

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 Table 3.62 and bases.

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

Sworn and subscribed before me this                      day of September, 1984.

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

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Docket No. 50-346  
License No. NPF-3  
Serial No. 1081  
September 11, 1984

Attachment

- I. Changes to Davis-Besse Nuclear Power Station Unit 1, Appendix A Technical Specifications Table 3.6-2 and Bases.
  - A. Time required to Implement. This change is to be effective upon NRC approval and subsequent removal of the valve.
  - B. Reason for Change (Facility Change Request 78-126E).

Revision of a previous submittal dated September 25, 1981 (Serial No. 738) to include closure time requirements of valves MS 603 and MS 611.
  - C. Safety Evaluation  
(See Attached)
  - D. Significant Hazard Consideration  
(See Attached)

## SAFETY EVALUATION

The proposed amendment would delete valves MS 603A and MS 611A in the steam generator drain lines from the listing of containment isolation valves that must be demonstrated operable by periodic surveillance tests (Table 3.6-2, Appendix A Technical Specifications). The proposed amendment would also remove the restriction to intermittent operation under administrative control applicable to valves MS 603 and MS 611. Valves MS 603 and MS 611 will be required to meet containment isolation closure time as indicated in Table 3.6-2. Those valves also are in the steam generator drain lines. The proposed amendment would be effective upon completion of proposed modifications to the steam generator blowdown system.

The original design for the Davis-Besse facility allowed for the periodic draining of the steam generators to control the accumulation of solids in the once-through steam generators (OTSG). The system could also be used for blowdown of the OTSG at power on an intermittent basis under administrative control. An arrangement of two valves in parallel on each OTSG drain line was used to provide for pressure reduction, flow control, and containment isolation. The valves allowed for remote manual operation under administrative control.

To provide improved chemistry control in the OTSG, a new blowdown system is being installed which will permit OTSG blowdown to be used at any power level on a continuous basis, if necessary. The improved circulation from the OTSG to the main condenser and then to the polishing demineralizers will remove dissolved and suspended solids, and, thereby, improve water quality.

In the new system, valves MS 603A and MS 611A and associated piping will be deleted and valves MS 603 and MS 611 (which were in parallel with MS 306A and MS 611A) will be provided with an automatic steam and feedwater rupture control system (SFRCS) closure signal to isolate the OTSG in the event of a loss of main feedwater or a rupture of a main steam line or feedwater line. In the new system, these valves will provide only the containment isolation function described. A control valve will be installed in each OTSG drain line near the condenser inlet to provide pressure reduction and flow control previously provided by valves MS 603A and MS 611A. With this new system, the drain lines could be full and pressurized up to the control valve at all times when there is no SFRCS signal to valves MS 603 and MS 611.

The safety function of the Technical Specification 3.6.3.1 (which references Table 3.6-2) is to ensure containment isolation during LOCA and the isolation of the steam generator secondary side to maintain a heat sink. Existing Technical Specifications do not have isolation time requirements for valves MS 603 & MS 611. The proposed change will make the operability requirements more stringent and therefore the safety function is not being degraded.

The 80 seconds response time for the closure of valves MS 603 & MS 611 has no safety significance and was determined by actual measurements.

Taking more (or less) than 80 seconds to close these valves would mean a delay (or shorter) time to establish the affected steam generator secondary side water level. However, it will not affect the capability of the auxiliary feedwater system (AFWS) to cool the reactor coolant system since the AFW is injected relatively high in the steam generator, and the majority of the heat transfer takes place in the upper region of the steam generator. Therefore, the time it takes to obtain steam generator level does not significantly affect the ability to transfer heat and the 80 second response time is considered adequate to verify the valve operability.

Therefore, based on the above this is not an unreviewed safety question.

### Significant Hazard Consideration

The proposed amendment request is a revision to a previous request for removal of steam generator drain lines bypass valves (MS 603A and MS 611A) and this request adds closure time to the steam generator drain line valves (MS 603 and MS 611). These changes do not represent a significant hazard.

The proposed amendment would delete valves MS 603A and MS 611A in the steam generator drain lines from the listing of containment isolation valves that must be demonstrated operable by periodic surveillance tests (Table 3.6-2, Appendix A Technical Specifications). The proposed amendment would also remove the restriction to intermittent operation under administrative control applicable to valves MS 603 and MS 611. Valves MS 603 and MS 611 will be required to meet containment isolation closure time as indicated in Table 3.6-2. Those valves also are in the steam generator drain lines. The proposed amendment would be effective upon completion of proposed modifications to the steam generator blowdown system.

The original design for the Davis-Besse facility allowed for the periodic draining of the steam generators to control the accumulation of solids in the once-through steam generators (OTSG). The system could also be used for blowdown of the OTSG at power on an intermittent basis under administrative control. An arrangement of two valves in parallel on each OTSG drain line was used to provide for pressure reduction, flow control, and containment isolation. The valves allowed for remote manual operation under administrative control.

To provide improved chemistry control in the OTSG, a new blowdown system is being installed which will permit OTSG blowdown to be used at any power level on a continuous basis, if necessary. The improved circulation from the OTSG to the main condenser and then to the polishing demineralizers will remove dissolved and suspended solids, and, thereby, improve water quality.

In the new system, valves MS 603A and MS 611A and associated piping will be deleted and valves MS 603 and MS 611 (which were in parallel with MS 306A and MS 611A) will be provided with an automatic steam and feedwater rupture control system (SFRCS) closure signal to isolate the OTSG in the event of a loss of main feedwater or a rupture of a main steam line or feedwater line. In the new system, these valves will provide only the containment isolation function described. A control valve will be installed in each OTSG drain line near the condenser inlet to provide pressure reduction and flow control previously provided by valves MS 603A and MS 611A. With this new system, the drain lines could be full and pressurized up to the control valve at all times when there is no SFRCS signal to valves MS 603 and MS 611.

With the new system, portions of lines outside containment, which previously were pressurized only intermittently, can be pressurized continuously at any power level. This change does, therefore, result in an increase in probability of a rupture of these lines because of the increased amount of



time the lines would be pressurized. The consequences of such a rupture, however, are not likely to be altered materially with the new system.

The Commission has provided examples of amendments which are not likely to involve a significant hazards consideration (48 FR 14870). A change that constitutes an additional limitation, restriction, or control not presently included in the technical specifications: for example, a more stringent surveillance replacement. (Example ii)

The proposed change would delete two valves MS 603A and MS 611A and require MS 603 and MS 611 to have a closure time which is not now part of the present Technical Specifications. This requirement will ensure the valves will close with response time, thereby maintaining the steam generator as a heat sink.

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.