

NA3 Review - Seismic Evaluation Alignment

To complete a seismic structural review, the staff currently plans to conduct two regulatory audits for NA 3: (1) Audit-1 covers activities in support of determining the site-specific seismic demand and (2) Audit-2 covers activities to verify the capacities of the DCD SSCs to withstand the site-specific seismic demand.

Activities listed below are currently identified activities Dominion would be expected to have completed before the staff audits. Upon Dominion's submittal of a detailed plan and schedule for completion of these activities taking into account staff feedback provided at the last Public Meeting (June 19, 2014), the staff can reassess the current review schedule.

The detailed plan and schedule should include completing and submitting all pertinent information including what is listed below. It is also recommended that Dominion submit the results of the activities in periodic reports as they are completed on an ongoing basis.

Audit 1: Completion of bulleted activities below supports the audit of SSI analysis for establishing the site-specific seismic demand for Cat I & II SSCs

- Respond to all RAIs designated for July 2014 responses in the June 19, 2014, public meeting presentation (ML14169A356)
- Respond to RAIs 03.07.01-11, 03.07.02-11, 13, 14, 16, 24, and RAI 03.08.05-6
- Complete SSI inputs for analysis of FWSC with control motions defined at base of concrete fill
- Complete any other modifications to SSI inputs needed to address RAIs
- Complete NA3-specific V&V of SASSI2010
- Complete benchmarking of MSM vs DM of SASSI2010
- Complete SSI analysis of FWSC with control motions defined at base of concrete fill, and envelop results with previous results
- Complete evaluation of cracking effects on walls/slabs (out-of-plane) of RB and CB to determine whether SDOF oscillators need to be modified or added to stick models of RB and CB
- Complete evaluation of the effect of stiffness of containment diaphragm floor and vent wall (composite plates) of RB
- Complete full-column SSI analysis of RB and CB
- Complete partial-column SSI analysis of RB and CB
- Complete SSSI analysis of RB and CB
- Complete SSSI analysis of CB and FWSC
- Complete any other SSI analysis needed to address the RAIs
- Complete sliding stability evaluation of RB, CB, and FWSC

Audit 2: Completion of bulleted activities below supports the audit of design capacity verification of DCD SSCs including RB/FB, CB, FWSC, anchorages and component support structures, PCCS, Fuel rack, updating of Appendix 3G, etc.

- Respond to RAIs 03.07.02-17, 18, 20, 21, and RAI 03.08.04-37

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- Complete site-specific design ISRS at all locations of RB, CB, and FWSC
- Determine whether or not NASTRAN analysis is necessary. Agreement is important on the resolution of use of the scale factors which Dominion proposes to transfer SSI analysis results into detailed NASTRAN finite element analysis for seismic demands of SSCs.
- Complete NASTRAN analysis if necessary
- Complete SSPD analysis
- Complete evaluation for local analysis/design of SSCs not based on SSPD
- Complete evaluation of RPV support structures and anchorage
- Complete evaluation of spent fuel pool and buffer pool structures and storage racks
- Complete evaluation of PCCS condensers and support structures
- Complete evaluation of lateral soil/rock pressures on embedded walls of RB and CB
- Complete update of the seismic margin analysis (SMA) per DC/COL-ISG-020 (RAI 19.02-1)