the following review procedures are to be followed.

2.2.3.1 Systems and Structures Within the Scope of License Renewal

The reviewer determines whether the applicant has properly identified the plant-level systems and structures within the scope of license renewal by reviewing selected systems and structures that the applicant did not identify as being within the scope of license renewal to verify that they do not have any intended functions.

The reviewer should use the plant UFSAR, orders, applicable regulations, exemptions, and license conditions to determine the design basis for the SSCs (if components are identified as "systems" by the applicant). The design basis determines the intended function(s) of an SSC. Such functions determine whether the SSC is within the scope of license renewal under 54.4.

This section addresses scoping at a system or structure level. Thus, if any portion of a system or structure performs an intended function as defined in 10 CFR 54.4(b), the system or structure is within the scope of license renewal. The review of the individual portions of systems and structures that are within the scope of license renewal are addressed separately in Sections 2.3 through 2.5.

The applicant should submit a list of all plant-level systems and structures, identifying those that are within the scope of license renewal. The reviewer should sample selected systems and structures that the applicant did not identify as within the scope of license renewal to determine if they perform any intended functions. The following are examples:

- The applicant does not identify the radiation monitoring system as being within the scope of license renewal. The reviewer may review the UFSAR to verify that this particular system does not perform any intended functions at the applicant's plant.

- The applicant does not identify the polar crane as being within the scope of license renewal. The reviewer may review the UFSAR to verify that this particular structure is not "Seismic II over I," denoting a non-seismic Category I structure interacting with a Seismic Category I structure as described in Position C.2 of Regulatory Guide 1.29, "Seismic Design Classification" (Ref. 1).

- The applicant does not identify the fire protection pump house as within the scope of license renewal. The reviewer may review the plant's commitments to the fire protection regulation (10 CFR 50.48) to verify that this particular structure does not perform any intended functions at the plant.

- The applicant uses the "spaces" approach for scoping electrical equipment and elects to include all electrical equipment on site to be within the scope of license

renewal except for the 525 kV switchyard and the 230 kV transmission lines. The reviewer may review the UFSAR and commitments to the SBO regulation (10 CFR 50.63) to verify that the 525 kV switchyard and the 230 kV transmission lines do not perform any intended functions at the applicant's plant.

Table 2.2-1 contains additional examples based on lessons learned from the review of the initial license renewal applications, including a discussion of the plant-specific determination of whether a system or structure is within the scope of license renewal.

The applicant may choose to group similar components and structures together in commodity groups for separate analyses. If only a portion of a system or structure has an intended function and is addressed separately in a specific commodity group, it is acceptable for an applicant to identify that system or structure as not being within the scope of license renewal. However, for completeness, the applicant should include some reference indicating that the portion of the system or structure with an intended function that is evaluated with the commodity group.

Section 2.1 contains additional guidance on the following:

- Commodity groups
- Complex assemblies
- Hypothetical failure
- Cascading

If the reviewer does not identify any omissions of systems and structures from those within the scope of license renewal, the staff would have reasonable assurance that the applicant has identified the systems and structures within the scope of license renewal.

- If the reviewer determines that the applicant has satisfied the criteria described in this review section, the staff would have reasonable assurance that the applicant has identified the systems and structures within the scope of license renewal.

2.2.4 Evaluation Findings

The reviewer verifies that the applicant has provided information sufficient to satisfy the provision of the SRP-LR and that the staff's evaluation supports conclusions of the following type, to be included in the safety evaluation report:

> The staff concludes that there is reasonable assurance that the applicant has appropriately identified the systems and structures within the scope of license renewal in accordance with 10 CFR 54.4.

2.2.5 Implementation

Except in those cases in which the applicant proposes an acceptable alternative method for complying with specific portions of NRC regulations, the method described herein will be used by the staff in its evaluation of conformance with NRC regulations.

2.2.6 References

1. Regulatory Guide 1.29, Rev. 2, "Seismic Design Classifications," September 1978.

Table 2.2-1. Examples of System and Structure Scoping and Basis for Disposition

Example	Disposition
Recirculation cooling water system	One function of the recirculation cooling water system is to remove decay heat from the stored fuel in the spent fuel pool. However, the fuel handling accident for the plant assumes that the spent fuel pool cooling systems, and thus the recirculation cooling water system, is not functional during or following such an event. Thus, the recirculation cooling water system is not within the scope of license renewal based on this function.
SBO diesel generator building	The plant's UFSAR indicates that certain structural components of the SBO diesel generator building for the plant are designed to preclude seismic failure and subsequent impact of the structure on the adjacent safety-related emergency diesel generator building. In addition, the UFSAR indicates that certain equipment attached to the roof of the building has been anchored to resist tornado wind loads. Thus, the SBO diesel generator building is within the scope of license renewal.

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