



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

May 21, 2015

LICENSEE: Tennessee Valley Authority

FACILITY: Browns Ferry Nuclear Plant, Units 1, 2, and 3

SUBJECT: SUMMARY OF APRIL 7, 2015, MEETING WITH TENNESSEE VALLEY AUTHORITY REGARDING THE STARTUP PLAN FOR TENNESSEE VALLEY AUTHORITY-PLANNED EXTENDED POWER UPRATE LICENSE AMENDMENT REQUEST AT BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2, AND 3 (TAC NOS. MF4851, MF4852, AND MF4853)

On April 7, 2015, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of Tennessee Valley Authority (TVA) at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss the startup test plan for the TVA-planned extended power uprate (EPU) license amendment request (LAR) at Browns Ferry Nuclear Plant, Units 1, 2, and 3 (Browns Ferry). The meeting notice and agenda dated March 19, 2015, is available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML15085A123. A list of attendees is enclosed.

The licensee presented informational slides at the meeting. The licensee's presentation document, which was provided prior to the meeting and attached to the meeting notice, is available in ADAMS under Accession No. ML15096A056. The licensee presented information about the portions of its planned submittal for an EPU LAR pertaining to the startup plan and large transient testing. Specifically, TVA described the NRC guidance and industry topical reports that would govern the startup tests, and presented an overview of which tests are already satisfied by existing plant practices and which would be performed for the EPU. TVA also described how NRC guidance would allow the Browns Ferry EPU to be exempt from performing large transient tests, including main steam isolation valve closure. TVA presented its reasoning for exemption from large transient testing, which included tests performed at initial startup, previous operating experience, margin reduction, and risk implications of performing the test itself.

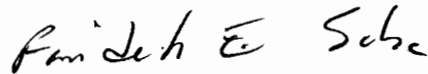
The NRC staff queried TVA about the accuracy of its vibration measurement instruments used for the testing at Browns Ferry and how such measurement uncertainty would be accounted for in the measurement results. TVA responded that several tests would be conducted at different power levels to assess measurement precision. The NRC staff discussed the potential for increased vibration in components such as steam dryers, piping, and main steam isolation valves, and asked whether TVA would adopt the lessons learned from vibration testing during EPU's at other boiling water reactors. TVA responded that it had analyzed vibration testing at these other plants and did not foresee any complications caused by vibration. TVA briefly outlined its plans for vibration testing specific to Browns Ferry.

The NRC staff requested that TVA describe the condensate and feedwater system and feedwater control system plant changes that were planned for implementation to achieve the

EPU power level, to gain an understanding of the potential impact on reactor water level and feedwater flow step change transient testing to be performed. TVA explained that it was changing the configuration of the feedwater delivery system from three 33 percent main feedwater pumps to three 50 percent pumps. In addition, the NRC staff pointed out that the justification for excluding one small transient test and several large transient tests as presented in the meeting slides did not appear to include sufficient detail, and asked whether TVA will expand upon its justification in the license amendment submittal. The NRC staff also asked whether Browns Ferry's prior operating experience was sufficiently representative of an anticipated large transient to be used as part of the justification for excluding large transient testing.

Members of the public were in attendance by telephone and in person. Public Meeting Feedback forms were not received. During the public comment period, members of the public asked whether NRC staff would review the submittal for financial implications. The NRC staff replied that the type of financial considerations raised by the member of the public are within the purview of the licensee. The public also emphasized that Browns Ferry is unique in that it is a three-unit boiling water reactor.

Please direct any inquiries to me at 301-415-1447 or Farideh.Saba@nrc.gov, or to April Pulvirenti at 301-415-1390 or April.Pulvirenti@nrc.gov.



Farideh E. Saba, Project Manager
Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-259, 50-260, and 50-296

Enclosure:
List of Attendees

cc w/enclosure: Distribution via Listserv

LIST OF ATTENDEES

APRIL 7, 2015, MEETING WITH TENNESSEE VALLEY AUTHORITY REGARDING THE
STARTUP PLAN FOR TENNESSEE VALLEY AUTHORITY-PLANNED EXTENDED POWER
UPRATE LICENSE AMENDMENT REQUEST AT BROWNS FERRY NUCLEAR PLANT,

UNITS 1, 2, AND 3

| <u>Name</u> | <u>Affiliation</u> |
|----------------------|-----------------------------|
| Shana Helton | NRC |
| Farideh Saba | NRC |
| George Thomas | NRC |
| David Rahn | NRC |
| Tim Lupold | NRC |
| Mathew Panicker | NRC |
| Muhammad Razzaque | NRC |
| John Tsao | NRC |
| John Huang | NRC |
| Candace Pfefferkorn | NRC |
| Jeremy Dean | NRC |
| Aloysius Obodoako | NRC |
| April Pulvirenti | NRC |
| Gerry J. Doyle | TVA |
| Jeffery A. Kimberlin | TVA |
| Peter Donahue | TVA |
| Gordon Williams | TVA |
| Dan Green | TVA |
| Tony Bechem | TVA |
| Raymond Dennis | Westinghouse (by telephone) |
| Jana Bergman | Public |
| Sara Barczak | Public (by telephone) |
| Garry Morgan | Public (By telephone) |

Enclosure

EPU power level, to gain an understanding of the potential impact on reactor water level and feedwater flow step change transient testing to be performed. TVA explained that it was changing the configuration of the feedwater delivery system from three 33 percent main feedwater pumps to three 50 percent pumps. In addition, the NRC staff pointed out that the justification for excluding one small transient test and several large transient tests as presented in the meeting slides did not appear to include sufficient detail, and asked whether TVA will expand upon its justification in the license amendment submittal. The NRC staff also asked whether Browns Ferry's prior operating experience was sufficiently representative of an anticipated large transient to be used as part of the justification for excluding large transient testing.

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/RA/

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Plant Licensing Branch II-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-259, 50-260, and 50-296

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cc w/enclosure: Distribution via Listserv

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|----------------------|--------------------|-------------------|
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| RidsNrrPMBrownsFerry | MWaters, OEDO | RidsNrrDssSnpb |
| APulvirenti, NRR | JHuang, NRR | |

ADAMS Accession No.: ML15125A380 Meeting Notice ML15085A123 Handouts ML15096A056

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| NAME | APulvirenti | FSaba | LRonewicz | BClayton | CJackson |
| DATE | 5/7/15 | 5/7/15 | 5/7/15 | 5/7/15 | 5/12/15 |
| OFFICE | NRR/DE/EMCB/BC | NRR/DE/EICB/BC* | NRR/DSS/SNPB | NRR/DORL/LPL2-2/BC | NRR/DORL/LPL2-2/PM |
| NAME | TLupold | JThorp | JDean | SHelton | FSaba |
| DATE | 5/11/15 | 5/7/15 | 5/20/15 | 5/21/15 | 5/21/15 |

*via e-mail

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