UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 23, 2009

LICENSEE: Tennessee Valley Authority

FACILITIES: Browns Ferry Nuclear Plant, Units 1 and 2

SUBJECT: SUMMARY OF FEBRUARY 26, 2009, MEETING WITH THE TENNESSEE VALLEY AUTHORITY (TVA) TO DISCUSS PROPOSED EXTENDED POWER UPRATE ANALYSES REVISION (TAC NOS. MD5262 AND MD5263)

On February 26, 2009, the U.S. Nuclear Regulatory Commission (NRC) staff conducted a Category 1 public meeting with Tennessee Valley Authority (TVA, the licensee) at NRC Headquarters, 11555 Rockville Pike, One White Flint North, Rockville, Maryland. The purpose of the meeting was to discuss analyses revisions proposed by TVA in support of the extended power uprate amendment request for Browns Ferry Nuclear Plant. Enclosure 1 contains a list of attendees. The licensee presented a slide presentation [see the Agencywide Documents Access and Management System (ADAMS) accession No. ML090710768]. The licensee also presented proposed answers to questions that the Advisory Committee on Reactor Safeguards (ACRS) had posed to the NRC staff (see the ADAMS accession No. ML090710807).

DISCUSSION

TVA revised the net positive suction head/containment accident pressure (NPSH/CAP) short-term loss-of-coolant accident (LOCA) analyses by reducing the residual heat removal (RHR) pump flow rate into the broken recirculation loop by an excess flow rate value included in previous short-term LOCA NPSH calculations, thereby reducing the required NPSH at 10 minutes into the scenario. The relative humidity was also reduced to a more realistic number that would increase the amount of noncondensible gases in containment during the scenario, which results in an increase in CAP. Additionally, the time-dependent nature of the required NPSH was added to the model. TVA has concluded that these changes would allow the RHR pumps to remain within the vendor's performance curves while performing their functions during a LOCA. On a related note, a representative from the pump vendor Sulzer stated that the commercial pump specifications referenced in the analyses are minimal performance values and that actual performance, as demonstrated by pump tests, would be far better.

There was discussion of the time dependence of the required NPSH and how it is calculated. The licensee explained that the time dependence of the required NPSH is based on integrated wear over the 8000 hours. Since the integrated wear over the 8000 hrs is constant, the ordering of the amount of the wear over time is arbitrary and the shape of the plot of the required NPSH over time as related to wear can be varied.

The staff spoke on attempting to determine the acceptance criteria for Appendix R scenarios requiring CAP. The licensee suggested that it would be helpful if the Boiling Water Reactor Owners Group would generate a standard approach to the issues.

The Sulzer representative responded to an ACRS staff member's question on how pump testing at a lower temperature can give reliable indication of NPSH at a higher suction temperature. The representative stated that testing at a lower inlet temperature and using that temperature without correction at the higher inlet temperature is conservative since required NPSH decreases with increased temperature.

Environmental qualification of containment equipment was briefly discussed. The licensee stated that all equipment in containment is qualified to 281 degrees Fahrenheit for 100 days. Also, there was a brief discussion regarding the ACRS request for information on how much cavitation of the pump was acceptable.

No members of the public were in attendance, and no feedback forms were received. No commitments or regulatory decisions were made by the NRC staff during the meeting.

Sincerely,

/RA/

Eva A. Brown, Senior Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-259 and 50-260

Enclosure: List of Attendees

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Attendees
Nuclear Regulatory Commission
Public Meeting with Tennessee Valley Authority
Regarding Browns Ferry Power Uprate
February 26, 2009

U. S. NUCLEAR REGULATORY COMMISSION
Zena Abdullahi
Sher Bahadur
Tom Boyce
Eva Brown
Robert Dennig
John N. Flack
Daniel Frumkin
John Lehning
Richard Lobel
Tracy Orf
Bill Ruland
Farideh Saba
Ahsan Sallman
Steve Smith

TENNESSEE VALLEY AUTHORITY
Gordon P. Arent
James Emens
Robert Marks
Bertram C. Morris
J.D. Wolcott

SULZER
Steven Schoenbrun

Enclosure

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ADAMS Accession No.: ML090710705 NRC-001

OFFICE	LPLII-2/PM	LPLII-2/PM	LPLII-2/LA	LPLII-2
NAME	TOrf	EBrown	BClayton	TBoyce (FSaba for)
DATE	3/19/09	3/19/09	3/19/09	3/23/09

OFFICIAL RECORD COPY

Summary of February 26, 2009, Meeting with TVA to Discuss Proposed Extended Power Uprate Analyses Revision

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