APPLICATION FOR AMENDMENT

TO

FACILITY OPERATING LICENSE NO. NPF-3

FOR

DAVIS-BESSE NUCLEAR POWER STATION

UNIT NO. 1

Attached are requested changes to the Davis-Besse Nuclear Power Station, Unit No. 1 Facility Operating License No. NPF-3. Also included are the Safety Evaluation and Significant Hazards Consideration.

The proposed changes (submitted under cover letter Serial No. 1474) concern:

Section 4.6.1.2.a, Containment Leakage Surveillance Requirements
Bases Section 3/4.6.1.2, Containment Leakage

By D. C. Shelton, Vice ~~President~~, Nuclear

Sworn to and subscribed before me this 7th day of March, 1988.

Laurie A. Hinkle
Notary Public, State of Ohio

My commission expires 5/15/91

The following information is provided to support issuance of the requested changes to the Davis-Besse Nuclear Power Station, Unit No. 1 Operating License No. NPF-3, Appendix A, Technical Specifications Section 4.6.1.2.a and Bases Section 3/4.6.1.2.

A. Time Required to Implement: This change is to be implemented by the licensee upon issuance. Issuance by August 1988 is required to support restart from the fifth refueling outage.

B. Reason for Change: (FCR 87-0108) Revise the Technical Specifications to uncouple the third Type A test (Containment Integrated Leak Rate Test) and the 10-year inservice inspections to allow performance in separate refueling outages.

C. Safety Evaluation: See attached Safety Evaluation (Attachment No. 1).

D. Significant Hazards Consideration: See attached Significant Hazards Consideration (Attachment 2).

E. Technical Specification Change Pages (Attachment No. 3)

Safety Evaluation

Description Of Proposed Activity

The purpose of this safety evaluation is to review a proposed change, Containment Leakage Surveillance Requirement and Basis revision, to the Davis-Besse Nuclear Power Station (DBNPS) Unit No. 1, Operating License, Appendix A, Technical Specifications to ensure that no unreviewed safety question exists. This safety evaluation is being performed to meet the requirements of 10CFR50.59.

Technical Specification 4.6.1.2.a (and Bases Section 3/4.6.1.2 by reference to 10CFR50, Appendix J) requires that three Type A tests (Integrated Leak Rate Tests or ILRTs) be conducted at 40 ± 10 month intervals during each 10-year service period, with the third test being conducted during the shutdown for the 10-year plant inservice inspection (plant inservice inspections are required by 10CFR50.55a). This Technical Specification implements the requirements of 10CFR50, Appendix J, Section III.D.1(a).

The third Type A test of the first 10-year service period for DBNPS, Unit No. 1 is scheduled to be performed during the 1988 refueling outage, presently scheduled to commence March 10, 1988. This is in conformance with the requirement of 10CFR50, Appendix J, Section III.D.1(a) that three Type A tests be conducted within the first 10-year service period at approximately equal intervals, and with the requirement of Technical Specification 4.6.1.2a that three Type A tests be conducted at 40 ± 10 month intervals during each 10-year service period.

Toledo Edison, in a letter to the NRC (Serial No. 1-339 dated April 29, 1983) requested and justified an extension of the 10-year inservice inspection interval, in accordance with ASME Section XI, Section IWA-2400(c), to the end of the (then) scheduled Spring 1989 refueling outage. This extension was granted by NRC in Log No. 1-791 dated May 18, 1983. Further affirmation of the intent to conduct the 10-year ISI in the 1989 outage was provided by Toledo Edison in Serial No. 1-675, dated November 26, 1986.

From the above, it can be seen that the requirement of Technical Specification 4.6.1.2.a will not be met unless: (1) the 10-year inservice inspection interval end was to be moved to the end of the 1988 outage versus the previously justified and accepted Spring 1989 outage, or (2) an additional Type A test was to be conducted during the Spring 1989 outage as well as the 1988 outage. Therefore, Toledo Edison requests that Technical Specification 4.6.1.2.a be revised to allow the third Type A test and the 10-year inservice inspections to be uncoupled and performed in separate refueling outages. It is important to note this uncoupling is recognized by the proposed revision to 10CFR50, Appendix J (51FR39538, October 29, 1986).

Systems Affected

Containment Vessel and Penetrations

Documents Affected

DBNPS, Unit No. 1 Operating License, Appendix A, Technical Specification 4.6.1.2.a and Bases Section 3/4.6.1.2

DBNPS, Unit No. 1 Updated Safety Analysis Report (USAR) Section 6.2.1.4.2

Operations Procedure Manual Volume OP21, DB-OP-3009 (ST 5061.01), Containment Integrated Leak Rate Test, Paragraph 1.1, Objectives

References

1. DBNPS, Unit 1 Operating License, Appendix A, Technical Specification 3/4.6.1.2 and Bases Section 3/4.6.1.2

2. DBNPS, Unit No. 1 USAR, June 1986, Sections 3.8.2.1.2, 6.2.2.4, and 6.2.1.4.2

3. 10CFR50, Appendix J, Section III.D.1(a)

4. Federal Register, Volume 51, page 39538, October 29, 1986

Function of Affected Systems

The Containment Vessel and Penetration System is designed to provide protection for the public from the consequences of any break in the reactor coolant piping up to and including a double-ended break of the largest reactor coolant pipe assuming unobstructed discharge from both ends. Pressure and temperature behavior subsequent to the accident is determined by the combined influence of the energy sources, heat sinks and engineered safety features.

The containment system also provides protection for the public from the radiological consequences of a (maximum) hypothetical accident discussed in (USAR) Chapter 15. The containment design, along with the engineered safety features, ensures that the exposure of the public resulting from a hypothetical accident is below the guidelines established by 10 CFR 100.

The Containment Vessel was tested at the conclusion of construction and after all penetrations had been installed to verify that the design leakage rate associated with an internal pressure of 38 psig did not exceed 0.5 percent of the containment contained weight of air and vapor in 24 hours. The analysis in (USAR) Chapter 15 shows that this is more than adequate to meet the guidelines of 10 CFR 100.

The pressure retaining components of the containment isolation system, including piping, valves, etc., undergo periodic leak testing in accordance with Appendix J of 10 CFR 50.

Effects On Safety

The previously approved extension to the ISI interval (to the Spring 1989 refueling outage) was justified and granted in accordance with 10 CFR 50.55a and ASME Section XI, therefore no effect on safety is incurred. The 10-year ISI will occur after ten years of component operating service per the requirements of ASME Section XI.

The performance of the third Type A test during the upcoming 1988 refueling outage meets specific schedular requirements of 10 CFR 50, Appendix J, Section III.D.1(a) (that three Type A tests be performed at approximately equal intervals during the ten year service period) and Technical Specification 4.6.1.2.a (that the three Type A tests be performed at interval of 40 ± 10 months during the ten year service period). The purpose of the tests cited in 10 CFR 50, Appendix J, as stated in its Introduction, is "... to assure that (a) leakage through the primary reactor containment and systems and components penetrating primary containment shall not exceed allowable leakage rate values as specified in technical specifications and associated bases ...". This purpose as stated is met by the performance of the Type A test during the upcoming 1988 refueling outage in that primary containment integrity will be assured at a test interval consistent with the previous two Type A intervals test for this ten year period. Conducting the Type A test during the 1988 refueling outage, therefore, has no impact on safety.

From the above, performance of the third Type A test and the 10-year ISI in non-concurrent outages has no effect on safety. Therefore, uncoupling the 10-year ISI and the third Type A test of a 10 year service period is justified.

Unreviewed Safety Question Evaluation

The proposed Technical Specification change will not increase the probability of occurrence of an accident previously evaluated. The uncoupling of the third Type A test and the 10-year ISI does not affect frequencies, types of testing or acceptance criteria from those previously (and currently) analyzed (10 CFR 50.59(a)(2)(i)).

The proposed Technical Specification change will not increase the consequences of an accident previously evaluated in the USAR because, although the performance of the third Type A test and the 10-year ISI are proposed to be uncoupled, the operability of the containment vessel and components will still be verified consistent with previously approved schedules, methods and acceptance criteria (10 CFR 50.59(a)(2)(i)).

The proposed Technical Specification change will not increase the probability of occurrence of malfunction of equipment important to safety previously evaluated in the USAR because individual test frequencies, while uncoupled, will remain unchanged from those previously approved. No change is made to types of testing or acceptance criteria; therefore, operability consistent with current analyses is maintained (10 CFR 50.59(a)(2)(i)).

The proposed Technical Specification change will not increase the consequences of a malfunction of equipment important to safety previously evaluated in the USAR. Uncoupling the third Type A test and the 10-year ISI do not affect frequencies, types of testing required, or approved acceptance criteria, thereby ensuring operability of the Containment vessel and other systems/components consistent with current analyses (10 CFR 50.59(a)(2)(i)).

The proposed Technical Specification change will not create the possibility for an accident or malfunction of a different type than any evaluated previously in the USAR. Uncoupling the third Type A test and the 10-year ISI does not introduce any new type of accident or malfunction since the frequencies, types of testing, and acceptance criteria remain unchanged; therefore, operability will be assured consistent with current analyses (10 CFR 50.59(a)(2)(ii)).

The proposed Technical Specification will not reduce the margin of safety as defined in the basis for any Technical Specification. The Basis for Technical Specification 3/4.6.1.2 currently states, "The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix "J" of 10 CFR 50". This basis is met except that the third Type A test and the 10-year ISI will not be performed during a common outage; however, this uncoupling of the testing does not change previously approved frequencies, manner of testing, or final acceptance criteria. Therefore, the margin of safety is not reduced (10 CFR 50.59(a)(2)(iii)).

Conclu.

From the above, it is concluded that the proposed Technical Specification changes do not create any unreviewed safety questions.

Significant Hazards Consideration

Description Of Proposed Activity

The purpose of this Significant Hazards Consideration is to review a proposed change, Containment Leakage Surveillance Requirement and Basis revision, to the Davis-Besse Nuclear Power Station (DBNPS) Unit No. 1, Operating License, Appendix A, Technical Specifications to ensure that no unreviewed safety question exists. This safety evaluation is being performed to meet the requirements of 10CFR50.59.

Technical Specification 4.6.1.2.a (and Bases Section 3/4.6.1.2 by reference to 10CFR50, Appendix J) requires that three Type A tests (Integrated Leak Rate Tests or ILRTs) be conducted at 40 ± 10 month intervals during each 10-year service period, with the third test being conducted during the shutdown for the 10-year plant inservice inspection (plant inservice inspections are required by 10CFR50.55a). This Technical Specification implements the requirements of 10CFR50, Appendix J, Section III.D.1(a).

The third Type A test of the first 10-year service period for DBNPS, Unit No. 1 is scheduled to be performed during the 1988 refueling outage, presently scheduled to commence March 10, 1988. This is in conformance with the requirement of 10CFR50, Appendix J, Section III.D.1(a) that three Type A tests be conducted within the first 10-year service period at approximately equal intervals, and with the requirement of Technical Specification 4.6.1.2.a that three Type A tests be conducted at 40 ± 10 month intervals during each 10-year service period.

Toledo Edison, in a letter to the NRC (Serial No. 1-339 dated April 29, 1983) requested and justified an extension of the 10-year ISI interval, in accordance with ASME Section XI, Section IWA-2400(c), to the end of the (then) scheduled Spring 1989 refueling outage. This extension was granted by NRC in Log No. 1-791 dated May 18, 1983. Further affirmation of the intent to conduct the 10-year ISI in the 1989 outage was provided by Toledo Edison in Serial No. 1-675, dated November 26, 1986.

From the above, it can be seen that the requirement of Technical Specification 4.6.1.2.a will not be met unless: (1) the 10-year ISI interval end was to be moved to the end of the 1988 outage versus the previously justified and accepted Spring 1989 outage, or (2) an additional Type A test was to be conducted during the Spring 1989 outage as well as the 1988 outage. Therefore, Toledo Edison requests that Technical Specification 4.6.1.2.a be revised to allow the third Type A test and the 10-year inservice inspections to be uncoupled and performed in separate refueling outages. It is important to note this uncoupling is recognized by the proposed revision to 10CFR50, Appendix J (51FR39538, October 29, 1986).

Systems Affected

Containment Vessel and Penetrations

Documents Affected

DBNPS, Unit No. 1 Operating License, Appendix A, Technical Specification 4.6.1.2.a and Bases Section 3/4.6.1.2

DBNPS, Unit No. 1 Updated Safety Analysis Report (USAR) Section 6.2.1.4.2

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References

1. DBNPS, Unit 1 Operating License, Appendix A, Technical Specification 3/4.6.1.2 and Bases Section 3/4.6.1.2

2. DBNPS, Unit No. 1 USAR, June 1986, Sections 3.8.2.1.2, 6.2.2.4, and 6.2.1.4.2, 15.4.3.2.6, 15.4.4.2.3, 15.4.6

3. 10CFR50, Appendix J, Section III.D.1(a)

4. Federal Register, Volume 51, page 39538, October 29, 1986

5. 10CFR100, Reactor Site Criteria

Function of Affected Systems

The Containment Vessel and Penetration System is designed to provide protection for the public from the consequences of any break in the reactor coolant piping up to and including a double-ended break of the largest reactor coolant pipe assuming unobstructed discharge from both ends. Pressure and temperature behavior subsequent to the accident is determined by the combined influence of the energy sources, heat sinks and engineered safety features.

The containment system also provides protection for the public from the radiological consequences of a (maximum) hypothetical accident discussed in (USAR) Chapter 15. The containment design, along with the engineered safety features, ensures that the exposure of the public resulting from a hypothetical accident is below the guidelines established by 10 CFR 100.

The Containment Vessel was tested at the conclusion of construction and after all penetrations had been installed to verify that the design leakage rate associated with an internal pressure of 38 psig did not exceed 0.5 percent of the containment contained weight of air and vapor in 24 hours. The analysis in (USAR) Chapter 15 shows that . is more than adequate to meet the guidelines of 10CFR100.

The pressure retaining components of the containment isolation system, including piping, valves, etc., undergo periodic leak testing in accordance with Appendix J of 10CFR50.

Effects On Safety

The previously approved extension to the ISI interval (to the Spring 1989 refueling outage) was justified and granted in accordance with 10 CFR 50.55a and ASME Section XI, therefore no effect on safety is incurred. The 10-year ISI will occur after ten years of component operating service per the requirements of ASME Section XI.

The performance of the third Type A test during the upcoming 1988 refueling outage meets specific schedular requirements of 10 CFR 50, Appendix J, Section III.D.1(a) (that three Type A tests be performed at approximately equal intervals during the ten year service period) and Technical Specification 4.6.1.2.a (that the three Type A tests be performed at interval of 40 ± 10 months during the ten year service period). The purpose of the tests cited in 10 CFR 50, Appendix J, as stated in its Introduction, is "... to assure that (a) leakage through the primary reactor containment and systems and components penetrating primary containment shall not exceed allowable leakage rate values as specified in technical specifications and associated bases ...". This purpose as stated is met by the performance of the Type A test during the upcoming 1988 refueling outage in that primary containment integrity will be assured at a test interval consistent with the previous two Type A intervals test for this ten year period. Conducting the Type A test during the 1988 refueling outage, therefore, has no impact on safety.

From the above, performance of the third Type A test and the 10-year ISI in non-concurrent outages has no effect on safety. Therefore, uncoupling the 10-year ISI and the third Type A test of a 10 year service period is justified.

Significant Hazards Consideration

The Commission has provided standards in 10CFR50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an Operating License for a facility involves a no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. Toledo Edison has reviewed the proposed changes and determined that:

1. The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated because uncoupling of the third Type A test and the 10-year ISI does not affect frequencies, types of testing or acceptance criteria from those previously (and currently) analyzed for verification of the operability of the containment vessel and components. (10CFR50.92(c)(1))

2. The proposed changes do not create the possibility of a new or different kind of accident than any previously evaluated. Uncoupling the third Type A test and the 10-year ISI does not introduce any new type of accident since the frequencies, types of testing, and acceptance criteria remain unchanged; therefore, operability will be assured consistent with current analyses. (10CFR50.92(c)(2))

3. The proposed changes do not involve a significant reduction in a margin of safety. The third Type A test and the 10-year ISI will be performed in accordance with the requirements of 10CFR50 except that they will not be performed during a common outage. The uncoupling of the testing does not change previously approved frequencies of testing, manner of testing, or final acceptance criteria. Therefore, the margin of safety is not reduced. (10CFR50.92(c)(3))

Conclusion

Based on the above, Toledo Edison has determined the proposed changes do not involve a significant hazards consideration.