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November 9, 2015

Cindy Bladey, Office of Administration
Mail Stop: OWFN-12-H08
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

**RE: Docket ID NRC-2008-0252, Vogtle Electric Generating Plant, Units 3 and 4
Docket Nos. 052-00025 and 052-00026**

Dear Ms. Bladey:

On behalf of the Blue Ridge Environmental Defense League and its chapter Concerned Citizens of Shell Bluff, I write to provide comments on the proposed License Amendment Request for the Vogtle nuclear power plants in Waynesboro, Georgia.

Background

Plant Vogtle received its license to construct and operate two additional reactor units in 2012 and the plant is now under construction. Presently, Southern Nuclear Operating Company (SNOC) is seeking to amend its license to alter the construction of internal structural components. Further, the company submitted a Preliminary Amendment Request PAR-15-015 which would allow the change before the close of public comment and thorough review by the Commission.

Specifically, Southern Nuclear Operating Companyĝs license amendment request (LAR) dated September 18, 2015 proposes to revise Combined Operating License Appendix C and associated plant-specific Design Control Document Tier 1 Table 3.3-1, Definition of Wall Thicknesses for Nuclear Island Buildings, Turbine Building, and Annex Building. SNOC is requesting to alter concrete thickness tolerances for modules CA01, CA04 and CB65ð for the reactor vessel, the steam generator compartments, the refueling canal and the reactor coolant drain tank roomð from the present ±1 inch to a proposed ±1-5/8. There are four walls of the Containment Building Internal Structure that would be affected.

Comments

Based on our review, the license amendment request has not been fully evaluated. The requested change would increase wall thickness tolerance from plus or minus 1 inch to plus or minus 1-5/8 inches. Plus or minus 5/8 inch is in actuality 5/8 plus 5/8, or an extra 1-1/4 inches over the current 2 inch tolerance spread (±1 inch), or 3-1/4 inches.

In their amendment request, Southern Company reported minimum margins of about 50% for vertical reinforcement, horizontal reinforcement, and shear. But they do not specify what the margins were with the original tolerances. Hence, one cannot gauge the significance of the proposed new tolerances to the previously accepted margins. For example, if the original 1 inch tolerance band yielded minimum margins of about 52%, the proposed change reduces the margin a small amount; if the original tolerance band yielded margins of about 250%, the proposed change would reduce the margins by a considerable amount.

One of the walls affected by the LAR and listed in the UFSAR would be the ñShield Wall between Reactor Vessel Cavity and RCDT Room.ò[1] The nominal thickness of this concrete wall is 36 inches (3ô-0ò). Under the present tolerances, this wall could be 35 inches thick or 37 inches thick. Increasing the tolerances to the level in the LAR would mean the wall could be 34-3/8 inches or 37-5/8 inches thick. The 3-1/4 inch spread is 9% of the nominal wall thickness of 36 inches. This wall is identified in the USFAR as an ñApplicable Radiation Shielding Wall.ò The three other walls under the LAR are thicker but also Applicable Radiation Shielding Walls. See Table 3.3-1 below. Thickness affects the radiation shielding ability of a concrete wall.

Table 3.3-1
Definition of Wall Thicknesses for Nuclear Island Buildings, Turbine Building, and Annex Building(1)

Wall or Section Description	Column Lines(7)	Floor Elevation or Elevation Range(7)(8)	Concrete Thickness(2)(3)(4)(5)(9)	Applicable Radiation Shielding Wall (Yes/No)
Containment Building Internal Structure				
Shield Wall between Reactor Vessel Cavity and RCDT Room	E-W wall parallel with column line 7 (Inside face is 3'-0" north of column line 7. Width of wall section with stated thickness is defined by inside wall of reactor vessel cavity.)	From 71'-6" to 83'-0"	3'-0"	Yes
West Reactor Vessel Cavity Wall	N-S wall parallel with column line N (Width of wall section with stated thickness is defined by inside wall of reactor vessel cavity).	From 83'-0" to 98'-0"	7'-6"	Yes
North Reactor Vessel Cavity Wall	E-W wall parallel with column line 7 (Width of wall section with stated thickness is defined by inside wall of reactor vessel cavity).	From 83'-0" to 98'-0"	9'-0"	Yes
East Reactor Vessel Cavity Wall	N-S wall parallel with column line N (Width of wall section with stated thickness is defined by inside wall of reactor vessel cavity.)	From 83'-0" to 98'-0"	7'-6"	Yes

The companyôs perceived need for the proposed change was identified during a survey of installed modules where it was found that the tolerance specified in COL Appendix C was not met in a portion of one wall and there were possible inconsistencies with the underlying design construction tolerances. According to SNOC, the tolerances do not meet American Concrete Institute requirements ACI 349 and ACI 117.

In 2010, the NESCC identified the following needs, specific to ACI 349:[2]

> Gaps and conflicts in design requirements exist in some of the cited DOE standards and NRC standards or guidelines particularly as they relate to Design Basis Environmental Loads.

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[1] Vogtle Electric Generating Plant (VEGP) Units 3 and 4 Updated Final Safety Analysis Report, Tier 1, Revision 2, (560 pages), (5/15/2014) ML14183B430

[2] Nuclear Energy Standards Coordination Collaborative Concrete Task Group Presentation to NESCC, November 22, 2010, ñConcrete Codes and Standards for Nuclear Power Plants (CTG)ò

> The recommendation is that ACI 349, DOE and NRC coordinate and incorporate the Design Basis Accident such as high energy component or system failure (i.e. rotating equipment rupture, pipe break, tank failure causing interior building flooding, heavy load drop, etc.) and consider them as Design Basis Events as a function of Safety Classification of Structures, Systems and Components.

In 2011, NESCC issued a final report on radiation impactsð internal attackð on concrete durability which stated:[3]

> Internal attack...can cause destruction in short time scales regardless of element thickness. Therefore, the design should consider alkali silica reaction (ASR) cracking by either characterizing the aggregates or by addition of additives (SCM for instance), internal sulfate attack, DEF (delayed ettringite formation), etc... To ensure durability and avoid internal attack, the selection of concrete constituents is an essential part. Developing better mineralogical characterization of aggregates will help to avoid ASR, which can cause important degradation decades after construction is completed.

The report adds that accurate measurement, inspection on the nuclear plant construction site and proper test standards are essential.

Conclusion

The American Concrete Institute standards for nuclear power plants would be undermined by the granting of Southern Nuclearôs License Amendment Request. The standards are in need of updating; further departures from ACI-349 and other standards should not be approved by the Nuclear Regulatory Commission. Finally, the entire license amendment is being rushed. Southern Company has filed a preliminary amendment request which would allow the preemptory alteration of the license before a full public review as permitted by federal regulations. We oppose the granting of the Preliminary Amendment Request PAR-15-015 and the License Amendment. Our principal interests are the health and safety of our members living near the plant and the general public.

Respectfully,

Louis A. Zeller

Louis A. Zeller
Executive Director

[3] Nuclear Energy Standards Coordination Collaborative, Final Report of the Concrete Task Group: ñConcrete Codes and Standards for Nuclear Power Plants: Recommendations for Future Development,ò June 2011, available at:
http://www.ansi.org/standards_activities/standards_boards_panels/nescc/overview.aspx