



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

May 29, 2014

LICENSEE: Tennessee Valley Authority

FACILITY: Watts Bar Nuclear Plant, Unit 2

SUBJECT: SUMMARY OF APRIL 24, 2014, MEETING WITH TENNESSEE VALLEY
AUTHORITY REGARDING WATTS BAR NUCLEAR PLANT, UNIT 2,
OPEN ITEMS FOR LICENSING

On April 24, 2014, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of the Tennessee Valley Authority (TVA) at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of this meeting was for TVA to discuss with NRC outstanding electrical engineering open items related to the licensing effort for the Watts Bar Nuclear Plant (WBN), Unit 2. Attendees for this meeting are listed in Enclosure 1.

The NRC staff is currently in the process of completing a technical review of TVA's Final Safety Analysis Report for WBN Unit 2. Protecting Class 1E safety systems from degraded voltage conditions in offsite power systems (grid) is a generic industry concern, commonly referred to as the degraded voltage relay (DVR) issue. NRC guidance and background information on this issue is available in Regulatory Information Summary 2011-12, "Adequacy of Station Electric Distribution System Voltages," which is available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML113050583. An open item for licensing WBN Unit 2 is to resolve the degraded voltage issue that is documented as Open Item No. 30 in Section 8.3.1.2, "Low and Degraded Voltage Conditions," published in Supplement 22 of NUREG-0847 "Safety Evaluation Report Related to the Operation of Watts Bar Nuclear Plant, Unit 2" (ADAMS Accession No. ML110390197).

Open Item No. 30 states:

TVA should confirm that all safety-related equipment (in addition to the Class 1E motors) will have adequate starting and running voltage at the most limiting safety-related components (such as motor-operated valves (MOVs), contactors, solenoid valves or relays) at the DVR setpoint dropout setting. TVA should also confirm that (1) the motor starting transient studies are based on the dropout voltage value of DVR and time delay, (2) the steady-state voltage drop studies are carried out by maximizing running loads on the Class 1E distribution system (bounding combination of safety systems loads), with the voltage at 6.9-kV [kilovolt] Class 1E buses (monitored by the DVRs) at or just above the DVR dropout setting, and (3) the DVR settings do not credit any equipment operation (such as LTC [load tap changer] transformers) upstream of the 6.9-kV Class 1E buses. TVA should also confirm that the final technical specifications (TSs) are properly derived from these analytical values for the degraded voltage settings.

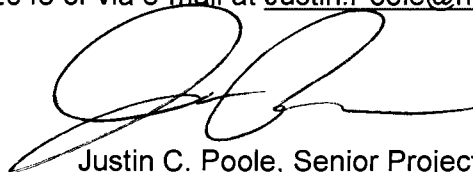
TVA gave a presentation, slides are available in ADAMS at Accession No. ML14118A195, outlining their approach to resolve the degraded voltage issue. A brief history of the degraded voltage issue was presented along with a summary of the existing regulatory guidance on the issue. TVA reviewed the past industry events and corresponding regulatory information available on the topic. The methodology for deriving the DVR set point was explained. TVA then reviewed information previously submitted to the NRC in 2012, documenting a degraded voltage study at WBN Unit 2 (ADAMS Accession No. ML12160A350). NRC staff asked several clarifying questions regarding the presented scenarios and case studies analyzed by TVA.

In 2011, the NRC issued a non-cited violation for WBN Unit 1 failing to use the DVR setpoint values as specified in the technical specifications. Inspection Report 05000390/2010005 (ADAMS Accession No. ML110280456) documents the finding which prompted the technical reviewers to document licensing Open Item No. 30 in the licensing review of WBN Unit 2. For WBN Unit 1, the licensee will address the deficiency as part of the corrective action program. TVA explained how degraded voltage protective measures are implemented for Class 1E systems at Unit 1 of the WBN site and how the proposed changes will resolve the open item. TVA stated that the same protective measures will be implemented for Unit 2. TVA and NRC staff agreed that the preferred regulatory vehicle to address the matter for Unit 2 is through closure of Open Item No. 30 with a possible related confirmatory item to be closed through onsite inspection.

On February 27, 2014, the NRC staff issued requests for additional information (RAIs) addressing Open Item No. 30 for WBN Unit 2, which are available in ADAMS at Accession No. ML14059A158. TVA stated that they will respond to these RAIs based on the clarification discussed with the technical staff during the meeting. TVA said they will expeditiously prepare the package for submittal to the NRC and will ask for coordination of clarification calls with NRC staff to avoid future iterations of submitted information.

No regulatory decisions were made at the meeting. Two members of the public participated in the meeting. No members of the public had any questions.

Please direct any inquiries to me at 301-415-2048 or via e-mail at Justin.Poole@nrc.gov.



Justin C. Poole, Senior Project Manager
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-391

Enclosure:
List of Attendees

cc w/encl: Distribution via Listserv

MEETING ATTENDANCE LIST

Licensee: Tennessee Valley Authority

Plant: Watts Bar Nuclear Plant, Unit 2

Subject: Electrical Open Items for Watts Bar Unit 2

Date: April 24, 2014

Location: U.S. Nuclear Regulatory Commission
Headquarters, Room O-7B4

Time: 8:30 p.m. – 11:00 a.m.

NAME	TITLE	ORGANIZATION
Michele Evans	Division Director	NRC/NRR/DORL
Patrick Hiland	Division Director	NRC/NRR/DE
John Monninger	Deputy Division Director	NRC/NRR/DORL
Jessie Quichocho	Branch Chief	NRC/NRR/DORL/Plant Licensing Branch II-2
Justin Poole	Sr. Project Manager	NRC/NRR/DORL/Plant Licensing Branch II-2
Jeanne Dion	Project Manager	NRC/NRR/DORL/Plant Licensing Branch II-2
Jake Zimmerman	Chief, Electrical Engineering Branch	NRC/NRR/DE/EEEB
Gurcharan Matharu	Senior Electrical Engineer	NRC/NRR/DE/EEEB
Roy Mathew	Team Leader	NRC/NRR/DE/EEEB

NAME	TITLE	ORGANIZATION
Chris Even*	Project Engineer	NRC/RII
Mark Bowman		TVA
Joe Shea		TVA
Gordon Arent	TVA Director, WBN Licensing	TVA
Ruth Thomas*	Member of Public	
Jack Roe	Member of Public	

*participated via teleconference

TVA gave a presentation, slides are available in ADAMS at Accession No. ML14118A195, outlining their approach to resolve the degraded voltage issue. A brief history of the degraded voltage issue was presented along with a summary of the existing regulatory guidance on the issue. TVA reviewed the past industry events and corresponding regulatory information available on the topic. The methodology for deriving the DVR set point was explained. TVA then reviewed information previously submitted to the NRC in 2012, documenting a degraded voltage study at WBN Unit 2 (ADAMS Accession No. ML12160A350). NRC staff asked several clarifying questions regarding the presented scenarios and case studies analyzed by TVA.

In 2011, the NRC issued a non-cited violation for WBN Unit 1 failing to use the DVR setpoint values as specified in the technical specifications. Inspection Report 05000390/2010005 (ADAMS Accession No. ML110280456) documents the finding which prompted the technical reviewers to document licensing Open Item No. 30 in the licensing review of WBN Unit 2. For WBN Unit 1, the licensee will address the deficiency as part of the corrective action program. TVA explained how degraded voltage protective measures are implemented for Class 1E systems at Unit 1 of the WBN site and how the proposed changes will resolve the open item. TVA stated that the same protective measures will be implemented for Unit 2. TVA and NRC staff agreed that the preferred regulatory vehicle to address the matter for Unit 2 is through closure of Open Item No. 30 with a possible related confirmatory item to be closed through onsite inspection.

On February 27, 2014, the NRC staff issued requests for additional information (RAIs) addressing Open Item No. 30 for WBN Unit 2, which are available in ADAMS at Accession No. ML14059A158. TVA stated that they will respond to these RAIs based on the clarification discussed with the technical staff during the meeting. TVA said they will expeditiously prepare the package for submittal to the NRC and will ask for coordination of clarification calls with NRC staff to avoid future iterations of submitted information.

No regulatory decisions were made at the meeting. Two members of the public participated in the meeting. No members of the public had any questions.

Please direct any inquiries to me at 301-415-2048 or via e-mail at Justin.Poole@nrc.gov.

/RA/

Justin C. Poole, Senior Project Manager
Watts Bar Special Projects Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-391

Enclosure:

List of Attendees

cc w/encl: Distribution via Listserv

DISTRIBUTION:

PUBLIC

LPL 2-2 Reading

RidsAcrrAcnw_MailCTR Resource

RidsNrrDorILp_Wb Resource

RidsNrrDE Resource

RidsNrrDeEeeb Resource

RidsNrrPMWattsBar2 Resource

RidsNrrPMWattsBar1 Resource

RidsNrrLABClayton Resource

RidsRgn2MailCenter Resource

CEven, RII

RMathew, NRR

RidsNrrDorI Resource

JDion, NRR

JNick, EDO RII

TWertz, NRR

GMatharu, NRR

ADAMS Accession No. PKG ML14132A270

Meeting Notice : ML14100A313; Meeting Summary: ML14118A201; Handouts: ML14118A195 *Via e-mail dated 5/ 24/ 2014

OFFICE	DORL/LPWB/PMIT	DORL/LPWB/PM*	DORL/LPWB/LA	DE/EEEB/BC	DORL/LPWB/BC	DORL/LPWB/PM
NAME	JDion	JPoole	BClayton	JZimmerman	JQuichocho	JPoole
DATE	5/19/14	5/24/14	5/19/14	5/20/14	5/27/14	5/29/14

OFFICIAL RECORD COPY