

DCD Section 3.5.1.3 Issues



KEPCO/KHNP

July 1, 2015

MCB Issue List for APR1400 DCD

Section 3.5.1.3

Missile Protection – Turbine Missiles

- Background
- Resolution Summary

Background

- DCD Section 3.5.1.3

- Background

- The staff finds the information in the APR1400 FSAR to be ambiguous and contradictory with regard to whether the turbine orientation for the APR1400 is favorably-oriented or may be unfavorably-oriented in accordance with the definitions given in Regulatory Guide (RG) 1.115, Revision 2, “Protection Against Turbine Missiles”.

Resolution Summary

- DCD Section 3.5.1.3

- Issue #1a/b

- If the applicant's intent is for the turbine to be favorably-oriented, confirm there are no essential SSCs within the low-trajectory turbine missile strike zone such that the turbine generator is favorably-orientated as defined in RG 1.115, Revision 2 and revise the sections and figures of the FSAR listed in the above table accordingly.
- If there are essential SSCs in the low-trajectory turbine missile strike zone, whether or not they are protected, failsafe, etc., then the turbine generator is unfavorably-orientated

- Resolution

- Because there are no essential SSCs within the low-trajectory turbine missile strike zone, the turbine is favorably-oriented. Tier 1 Section 2.7.1.1.1 (1.b) and Tier 1 Table 2.7.1.1-1 (1.b) will be revised to clarify the turbine favorable orientation.

Resolution Summary

- DCD Section 3.5.1.3

- Issue #2a

- In conjunction with Issue #1 above, for APR1400 FSAR, Figure 3.5-1, confirm that the turbine rotor centerline is the same as the centerline of the reactor building. Otherwise, redraw the low-trajectory turbine missile strike zone using the appropriate centerline orientation.

- Resolution

- The turbine rotor centerline is the same as the centerline of the reactor containment building. The turbine missile strike zone will be revised to show the turbine rotor centerline.

Resolution Summary

- DCD Section 3.5.1.3

- Issue #2b

- In addition, revise APR1400 FSAR, Figure 3.5-1 to identify the essential SSCs from APR1400 FSAR, Table 3.5-4 directly on Figure 3.5-1, so that it can be verified that all essential SSCs are not in the low-trajectory turbine missile strike zone.

- Resolution

- The locations of essential SSCs in Table 3.5-4 will be marked in Figure 3.5-1 to show that all essential SSCs are not in the low-trajectory turbine missile strike zone.

Resolution Summary

- DCD Section 3.5.1.3

- Issue #2c

- Finally, revise Figure 1.2-1 as necessary, to be consistent with Figure 3.5-1.

- Resolution

- Figure 3.5-1 of the turbine missile strike zone will be revised to incorporate the site plot plan shown in Figure 1.2-1.
- Therefore, there is no need to revise Figure 1.2-1.