

Enclosure 1

MFN 15-054

GEH Response to Item #23 - Fuel Oil Transfer System

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NRC- Suggested Design Changes Item # 23 - Diesel Generator (DG) Fuel Oil Transfer System Tunnel Structures

Provide Design/Analysis for Diesel Generator (DG) Fuel Oil Transfer System tunnel structures for routing the fuel oil transfer piping and cable system from fuel oil storage tank to DGs located in the reactor building.

GEH Response:

GEH will incorporate the Design/Analysis according to NRC SRP 3.7.3. GEH will revise ABWR DCD Rev 5, Tier 2, Sections/Subsections 1.9, 3.7.3.12, 3.8.4.1, 3.12.2.1, 3.12.3 and 3.8.4.1.6 & 3.8.6.5 (added) by explicitly specifying the Seismic Category I embedded tunnel to be a reinforced concrete tunnel and to be designed and analyzed according to NRC SRP 3.7.3, as listed in Table 1.8-19, as follows:

- Subsection 3.7.3.12 will be modified to explicitly specify:
 - a) the embedded “concrete tunnel” shall be a “reinforced concrete tunnel by following SRP 3.7.3 engineering process”,
 - b) the enclosure of the tunnel provides adequate dynamic clearance to its housing piping/cabling to avoid direct transmission of seismic in-ground accelerations and in-ground displacements,
 - c) dynamic soil pressure shall be accounted for.
- Section 3.8.4, the Design and Analysis section, subsection 3.8.4.1.6, Seismic Category I Buried Piping, Conduit and Tunnels, shall be added to specify “Seismic Category I buried piping, conduit and tunnels need to be designed and analyzed per SRP 3.7.3”
- Subsection 3.8.4.1 shall be expanded to include the checking of “rebar stresses, and required rebar splices” in addition to concrete stresses
- Subsection 3.12.2.1 shall be expanded to include specific seismic requirement found in NRC SRP 3.7.3
- Section 3.12.3 heading shall be modified to “Miscellaneous Non-Safety Related Tunnels”.

In addition, the following COL License Information item will be included to require this assessment:

- Section 1.9, Table 1.91, COL License Section 3.8 Information will be modified to include Subsection 3.8.6.5 “Seismic Category I Buried Piping, Conduits and Tunnels”
- Subsection 3.8.6.5 shall be added to specify the additional COL action needed to provide the Design and Analysis report for the Seismic Category I buried piping, conduits and tunnels.

Impact on DCD:

The ABWR DCD Tier 2, Section 1.9, Subsection 3.7.3.12, Subsection 3.8.4.1. Subsection 3.12.2.1, Section 3.12.3 are being revised. New Subsections 3.8.4.1.6 and 3.8.6.5 are being added to the DCD. The ABWR DCD R5 marked up pages are provided in Enclosure 2.