APPLICATION FOR AMENDMENT

TO

FACILITY OPERATING LICENSE NO. NPF-3

FOR

DAVIS-BESSE NUCLEAR POWER STATION

UNIT NO. 1

Enclosed are forty-three (43) copies of the requested changes to the Davis-Besse Nuclear Power Station Unit No. 1 Facility Operating License No. NPF-3, together with the Safety Evaluation for the requested change.

The proposed changes include Section 4.7.1.2.d.

By /s/ R. P. Crouse Vice President, Nuclear

Sworn and subscribed before me this 5th day of November, 1984.

/s/ Laurie A. Hinkle, nee (Brudzinski) Notary Public - State of Ohio My Commission Expires May 16, 1986

SEAL

8411120229 841105 PDR ADDCK 05000346 Docket No. 50-346 License No. NPF-3 Serial No. 1096 November 5, 1984

Attachment

- Changes to Davis-Besse Nuclear Power Station Unit 1, Appendix A Technical Specifications Section 4.7.1.2.d.
 - A. Time required to Implement. This change is to be effective upon NRC approval.
 - B. Reason for Change (Facility Change Request 84-146 Rev. A). Interpretation of SRP 3.6.2 allows evaluation of the high energy steam inlet line to a moderate energy line under certain criteria, which the AFPT steam linlet lines meets, thereby deleting the requirement for the interlock. Also, the removal of the AFPT inlet steam pressure interlock will increase the AFW system reliability.
 - C. Safety Evaluation (See Attached)
 - D. Significant Hazard Consideration (See Attached)

SAFETY EVALUATION

This amendment request is for the deletion of the low pressure switch interlocks in the main steam lines to the Auxiliary Feedwater Pump Turbine (AFPT) inlets. The safety function of these switches is to detect a high energy pipe break in their respective lines and initiate isolation of the break.

The effect of removing the pressure switches is to eliminate a valve closure signal and isolation of the line due to low pressure in the line. As currently designed PSL-106A,B,C,D and PSL-107A,B,C,D provide low pressure sensing in the EBD-19 line (Main Steam Supply to the AFPT) and initiate a signal for valves MS-106, 106A and MS-107, 107A to close. During normal plant operation these valves are closed and the lines between these valves and the AFPT are depressurized. Upon an Auxiliary Feedwater System (AFWS) actuation MS-106 and MS-107 receive an open signal and, thereby, establish a single flow path from each steam generator to the corresponding AFPT. If there is insufficient pressure in the line after a time delay, implying that there is a break in the line, the pressure switches initiate a signal to close the proper valves and, thereby, isolate that segment of the line.

The steam line to the AFPT inlet has been considered as a high energy fluid system per the FSAR/USAR commitments which were based upon the information presented in the Giambusso letter of December 15, 1972. Initially the AFPT inlet was installed with steam pressure interlocks to mitigate the effects of a high energy pipe rupture. Standard Review Plan. (SRP) 3.6.2 titled "Determination of Rupture Locations and Dynamic Effects Associated with the Postulated Rupture of Piping" and its attached Branch Technical Position (BTP) MEB 3-1 indicate that this piping may now be evaluated with moderate energy postulated pipe breaks instead of high energy, based on operational time. This SRP and BTP were issued in November, 1975, after Davis-Besse Unit 1 was designed. Previously, no criteria existed in qualifying high energy fluid systems with regard to operational time. MEB 3-1 provides this criteria and stipulates that if a system is subjected to high energy temperature and pressure criteria less than 2% of the plant operating time, moderate energy criteria may be applied to that line. This steam line is ANSI B31.1, is seismically analyzed, is nuclear safety related, is not used during normal plant operation, is not used during normal plant startup or shutdown, and is not operated more than 2% of the time. It, therefore, meets the requirements of MFB 3-1. Therefore, moderate energy critical pipe cracks may be postulated rather than a high energy line rupture as currently postulated and no high energy pipe break protection is now required. Room environment created by postulated moderate energy critical cracks has been evaluated and would not be as severe as the previously evaluation environment created by high energy line breaks with automatic line isolation.

Failures of these pressure switches and their associated components will increase the failure rate of the AFWS. The pressure switches are no longer required for detection of postulated high energy line breaks and it is, therefore, desirable to eliminate these unnecessary pressure switches to increase the availability of the AFWS.

Pursuant to the above, there is no unreviewed safety question.

SIGNIFICANT HAZARD CONSIDERATION

This amendment request for deleting the Auxiliary Feed Pump Turbine (AFPT) Inlet Steam Pressure Interlocks surveillance requirement does not represent a Significant Hazard.

The AFPT inlet steam pressure interlocks were installed to isolate the steam line due to low pressure (rupture of AFPT steam line). Upon an Auxiliary Feedwater System (AFWS) actuation, the steam inlet valves receive an open signal to provide steam to the AFPT. If there is insufficient pressure in the line after a time delay, the pressure switches initiate a signal to close the appropriate steam inlet valve, thereby isolating that segment of line.

The criterion for isolation of the AFPT steam inlet is that these lines have been considered a high energy fluid system. This was based on information presented in the Giambusso letter of December 15, 1972. This resulted in our classification of the AFWS steam inlet lines as a high energy line and the interlocks were installed to mitigate the effects of a high energy pipe rupture.

Toledo Edison has reviewed the Standard Review Plan (SRP) 3.6.2, "Determination of Rupture Location and Dynamic Effects Associated with the Postulated Rupture of Piping" and its attached Branch Technical Position (BTP) MEB 3-1 as it relates to the AFPT steam line. The BTP stipulates that if a system is subjected to high energy temperature and pressure criteria less than two percent (2%) of the operating time, moderate energy criteria may be applied to that line. With the application of the criterion in BTP, the AFPT steam line may be evaluated using moderate energy line criteria. With this definition the need for automatic isolation is no longer required.

This amendment request results from a a review of the SRP which specifies when moderate energy criteria may be utilized for selective high energy lines. The pressure interlocks were installed as a protection in case of a rupture of the steam line. With removal of the interlocks the operator would close the steam inlet valve upon indication of low RPM of the AFPT and Low Steam Generator outlet pressure. Also, this will increase the overall availability of the AFWS System due to removal of a potential failure of an interlock and isolation of an AFPT.

The Commission has provided guidance concerning the application of the standards in 10CFR50.92 by providing certain examples (48FR14870). One of the examples of action involving no significant hazards considerations related to a change which either may result in some increase to the probability or consequences of a previously-analyzed accident or may reduce in some way a safety margin, but where the results of the change are clearly within all acceptable criteria with respect to the system or component specified in the Standard Review Plan: for example, a change resulting from the application of a small refinement of a previously used calculation model or design method (example vi). The potential for increase, probability or consequences of a previouslyanalyzed accident is very small. The use of the BTP contained in the SRP defines the criterion which did not exist at the time of original definition of the AFPT steam inlet line. The operator can take appropriate action to mitigate a failure of the steam line.

Based on the above information, this amendment request would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (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.

Therefore, based on the above, the requested license amendment does not present a Significant Hazard.