

Docket Number 50-346
License Number NPF-3
Serial Number 2252
Enclosure
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APPLICATION FOR AMENDMENT
TO
FACILITY OPERATING LICENSE NPF-3
DAVIS-BESSE NUCLEAR POWER STATION
UNIT NUMBER 1

Attached are requested changes to the Davis-Besse Nuclear Power Station, Unit Number 1 Facility Operating License Number NPF-3. Also included is the Safety Assessment and Significant Hazards Consideration.

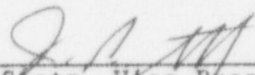
The proposed changes (submitted under cover letter Serial Number 2252) concern:

Appendix A, Technical Specification 3/4.5.2, Emergency Core Cooling System (ECCS) - $T_{avg} \geq 280^{\circ}F$

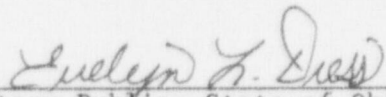
Appendix A, Technical Specification 3/4.6.2, Depressurization and Cooling Systems - Containment Spray System

Appendix A, Technical Specification B3/4.5.2, Emergency Core Cooling Systems Bases

Appendix A, Technical Specification B3/4.6.2.1, Containment Spray System Bases

By: 
J. P. Stetz, Vice President - Nuclear

Sworn and subscribed before me this 7th day of October, 1994.


Notary Public, State of Ohio

EVELYN L. DRESS
Notary Public, State of Ohio
My Commission Expires 7/28/99

EVERLY L. DRESS
Notary Public, State of Ohio
My Commission Expires 1/28/20

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The following information is provided to support issuance of the requested changes to Davis-Besse Nuclear Power Station, Unit Number 1 Operating License NPF-3, Appendix A, Technical Specification (TS) Sections 3/4.5.2, Emergency Core Cooling Systems (ECCS) - $T_{avg} \geq 280^{\circ}F$ and 3/4.6.2, Depressurization and Cooling Systems - Containment Spray System and their associated Bases.

- A. Time Required to Implement: This change is to be implemented within 90 days after NRC issuance of the License Amendment.
- B. Reason for Change (License Amendment Request 92-0001, Revision 0):

The proposed changes would remove the existing Surveillance Requirement (SR) 4.5.2.d.3 for the Low Pressure Injection (LPI) System and the existing SR 4.6.2.1.c for the Containment Spray (CS) System. The removal of LPI System SR 4.5.2.d.3 and CS System SR 4.6.2.1.c is consistent with the NRC guidance in NUREG-1430, Revision 0, "Improved Standard Technical Specifications (ITS) for B&W Plants," which reflects the fact that these types of SRs are encompassed by ITS 5.7.2.4, "Primary Coolant Sources Outside Containment." Requirements in the existing DBNPS TS 6.8.4.a, "Primary Coolant Sources Outside Containment," are the same as provided in ITS 5.7.2.4 and specifically state that the program include leak test requirements for the LPI and CS Systems at refueling cycle intervals or less. The proposed changes to TS Bases 3/4.5.2, "ECCS Subsystems," and TS Bases 3/4.6.2.1, "Containment Spray System," are associated with the proposed changes to SR 4.5.2.d.3 and SR 4.6.2.1.c and, therefore, are administrative.

- C. Safety Assessment and Significant Hazards Consideration : See Attachment.

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SAFETY ASSESSMENT AND SIGNIFICANT HAZARDS CONSIDERATION
FOR
LICENSE AMENDMENT REQUEST NUMBER
92-0001

TITLE

Revision of Technical Specification 3/4.5.2, "Emergency Core Cooling System (ECCS) Subsystems - Tavg \geq 280°F," and 3/4.6.2, "Depressurization and Cooling Systems - Containment Spray System."

DESCRIPTION

The purpose of the proposed changes is to modify the Davis-Besse Nuclear Power Station (DBNPS) Operating License NPF-3, Appendix A Technical Specifications (TS) Sections 3/4.5.2, "ECCS Subsystems - Tavg \geq 280°F," and 3/4.6.2, "Depressurization and Cooling Systems - Containment Spray System," and their associated Bases.

Technical Specification Surveillance Requirement (SR) 4.5.2.d.3 provides for verifying on an 18 - month frequency a total leak rate of less than or equal to 20 gallons per hour for the Low Pressure Injection (LPI) System at: 1) normal operating pressure or hydrostatic test pressure of greater than or equal to 150 psig for those parts of the system downstream of the pump suction isolation valve, and 2) greater than or equal to 45 psig for the piping from the containment emergency sump isolation valve to the pump suction isolation valve. The associated Bases for TS 3/4.5.2 state that the leak rate surveillance requirements assure that the leakage assumed for the system during the recirculation phase will not be exceeded.

Technical Specification SR 4.6.2.1.c provides for verifying on an 18 - month frequency a total leak rate of less than or equal to 20 gallons per hour for the Containment Spray (CS) System at: 1) normal operating pressure or a hydrostatic test pressure of greater than or equal to 150 psig for those parts of the system downstream of the pump suction isolation valve, and 2) greater than or equal to 45 psig for the piping from the containment emergency sump isolation valve to the pump suction isolation valve. The associated Bases for TS 3/4.6.2.1 states that the leak rate surveillance requirements assure that the leakage assumed for the system during the recirculation phase will not be exceeded.

Consistent with NRC NUREG-1430, Revision 0, "Improved Standard Technical Specifications for B&W Plants," these proposed changes remove the existing SR 4.5.2.d.3 for the LPI System and the existing SR 4.6.2.1.c for the CS System. During the development of the Improved Standard Technical Specifications (ITS), these two surveillances were

removed on the basis that the type of leakage they were to identify was already addressed by the overall program surveillances required under ITS 5.7.2.4, "Primary Coolant Sources Outside Containment." This same program is already required by existing DBNPS TS 6.8.4.a, "Primary Coolant Sources Outside Containment." Technical Specification 6.8.4.a specifically requires that the program include leak test requirements for the LPI and CS Systems at refueling cycle intervals or less. In fact, the procedures presently used at the DBNPS to accomplish LPI System SR 4.5.2.d.3 and CS System SR 4.6.2.1.c, procedures DB-SP-03131, DB-SP-03136, DB-SP-03137, DB-SP-03337, and DB-SP-03338 are credited for accomplishing the surveillances for the LPI System and CS System under TS 6.8.4.a. Therefore, this removal of SRs 4.5.2.d.3 and 4.6.2.1.c (and its associated Bases wording) is considered a line item TS improvement as these two SRs unnecessarily duplicate the test requirements of TS 6.8.4.a.

The removal of these two surveillance requirements will also eliminate the need to revise the wording of LPI System SR 4.5.2.d.3 and CS System SR 4.6.2.1.c to reflect a TS interpretation previously provided to Toledo Edison by the NRC Office of Nuclear Reactor Regulation DBNPS Project Manager. Toledo Edison has incorporated this guidance into its surveillance test procedures for the LPI and CS Systems which are also used to accomplish the surveillances for the LPI and CS Systems under TS 6.8.4.a.

SYSTEM, COMPONENTS AND ACTIVITIES AFFECTED

Low Pressure Injection System leak rate surveillance testing
Containment Spray System leak rate surveillance testing

SAFETY FUNCTIONS OF THE AFFECTED SYSTEMS, COMPONENTS AND ACTIVITIES

The Emergency Core Cooling System (ECCS) is described in Section 6.3 of the Updated Safety Analysis Report (USAR). The function of the ECCS is to mitigate the consequences of all breaks of the Reactor Coolant System pressure boundary which result in loss of reactor coolant at a rate in excess of the capability of the Reactor Coolant Makeup System. The ECCS provides the capability to meet the functional requirements over both the short and long term duration of an accident. Separate and independent flow paths are provided in the ECCS, and redundancy in the active components ensures that the required functions will be performed if a single active failure occurs.

The ECCS is made up of the High Pressure Injection System, the Low Pressure Injection (LPI) System, and the Core Flooding System. The LPI System is used for long term cooling of the reactor core during a loss-of-coolant accident. During the recirculation phase the LPI System will circulate the spilled reactor coolant and injection water from the Containment Emergency Sump to the reactor vessel and will maintain long-term cooling.

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The LPI piping, valves and pumps addressed in the proposed change is part of the ECCS.

The Containment Spray (CS) System is an Engineered Safety Feature and is described in Section 6.2.2.2.2 of the USAR. The function of the CS System is to remove heat and fission product iodine from the post-accident containment atmosphere. The absorption of iodine by the containment sprays is accomplished mostly due to the large amount of surface area continuously available for mass transfer between the spray solution and the containment atmosphere. The removal of airborne iodine from the containment atmosphere serves to limit the potential dose to receptors located at the site boundary and outer boundary of the low population zone to within 10CFR100 guideline values.

Removal of heat is accomplished by directing borated water spray into the containment. The system consists of two pumps, two spray headers, isolation valves, and the necessary piping, instrumentation, and controls. Each CS pump is provided with two suction paths, one from the Borated Water Storage Tank (BWST) and the other from the Containment Emergency Sump. The CS pumps take suction from the sump when the BWST is exhausted. During the recirculation phase, the CS System circulates the spilled reactor coolant and injection water from the sump to the spray headers.

The CS piping, valves and pumps addressed in the proposed change is part of the CS System.

EFFECTS ON SAFETY

The associated LPI and CS piping, valves, and connections are presently leak rate tested to ASME Code criteria. Section 4.0.5 of the TS references the 10 CFR 50.55a requirements for inservice inspection and testing of ASME Code components.

The removal of LPI System SR 4.5.2.d.3 and CS System SR 4.6.2.1.c is consistent with the NRC guidance in NUREG-1430, Revision 0, "Improved Standard Technical Specifications (ITS) for B&W Plants," which reflects the fact that these types of SRs are encompassed by ITS 5.7.2.4, "Primary Coolant Sources Outside Containment."

Existing DBNPS TS 6.8.4.a, "Primary Coolant Sources Outside Containment," is the same program required by ITS 5.7.2.4 and specifically requires that the program include leak test requirements for the LPI and CS Systems at refueling cycle intervals or less. The procedures (DB-SP-03131, DB-SP-03136, DB-SP-03137, DB-SP-03337, and DB-SP-03338) presently used at the DBNPS to accomplish LPI System SR 4.5.2.d.3 and CS System SR 4.6.2.1.c are used to perform the surveillances for the LPI System and CS System under TS 6.8.4.a. The proposed changes to TS Bases 3/4.5.2, "ECCS Subsystems," and TS Bases 3/4.6.2.1, "Containment Spray System," are associated with the proposed changes to SR 4.5.2.d.3 and SR 4.6.2.1.c and, therefore, are administrative. Future changes to procedures DB-SP-03131, DB-SP-03136, DB-SP-03137, DB-SP-03337, and DB-SP-03338 will be performed pursuant to the requirements of 10 CFR 50.59.

Based on the above, the proposed changes would have no adverse effect on plant safety.

SIGNIFICANT HAZARDS CONSIDERATION

The Nuclear Regulatory Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazard exists due to a proposed amendment to an Operating License for a facility. A proposed amendment involves no significant hazards consideration if operation of the facility in accordance with the proposed changes would: (1) Not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) Not create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) Not involve a significant reduction in a margin of safety. Toledo Edison has reviewed the proposed changes and determined that a significant hazards consideration does not exist because operation of the Davis-Besse Nuclear Power Station Unit Number 1, in accordance with these changes would:

- 1a. Not involve a significant increase in the probability of an accident previously evaluated because no accident initiators, conditions or assumptions are affected by the proposed changes to remove the leak test requirements of Low Pressure Injection (LPI) System surveillance requirement (SR) 4.5.2.d.3 and Containment Spray (CS) System SR 4.6.2.1.c. The purpose for these two SRs is already encompassed by the existing program requirements of TS 6.8.4.a, "Primary Coolant Sources Outside Containment." The removal of these SRs is consistent with NRC NUREG-1430 Revision 0, "Improved Standard Technical Specifications for B&W Plants." The associated changes to TS Bases 3/4.5.2 and 3/4.6.2.1 are administrative.
- 1b. Not involve a significant increase in the consequences of an accident previously evaluated because no accident conditions or assumptions are affected by the proposed changes to LPI System SR 4.5.2.d.3 and CS System SR 4.6.2.1.c. The purpose of these SRs is already encompassed by the existing program requirements of TS 6.8.4.a, "Primary Coolant Sources Outside Containment." These changes are consistent with NRC NUREG-1430. The associated changes to TS Bases 3/4.5.2 and 3/4.6.2.1 are administrative. The proposed changes do not alter the source term, containment isolation, or allowable releases. The proposed changes, therefore, will not increase the radiological consequences of a previously evaluated accident.
- 2a. Not create the possibility of a new kind of accident from any accident previously evaluated because no new accident initiators or assumptions are introduced by these proposed changes to LPI System SR 4.5.2.d.3 and CS System SR 4.6.2.1.c. The purpose of these SRs is already encompassed by the existing program requirements of TS 6.8.4.a, "Primary Coolant Sources Outside Containment." These changes are consistent with NRC NUREG-1430.

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The associated changes to TS Bases 3/4.5.2 and 3/4.6.2.1 are administrative. The proposed changes do not alter any accident scenarios.

- 2b. Not create the possibility of a different kind of accident from any accident previously evaluated because leak testing the LPI System and CS System will continue to be performed in accordance with TS 6.8.4.a, "Primary Coolant Sources Outside Containment." The proposed changes do not alter any accident scenarios.
3. Not involve a significant reduction in a margin of safety because the proposed changes to the LPI System SR 4.5.2.d.3 and CS System SR 4.6.2.1.c do not reduce or adversely affect the capabilities of any plant structures, systems or components. The purpose of these SRs is already encompassed by the existing program requirements of TS 6.8.4.a, "Primary Coolant Sources Outside Containment." These changes are consistent with NRC NUREG-1430. The associated changes to TS Bases 3/4.5.2 and 3/4.6.2.1 are administrative.

CONCLUSION

On the basis of the above, Toledo Edison has determined that the License Amendment Request does not involve a significant hazards consideration. As this License Amendment Request concerns a proposed change to the Technical Specifications that must be reviewed by the Nuclear Regulatory Commission, this License Amendment Request does not constitute an unreviewed safety question.

ATTACHMENT

Attached are the proposed marked-up changes to the Operating License.