Rulemaking Comments

From: John Runkle [jrunkle@pricecreek.com]
Sent: Tuesday, October 18, 2011 9:58 AM
To: Rulemaking Comments
Cc: CHAIRMAN Resource; CMRSVINICKI Resource; CMRAPOSTOLAKIS Resource; CMRMAGWOOD Resource; CMROSTENDORFF Resource; NRCExecSec Resource; Hackett, Edwin; said.abdelkhalik@me.gatech.edu
Subject: DOCKET ID NRC-2010-0131 - AP1000 certification
Attachments: supplemental comments 10-18-11.pdf

Attached please find the SUPPLEMENTAL COMMENTS BY THE AP1000 OVERSIGHT GROUP ET AL. (NEWLY DISCLOSED DESIGN FLAW). By copy of this email, we are filing these comments with the NRC Commissioners and the ACRS.

For the Oversight Group,

John D. Runkle
Attorney at Law
Post Office Box 3793
Chapel Hill, NC 27515
919-942-0600
jrunkle@pricecreek.com

Template=SECY-067

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October 18, 2011

UNITED STATES OF AMERICA
U.S. NUCLEAR REGULATORY COMMISSION
BEFORE THE COMMISSION

In the Matter of	)	
AP1000 Design Certification Amendment	)	NRC-2010-0131
10 CFR Part 52	)	RIN 3150-A181

SUPPLEMENTAL COMMENTS BY THE AP1000 OVERSIGHT GROUP ET AL.
(NEWLY DISCLOSED DESIGN FLAW)

NOW COME the AP1000 Oversight Group, the North Carolina Waste Awareness and Reduction Network (NC WARN) and Friends of the Earth (collectively the "Oversight Group") with supplemental comments on the certification of the AP1000 reactor design and operating procedures, Docket NRC-2010-0131, relating to a newly disclosed design flaw.

In its Memorandum and Order, CLI-11-05, September 9, 2011, the Commission addressed the Oversight Group's concerns by referring its comments and petitions to the Staff to be resolved in the Rulemaking Docket, NRC-2010-0131. In its Order the Commission ruled that

> [we] Refer to the NRC Staff those elements of the Petition that relate specifically to design certification, for consideration as rulemaking comments. Refer to the NRC Staff for resolution as comment sin the AP1000 rulemaking proceeding, all additional filings relevant to the AP1000 rulemaking proceeding.

The Oversight Group has diligently submitted comments into the rulemaking record as issues affecting the safety and reliability of the AP1000 reactors come to our attention.

NEWLY DISCLOSED DESIGN FLAW

According to newly disclosed information provided to the Oversight Group by a nuclear industry insider, Westinghouse-Toshiba and the NRC have failed to identify a design flaw in the AP1000's turbine building. The information that was received indicated a major structural flaw in the turbine building at the proposed Plant Vogtle reactors, although this flaw relates more broadly to the AP1000 design and its possible certification. The Oversight Group retained Fairewinds Associates and its chief engineer, Arnie Gundersen, to review this new information and these comments reflect his review.

According to the nuclear industry insider, Westinghouse-Toshiba will attempt to install critical safety and generating equipment into the smaller turbine building designed for the AP600, i.e., the AP1000 equipment will be "shoehorned" into the smaller AP600 building. Because the equipment cannot safely fit into the AP600 building, the current AP1000 design ignores safety concerns by limiting access to critical equipment. The reactor designers are allegedly being forced to relocate many essential pieces of equipment into side buildings and add-on buildings not feasible for long-term operations or reliability.

Although the NRC certified the AP600 design, Westinghouse-Toshiba was reportedly unable to sell this smaller-sized reactor to the utility industry, and thus reapplied to the NRC for the scaled up AP1000. In its rush to be eligible for federal subsidies and loan guarantees and in order to lower initial construction costs, Plant Vogtle's turbine building, as well as other proposed reactors utilizing the AP1000 design, was not designed for the expanded AP1000 reactor, and instead Westinghouse-Toshiba has allegedly attempted, albeit unsuccessfully, to shoehorn its equipment into the much smaller AP600 design. According to Mr. Gundersen, the shoehorn design may significantly increase maintenance and repair costs that will be borne by ratepayers of the utilities who wish to use the AP1000 reactors.

According to Mr. Gundersen, the restricted equipment access congruent with the AP1000 redesign would restrict crucial access to the condenser, turbine, and feedwater heater that were integral components of the AP600 design. The shoehorned AP1000 design will limit access to essential equipment, increase operating downtime and outages, and lead to increased ratepayer costs because the shoehorned AP1000 design will make condenser retubing, turbine overhauls, and feedwater heater replacements/repairs impossible without disassembling entire buildings.

Moreover, in addition to higher operating costs and downtime borne by Plant Vogtle's ratepayers, the AP1000 Oversight Group believes shoehorning large AP1000 equipment into the smaller AP600 blueprint would create three unreviewed safety problems the NRC must evaluate:

1. Limited access and cramped equipment may affect the reliability of a nuclear power plant as unreliable systems negatively impact operations by causing frequent breakdowns and burdening safety systems. Frequent plant shutdowns for unanticipated problems challenge reactor safety systems and thus the AP1000 may potentially have its safety systems challenged much more frequently due to the shoehorn design.

2. Shoehorning the larger AP1000 turbine in the smaller AP600 turbine building has the potential for unanalyzed turbine missiles to damage essential safety-related equipment.

3. The auxiliary feedwater system is a nuclear plant's first line of defense to cool the steam generators when it shuts down. With significant portions of the AP1000 auxiliary feedwater system located in the undersized AP600 turbine building the AP1000's auxiliary feedwater system will be challenged to operate as intended.

Finally, in order to conduct a thorough technical analysis of what it believes to be unreviewed and significant safety concerns, the Oversight Group and its consulting engineer attempted to review and analyze building drawings in the AP1000 Design Certification Document Revision 19, Volume 2, Chapter 1, Section 1.2.8 et al., but much

of the detailed descriptions of the turbine building were not available for engineering review because they were marked "Security-Related Information, Withhold Under 10 CFR 2.390d." It is therefore up to the Commission, NRC Staff and Advisory Committee on Reactor Safeguards to fully investigate these potentially serious safety concerns and promptly determine if the AP1000 is shoehorned into the AP600.

CONCLUSION

Until the safety issues associated with the impact of the shoehorned AP1000 design are addressed prior to the delivery of the "rulemaking package" by the NRC Staff to the Commission for consideration of certification of the AP1000 reactor design and operating procedures, the Oversight Group requests that approval of the AP1000 design be suspended. As part of this request and prior to any consideration of certification of the AP1000 reactor, all other features of the AP1000 which have been upscaled from the AP600 design should be reviewed in order to guarantee that proper and validated calculations have been made when basing AP1000 design features on the AP600 model. Lastly, the NRC Staff should immediately apprize the public if the serious safety issue we have raised is accurate and if it is, we recommend that an investigation be conducted to determine how any flawed turbine building design could have been overlooked by Westinghouse-Toshiba or the NRC staff during the AP1000 review process.

Respectfully submitted this 18th day of October 2011.

/signed electronically by/

John D. Runkle
Attorney at Law
Post Office Box 3793
Chapel Hill, North Carolina 27515
telephone: 919-942-0600
email: jrunkle@pricecreek.com