Docket Number 50-346
License Number NPF-3
Serial Number 1900
Enclosure
Page 1

APPLICATION FOR AMENDMENT

TO

FACILITY OPERATING LICENSE NUMBER NPF-3

DAVIS-BESSE NUCLEAR POWER STATION

UNIT NUMBER 1

Attached is a requested change to the Davis-Besse Nuclear Power Station, Unit Number 1 Facility Operating License Number NPF-3 Appendix A, Technical Specifications. Also included is the Safety Assessment and Significant Hazards Consideration.

The proposed change (submitted under cover letter Serial Number 1900) concerns:

Technical Specification 3/4.6.1.2, Containment Systems - Containment Leakage.

Technical Specification Bases 3/4.6.1.2, Containment Systems - Containment Leakage

By: _____
D. C. Shelton, Vice President - Nuclear

Sworn and subscribed before me this 1st day of March, 1991.

_____
Notary Public, State of Ohio

EVELYN L. DRESS
NOTARY PUBLIC, STATE OF OHIO
My Commission Expires July 28, 1994

The following information is provided to support issuance of the requested changes to the Davis-Besse Nuclear Power Station, Unit Number 1 Operating License Number NPF-3, Appendix A, Technical Specifications, Technical Specification 3/4.6.1.2.

A. Time required to implement: This change is to be implemented within 45 days after NRC issuance of the License Amendment by the NRC.

B. Reason for change (License Amendment Request Number 90-0044): This change will increase the margin between the acceptable secondary containment bypass leakage rate and measured bypass leakage rate. The increased margin will reduce the potential for otherwise unnecessary component rework and the associated radiation exposure.

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

SAFETY ASSESSMENT AND SIGNIFICANT HAZARDS CONSIDERATION FOR LICENSE AMENDMENT REQUEST NUMBER 90-0044

TITLE

A proposed change to the Davis-Besse Nuclear Power Station, Unit No. 1 Operating License, Appendix A, Technical Specification 3/4.6.1.2 Containment Leakage and associated Bases.

DESCRIPTION

The purpose of this Safety Assessment and Significant Hazards Consideration is to review the proposed change to Davis-Besse Nuclear Power Station Unit No. 1 Technical Specification (TS) 3/4.6.1.2 to ensure that the change does not constitute a significant hazards consideration. The proposed TS change is to increase the allowable containment bypass leakage rate from 0.015 La to 0.03 La. Due to the number and type of penetrations in the bypass leakage program, significant component rework can be required to satisfy this TS. The amount of rework is exacerbated as the plant ages and components degrade. Increasing the allowed bypass leakage rate will alleviate some of the rework burden and any associated radiation exposures. Also included are administrative changes.

SYSTEMS, COMPONENTS AND ACTIVITIES AFFECTED

The activity affected is the allowed secondary containment bypass leakage rate. There are no hardware modifications involved.

SAFETY FUNCTIONS OF THE AFFECTED SYSTEMS, COMPONENTS, AND ACTIVITIES

The safety function of the TS limit on the allowed secondary containment bypass leakage rate is to limit the amount of unfiltered leakage from containment so as to keep the resultant doses within 10 CFR Part 100 guideline values. This change would increase the proportion of the containment leakage rate which could be bypass leakage. The overall integrated containment leakage rate is not affected by this change.

EFFECTS ON SAFETY

The allowable containment leakage is defined in terms of La where La is the overall integrated leakage rate. La is defined as a leakage rate of 0.50% (by weight) of the containment air when the containment is pressurized to 38 psig (Pa) per 24 hour period. Pa is the peak safety analysis accident pressure. The containment leakage is comprised of two components: filtered air and unfiltered air or bypass leakage. Currently the bypass leakage is limited by TS 3.6.1.2c to 0.015 La. This value, as discussed under Atomic Energy Commission question 6.2.23 in the Final Safety Analysis Report, was an estimation of the leakage at that time based on line size only. This TS change proposes increasing the bypass leakage to 0.03 La. The overall integrated leakage rate, La, is unaffected by this change. Therefore, the consequence of the proposed change is to increase the fraction of the

containment volume released which is unfiltered while effectively reducing the fraction released which is filtered resulting in a slight increase in the radiological consequences. However, the current TS for bypass leakage and the resultant dose consequences are conservative when compared to the confirmatory analysis performed by the NRC during the original licensing process.

The bounding accident for radiological dose consequences is the maximum hypothetical accident (MHA). This accident, as presented in the Updated Safety Analysis Report (USAR), uses the TS value of 0.015 La for the rate of bypass leakage. The confirmatory analysis performed by the NRC, as presented in the "Safety Evaluation Report (SER) Related to Operation of Davis-Besse Nuclear Power Station Unit No. 1" NUREG-0136 Supplement 1, dated April 1977, uses a value of 0.03 La for the rate of bypass leakage. The radiological dose consequences in the SER are accordingly higher than the USAR values.

Due to differences between the SER and USAR analyses and not having a complete NRC input listing, the dose evaluations were reanalyzed using the assumptions given in USAR Section 15.4.6.4. The existing USAR analysis was benchmarked. The dose consequences for the increased bypass leakage were evaluated using the same assumptions except for the increased bypass leakage. Consistent with the assumptions it is assumed that the annular region between the Containment Vessel and the Shield Building is at atmospheric pressure upon accident initiation; 13 minutes are required to obtain a negative pressure in that region. It is assumed that all activity escaping the Containment Vessel during that time is released directly to the atmosphere without benefit of filtration or mixing. After the negative pressure has been obtained, 3 percent of the leakage is direct to the environment and the other 97 percent of the leakage is collected by the Emergency Ventilation System and exhausted through 95 percent efficient charcoal filters. The following summarizes the results for the thyroid doses.

	USAR DOSE (REM)	INCREASED BYPASS (REM)	SER DOSE (REM)
CONTROL ROOM	13.7	16.44	< GDC 19 (30)
SITE BOUNDARY	210	222.6	279.4
LOW POPULATION ZONE	20	22.8	26.52

Since the increased bypass leakage rate does not affect noble gas releases, the whole body gamma dose due to noble gases are not affected by this change. However, the whole body gamma doses were reevaluated to determine the impact of increased iodine release on the whole body gamma dose. These evaluations show that the increase in whole body gamma dose is negligible and the gamma dose consequences currently in the USAR are unchanged.

The above discussion substantiates the confirmatory analysis previously performed by the NRC as being bounding. Consequently, increasing the bypass leakage from 0.015 La to 0.03 La does not increase the consequences previously analyzed for the MHA even though a more limiting case is provided in the USAR.

The following is a discussion of the administrative changes. For Specification 3.6.1.2.c, Table 3.6-1 is being deleted since the secondary containment bypass leakage paths are identified in USAR Section 6.2.4. This change is similar to License Amendment Number 147 which relocated the list of containment isolation valves from the Technical Specifications to the USAR. Also, Bases Section 3/4.6.1.2 is being revised to reference USAR Section 6.2.4. For Surveillance Requirement 4.6.1.2.d, air locks (Item 1.) is being relocated to the text and Items 2. and 3. are deleted since the Davis-Besse Nuclear Power Station does not have Items 2. or 3. as part of its design. Consistent with this change Surveillance Requirement 4.6.1.2.g and .h are deleted since they apply only to Items 2. and 3. and the remainder of the Surveillance Requirements are relabeled accordingly. Surveillance Requirement 4.6.1.2.j also includes editorial changes and the elimination of the reference to 4.6.1.2.d since this would only apply to Items 2. and 3. which are being deleted.

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 change and determined that a significant hazards consideration does not exist because operation of the Davis-Besse Nuclear Power Station Unit 1 in accordance with these changes would:

1a) Not involve a significant increase in the probability of an accident previously evaluated because there are no design modifications or hardware changes proposed.

1b) Not involve a significant increase in the consequences of an accident previously evaluated because the proposed change does not increase the consequences above those previously analyzed and found acceptable by the NRC in NUREG-0136, Supplement 1.

2a) Not create the possibility of a new kind of accident from any accident previously evaluated because there are no design modifications or hardware changes proposed.

2b) Not create the possibility of a different kind of accident from any accident previously evaluated because there are no design modifications or hardware changes proposed.

3) Not involve a significant reduction in a margin of safety as defined in the basis for any Technical Specification since the TS will continue to limit the allowed secondary containment bypass leakage rate and maintain appropriate surveillance requirements.

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 is the proposed marked-up change to the Operating License.