



Watts Bar Nuclear Plant (WBN) Unit 1

Pre-Submittal Meeting for License Amendment Request

Technical Specification Table 3.3.3-1

May 28, 2020



Agenda

- Opening Remarks
- Regulatory Requirements
- System Description
- WBN Unit 1 Technical Specification (TS) Table 3.3.3-1
- Reason for Change
- Basis for Change
- Proposed TS Change
- Precedent
- Schedule Milestones
- Closing Remarks



Opening Remarks

- The purpose of this meeting is to discuss a proposed license amendment for WBN Unit 1.
- Tennessee Valley Authority (TVA) is requesting a license amendment to revise WBN Unit 1 TS 3.3.3, “*Post Accident Monitoring (PAM) Instrumentation*,” Table 3.3.3-1 to delete the term “plasma” from the footnotes in the PAM instrumentation table.
- This presentation will discuss the reason this change is needed as well as the basis for the proposed TS change.

Regulatory Requirements

- NUREG-0737 Supplement 1 and Regulatory Guide (RG) 1.97 Revision 2 provide the requirements for instrumentation used to assess plant and environs conditions during and following an accident at WBN.
- RG 1.97 describes variables that provide the primary information required to permit the control room operators to take the appropriate manual actions, and those that provide information to indicate whether plant safety functions are being accomplished, as key variables.
- RG 1.97 also states “*Continuous indication (it may be by recording) display should be provided,*” but makes no mention of what technology should be used to display parameters in the control room.

System Description

- The PAM instrumentation for WBN Unit 1 is required to monitor plant and environs conditions during and following certain design basis accidents.
- The PAM System (PAMS) is a computer-based system that displays three post accident parameters: core exit thermocouples, reactor vessel level, subcooled margin monitor – listed as items 6, 17, 18, 19, 20, 22 in TS Table 3.3.3-1.
- These three parameters are key variables as defined by RG 1.97.
- The PAM display panel in use at WBN Unit 1 from initial licensing to the present time is a “plasma” display.

WBN Unit 1 TS Table 3.3.3-1

- WBN Unit 1 TS Table 3.3.3-1 lists the PAM instrumentation required for operability.
- The table footnotes provide clarifying information for the functions listed in this table.
- Footnotes (f) and (h) include the word “plasma” to describe the display associated with the Inadequate Core Cooling Monitor (ICCM) PAMS.

Reason for Change

- The current wording of this TS is too restrictive.
- This level of detail is not found in the Standard TS for Westinghouse Pressurized Water Reactors (NUREG-1431 Revision 4) nor in the TS for these stations:
 - Calvert Cliffs Units 1 and 2
 - Catawba Units 1 and 2
 - DC Cook Units 1 and 2
 - McGuire Units 1 and 2
 - Sequoyah Units 1 and 2
 - St. Lucie Units 1 and 2
 - Turkey Point Units 3 and 4



Reason for Change (continued)

- Use of the word “plasma” in these TS table footnotes hampers the ability of TVA to maintain the most efficient technology for the ICCM display in the WBN Unit 1 PAMS.
- Deleting this term will allow future upgrades to replace the obsolete plasma-screen technology in use since initial licensing.

Basis for Change

- The ICCM PAM display panel does not perform any calculations or any critical/essential function of the PAMS other than as a visual display. The display is used as indication only.
- Review of applicable human factor standards for “visual display units” indicates no design requirements for a specific display technology.
- There is no regulatory requirement for the display technology to be cited in the technical specifications.
- Based on review of correspondence between TVA and NRC regarding NUREG-0737, Item II.F.2 – “*Instrumentation for Detection of Inadequate Core Cooling (ICC)*”, it is surmised that the word “plasma” was included in the footnotes for WBN Unit 1 TS Table 3.3.3-1 to highlight that the latest in display technology was being used.

Proposed Technical Specification Change

Unit 1 – TS Table 3.3.3-1 (page 2 of 2)

Post Accident Monitoring Instrumentation

- (f) The ICCM provides these functions on a ~~plasma~~ display.
- (h) This function is displayed on the ICCM ~~plasma~~ display and digital panel meters.



Precedent

- No license amendment requests (LARs) similar to this have been identified.
- This reflects the situation that no other TS were found to have this level of detail.



Schedule Milestones

- May 28, 2020 – LAR Pre-Submittal Meeting with NRC
- June 2020 – LAR Submittal – Request NRC approval within 12 months of submittal with implementation prior to startup from the WBN Unit 1 fall 2021 refueling outage (October 2021)
- July 2020 – Telecon or meeting to discuss any NRC questions
- June 2021 – NRC Approval of LAR (Requested)



Closing Remarks

