

maintain MCR temperatures within the design limits is unaffected by the limited QA and newly defined seismic requirements for the air delivery components.

An accident that involves a fire that affects the MCR or the habitability of the MCR was not a consideration for the qualification of the air distribution components. A fire of this nature will result in plant operation from the Auxiliary Control Room which is supported by a separate heating, ventilation and air conditioning (HVAC) supply system.

An earthquake (including the Design Basis SSE [safe shutdown earthquake]) is the only event for which the design basis for the MCR HVAC and suspended ceiling is potentially challenged. A seismic qualification report by an industry seismic expert concludes that the air delivery components will remain in place, will retain their structural integrity such that flow will not be impeded, and the pressure boundary will not be lost during and subsequent to a design basis seismic event. Further, as assured by TVA's qualification report, the suspended ceiling will remain in place during and subsequent to a seismic event or accident. Thus, the revised QA and seismic qualification requirements for the MCR air delivery components and suspended ceiling will not result in loss of safety function for any design basis accident or event. Consequently, the accident dose consequences as previously evaluated in the UFSAR are not affected by the proposed license amendment.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

No. The MCR air delivery components addressed by the proposed amendment are not an accident initiator and therefore, failure of these components will not initiate a design basis accident. In addition, the subject air delivery components and suspended ceiling have been seismically qualified, as previously discussed, and a determination has been made that they will not fail during a design basis accident. Therefore, the air delivery components and suspended ceiling will continue to perform their safety function during normal and accident conditions. Consequently, this activity does not create a possibility of a new or different type of accident than any previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

No. The changes addressed in TVA's proposed amendment are associated with changes in QA requirements and seismic qualification methodology for safety related air delivery components and for the suspended ceiling. The change does not affect specific HVAC equipment safety limits, design limits, set points, or other critical parameters. In addition, the new seismic analysis methodology and limited QA requirements ensure that these components will continue to perform their safety functions during normal and accident conditions. The previously implied margin of safety against structural or functional failure of the air delivery components or suspended ceiling during and after a design basis SSE has not been reduced. Consequently, the MCR HVAC system or suspended ceiling

margin of safety has not been significantly reduced by this proposed amendment.

The NRC staff has reviewed the licensee's analysis and, based on this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.

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*Tennessee Valley Authority, Docket No. 50-390, Watts Bar Nuclear Plant, Unit 1, Rhea County, Tennessee*

*Date of amendment request:* March 24, 2003.

*Description of amendment request:* The proposed amendment would revise the design and licensing basis failure modes and effects analysis for specific valves in the essential raw cooling water system, component cooling water system, and control air system. Tennessee Valley Authority has identified a condition where containment integrity, accident flood levels, and sump boron concentrations subsequent to a high-energy line break events could not be assured automatically as stated in the updated final safety analysis report (UFSAR). In certain postulated events, manual actions may be required using equipment not currently evaluated in the UFSAR.

*Basis for proposed no significant hazards consideration determination:* As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated[?]

*Response:* No.

The manual actions required by this change are only needed after a high energy line break (HELB) accident, such as a loss-of-coolant-accident (LOCA), main steam line break (MSLB), feedwater line break accidents, etc., has occurred inside containment and a single failure of an outboard containment isolation valve to close has occurred on one of four specific lines inside containment. In this event, the manual actions ensure containment is isolated, which is consistent with the current design. Consequently, the manual actions of isolating the air and water lines after an accident do not affect the frequency of any accident previously evaluated in the Updated Final Safety Analysis Report (UFSAR).

The UFSAR currently indicates that the containment vessel design and the

containment isolation system automatically ensure containment integrity is maintained and thus ensure that release of radioactive material from containment remains below allowable limits during and subsequent to an accident. Current UFSAR Failure Modes and Effects Analysis (FMEA) for the affected essential raw cooling water (ERCW), component cooling system (CCS), and control air system (CAS) valves indicate a single failure of the outboard containment isolation valve in conjunction with a concurrent accident and consequential (due to interaction) failure of the system piping inside containment, has no adverse effect on the plant; thus, containment integrity is ensured automatically. This change revises these evaluations to indicate manual actions are required to ensure containment integrity in the event of an HELB and single failure of an outboard containment isolation valve. Evaluations have been performed to ensure adequate instrumentation and time is available to recognize the need and to manually isolate an affected line subsequent to an HELB if the outboard containment isolation valve does not close. The emergency procedures have been revised that require manual actions to be performed to isolate CAS, ERCW, and CCS and to open and close a post accident sampling facility (PASF) cooling water supply valve. The Operations Staff has confirmed that the subject containment lines can be isolated within the allowable time and without exceeding the dose limitations as required by 10 CFR [Part] 50, Appendix A, General Design Criteria (GDC) 19, "Control Room."

Evaluations have indicated that adequate instrumentation, time, and staffing are available to manually isolate the lines into containment. Operator actions are achievable and can be accomplished without heroic actions. Therefore, containment integrity from overpressurization or flooding is maintained within the current design basis analysis, and the radiological consequences of an accident will not be increased by this change. Consequently, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated[?]

*Response:* No.

This change implements manual actions to isolate four specific containment lines in lieu of automatic containment isolation for previously identified accidents. The manual actions are required to maintain containment integrity from overpressurization, containment flood levels, sump pH levels, and emergency core cooling system (ECCS) water boron concentrations subsequent to an HELB inside containment concurrent with a single failure of an outboard containment isolation valve on a CAS, ERCW, or CCS line. The UFSAR FMEA evaluations will be revised by this proposed change to include the failure modes and associated manual actions.

NRC Information Notice (IN) 97-78, "Crediting of Operator Actions in Place of Automatic Actions and Modifications of