

4.1.1 Construction Change Applicability

During the construction of a nuclear plant (as defined in 10 CFR 50.10(a)(1) and (2)), numerous changes to the plant design may be identified. These construction changes may be identified during the design finalization process, constructability conflict resolution process, or design and construction verification processes. These construction changes are controlled under 10 CFR Part 50, Appendix B, Criterion III, Design Control, and other provisions of Appendix B, and are managed by field change or engineering change processes.

In contrast to construction under a 10 CFR Part 50 construction permit, construction under a Part 52 COL requires that the construction be conducted in accordance with the current licensing basis (CLB). Consequently, in addition to the requirements of 10 CFR Part 50, Appendix B, Part 52 licensees should review construction changes for impacts on the CLB, request a license amendment from the NRC, as appropriate, and update the UFSAR as required. Construction changes (including corrective actions for nonconformances to design requirements that are dispositioned as repair or use-as-is) may fall into one of three categories, as discussed below.

Construction change activities that do not directly affect the CLB

This is expected to be the largest category because construction change activities typically affect detailed design information that does not impact the CLB or require an LAR. (Thus, these construction change activities are not changes/departures as defined in Section 3.4.) This includes various emerging unanticipated conditions or conflicts that may require an engineering change, e.g. interferences (recognized but not yet installed), conflicts with field routing, accumulation of acceptable field tolerances, etc. Licensees should manage these construction changes in accordance with 10 CFR Part 50, Appendix B, and should document the basis for concluding that the construction change does not directly affect the CLB (and thus does not require an LAR). Construction may proceed/continue while this type of change is dispositioned and documented.

Construction changes/departures that directly affect the CLB

If the change/departure is determined to directly affect the CLB, the licensee should apply the 10 CFR 50.59, Section VIII.B.5, or other applicable change process in accordance with this appendix to determine if an LAR is required. If the change/departure does not require an LAR, the licensee may implement the change/departure (i.e., construction may proceed/continue) and should update the

UFSAR or other affected CLB documents in accordance with applicable requirements and licensee procedures.

Construction changes/departures that require an LAR

Like any LAR, licensees should ensure that LARs during construction contain sufficient information to support the necessary safety determination by the NRC staff. In particular, construction LARs should provide the technical design information related to the specific change, e.g., type and location of an additional penetration, the Codes/Standards to be used to install it and calculations that directly support the change. The design information provided should be consistent with that provided in the DCD/COL application; licensees should consider applicable SRP criteria and other NRC guidance when preparing construction LARs.

Changes/departures that require a construction LAR may affect other plant analyses/calculations such as seismic, containment pressure, containment leakage, pipe stress and safety analyses that do not directly support the change. While licensees may choose to update such plant analyses/calculations for certain significant changes, these analyses/calculations are more typically expected to be updated one time based on as-built design information. Licensees should include enough information to show that all implications of the proposed activity have been considered. For example, licensees should summarize the basis, such as sensitivity analysis or documented engineering judgment, for concluding that the affected plant analyses/calculations, though impacted by the proposed activity, do not need to be updated to support the proposed activity. The basis provided may be qualitative.

Licensees or the responsible design authority should track individual construction changes via their design configuration control processes to monitor the effect of cumulative impacts and to supplement CLB information when necessary to support NRC inspection activities.

Licensees should update plant analyses/calculations prior to the 52.103(g) finding to reconcile with as-built design information, including the aggregate impact of individual changes and departures implemented during the construction phase via all applicable change processes. Update of these plant analyses/calculations is typically driven by other NRC requirements, such as ITAAC closure, Technical Specifications, and update of the plant-specific PRA. If the results of the updated, as-built plant analyses/calculations differ from those in the CLB, those differences should be assessed as a

change/departure in accordance with this appendix, and an LAR submitted if necessary.

Licensees should also review construction changes/departures for impact on ITAAC-related SSCs and assess the need to submit an ITAAC Post-Closure Notification in accordance with 10 CFR 52.99(c)(2) and NEI 08-01.

4.1.1.1 Nonconforming Conditions during Construction

Over the course of construction, and throughout the life of the plant, licensees may identify nonconformances between approved design and construction specifications and as-found conditions. To assure quality, licensees maintain a low threshold for identifying nonconforming conditions that require assessment and disposition before work proceeds. The low threshold can result in a particularly high volume of nonconforming conditions being identified during construction. Most nonconformances do not affect the CLB or are dispositioned as rework (and, by definition, do not affect the CLB). Of those that somehow affect the CLB, some few may be determined to require an LAR.

Nonconforming conditions are placed in the CAP (or other tracking process for nonconformances) and dispositioned by licensees as requiring rework, repair or use-as-is. Licensees will establish and maintain processes for review of corrective actions for nonconformances that are dispositioned as repair or use-as-is to determine the impact, if any, on the CLB and whether an LAR is required. If and when the licensee determines that corrective actions for nonconformances (repair or use-as-is) require an LAR, the licensee should stop the work that requires prior NRC approval and submit the required LAR without delay.

During construction, licensees may implement the engineering disposition of nonconformances (repair or use-as-is), provided no irreversible/unrecoverable work is performed, in parallel with a review to determine CLB impact and the need for an LAR. Examples of irreversible/unrecoverable work include covering or blocking SSCs such that they cannot be accessed or inspected, or any activity that would preclude returning the facility to its CLB.

If the licensee wishes to proceed with work that is the subject of an LAR, it should first request and receive a Preliminary Amendment Request (PAR) Notification of No Objection from the NRC as discussed in Section 4.7.1.1.

There may be circumstances where a correction to the CLB is required due to a discrepancy or administrative error within the CLB. In such cases, construction can continue on the applicable SSC consistent with the pending licensee correction of the CLB. For CLB corrections that require an LAR, it is

not necessary, due to the administrative nature of the LAR, to request and receive a PAR Notification of No Objection from the NRC before continuing construction consistent with the pending licensee correction of the CLB. The correction of the CLB (e.g., UFSAR update) should proceed in a timely manner and can include any of the applicable processes for CLB change in accordance with licensee processes and procedures.

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