

## PMVogtleCOLPEm Resource

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**Attachments:** LAR 30 Technical Exchange Presentation Open Meeting (Non-Proprietary).pdf

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# Changes to the Auxiliary Building Wall Along Column Line 11, Credit of Turbine Building Wall 11.2 as a Pipe Rupture Barrier & Credit of the First Bay as a Tornado Missile Barrier (Public Meeting) (LAR-30)

April 2<sup>nd</sup>, 2015



## Auxiliary Building Wall 11

- Seismic Category I (SCI) Structure designed and constructed to ACI 349
- North Wall of the Auxiliary Building (Aux Bldg) that contains penetrations for the main steam and main feedwater lines
- Main steam line anchored to the wall with detailed rebar design surrounding the pipe penetration
- Change impacts the north wall of both the east and west MSIV compartments
- Critical Section – North Wall of MSIV East Compartment (Wall 11) between elevations 117'-6" and 153'.

## Auxiliary Building Wall 11 – Remove Vent Opening

- An opening is shown in Figure 3H.5-5. It was intended to accommodate a vent to provide MSIV compartment pressure relief in the event of a pipe break in the area.
- The pressure relief provided by these vents is not needed to maintain the MSIV rooms below the sub-compartment pressurization limit.
- The wall openings are proposed to be removed from the wall structural design.
- The structural design of the wall is proposed to be changed to extend the wall reinforcement through the openings and fill the openings with concrete.

# Auxiliary Building Wall 11 – Reconfigure Wall 11 Reinforcement

- During design finalization of the auxiliary building, including Wall 11, additional internal design review was completed to confirm conformance to ACI 349 requirements for the reinforcement development and detailing in the vicinity of the penetrations in Wall 11.
- The reinforcement design shown in UFSAR Figure 3H.5-5 and reviewed during the Design Certification review was determined to provide a sufficient amount of reinforcement in the wall.
- However, it was determined that revisions were required to ensure conformance with additional code requirements addressing detailing and development.
- The proposed changes to address ACI 349 detailing and development conformance consist of revising the reinforcement design in the vicinity of the main steam line penetration.
- UFSAR Subsection 3H.5 is proposed to be revised.

## Turbine Building First Bay & Wall 11.2

- Seismic Category II Structure designed to ACI 349, constructed to ACI 318
- Per UFSAR Section 3.2.1.1.2:
  - “Seismic Category II applies to plant structures, systems, and components which perform no safety-related function, and the continued function of which is not required.”
- Wall 11.2 is north wall of Turbine Building (Turb Bldg) first bay and separates the first bay from the main turbine hall
- Structure is credited for absorbing energy resulting from certain postulated high energy line breaks in the turbine building main hall (north of Wall 11.2)
- Structure is credited for providing tornado missile protection, where required, to prevent missiles from reaching openings/penetrations in the SCI Aux Bldg Wall 11.

# Use of Wall 11.2 as a Pipe Rupture Mitigation Feature

- It is proposed to update licensing basis to clearly state the design function of Wall 11.2 is protecting NI from a postulated turbine building high energy line break.
- This will impact UFSAR Subsection 3.6.1.1, item J and Subsection 3.6.1.3.2.
- An analysis has been completed which considers the high energy line break loadings in accordance with the required load combinations identified in UFSAR Table 3.8.4-2.
- 10 CFR Part 52, Appendix D, Section VIII evaluation determined that the change requires a license amendment.
- This change is linked to the Wall 11 changes because:
  - The Wall 11 design credits Wall 11.2 for absorbing forces from a postulated pipe break in the turbine building



# Use of Turbine Building First Bay as Tornado Missile Barrier

- Wall 11 as a NI SCI structure is primary means of defense against tornado missiles and is qualified for the appropriate loads
- Design TB First Bay and Wall 11.2 for tornado missile loads where necessary to protect openings in Wall 11.
- It is proposed to provide clarification in licensing basis that SCII structure Turbine Building First Bay provides a secondary means of tornado missile protection for areas where there are openings in the SCI structure Wall 11.
- 10 CFR Part 52, Appendix D, Section VIII evaluation determined that the change requires a license amendment.
- This change is linked to the Wall 11 changes because:
  - The Wall 11 design credits the First Bay for absorbing some tornado missile loads

# Questions