

3.7 Seismic Design

The information in this section of the reference ABWR DCD, including all subsections, tables, and figures, is incorporated by reference with the following supplements.

The Ultimate Heat Sink and Reactor Service Water Piping Tunnel are designed to the site-specific SSE. The additional information requested by Standard Review Plans 3.7.1 and 3.7.2 for these structures is provided in section 3H.6.

3.7.5 COL License Information

3.7.5.1 Seismic Design Parameters

The following site-specific supplement addresses COL License Information Item 3.19.

The site-specific assessment against the Tier 1 site requirements is provided in Subsection 2.5S.2. The site-specific soil structure interaction analysis for the Reactor Building and Control Building is provided in Appendix 3A.

3.7.5.2 Pre-Earthquake Planning and Post-Earthquake Actions

The following standard supplement addresses COL License Information Item 3.20.

The procedures for pre-earthquake planning and post-earthquake actions will be developed in accordance with Subsection 3.7.4 and Reference 3.7-9 prior to fuel load. The procedures will implement the seismic instrumentation program specified in Subsection 3.7.4 and follow the guidelines recommended in EPRI Report NP-6695 (Reference 3.7-7), with the exceptions listed in Subsection 3.7.5.2 of the reference DCD. (COM 3.7-1)

3.7.5.3 Piping Analysis, Modeling of Piping Supports

The following standard supplement addresses COL License Information Item 3.21.

The method described in Subsection 3.7.3.3.1.6 will be used for determining pipe support stiffness. No other method will be used.

3.7.5.4 Assessment of Interaction Due to Seismic Effects

The following standard supplement addresses COL License Information Item 3.22.

Nonsafety-related SSCs that are located in the same room as safety-related SSCs will be reviewed to determine if their failure will impact the ability of the safety-related SSC to perform its safety function. Non-seismic Category 1 SSCs whose failure could jeopardize the function of a safety-related SSC will be analyzed to demonstrate that structural integrity will be maintained in an SSE.

A procedure to confirm that all nonsafety-related SSCs located in the same room as a safety-related SSC have been evaluated and correctly dispositioned for inspection of the as-built plant for II/I interactions will be developed in accordance with Reference 3.7-9 and will be made available for inspection prior to fuel load. (COM 3.7-2)

This procedure will include the following elements as a minimum:

- The falling of a nonsafety-related SSE onto a safety-related SSC with particular emphasis on the adequate anchorage of the nonsafety-related SSC.
- The impact of a nonsafety-related SSC on a safety-related SSC with emphasis on seismic induced motion of an SSC on adjacent SSCs.

3.7.5.5 Response Spectra Amplification at Support Attachment Points

The following standard supplement addresses the COL License Information Item in Subsection 3.7.3.3.1.8.

The acceleration response spectra at piping attachment points are generated considering the drywell equipment and pipe support structure as part of the structure using the dynamic analysis methods described in Subsection 3.7.2.

3.7.5.6 Modeling of Special Engineered Pipe Supports

The following standard supplement addresses the COL License Information Item in Subsection 3.7.3.3.1.7.

STP 3 & 4 will not be using any special engineered pipe supports described in Subsection 3.9.3.4.1(6).

3.7.6 References

The following standard supplement addresses COL License Information Items 3.20 and 3.22.

- 3.7-9 NEDE-33297, "ABWR Procedures Development Plan," January 2007