

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:

1. 4.4.9.1.2, Table 4.4-5 and Bases
2. 4.7.1.2

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

Sworn and subscribed before me this 27th day of August, 1984.

/s/ Laurie A. Hinkle, nee (Brudzinski)  
Notary Public, State of Ohio  
My Commission Expires May 16, 1984

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Docket No. 50-346  
License No. NPF-3  
Serial No. 1074  
August 27, 1984

Attachment I

- I. Changes to Davis-Besse Nuclear Power Station Unit 1, Appendix A Technical Specifications 4.4.9.1.2, Table 4.4-5 and Bases.
  - A. Time required to Implement. This change is to be effective upon NRC approval.
  - B. Reason for Change (Facility Change Request 84-117 Rev. A). The revision to the sample schedule resulting from Davis-Besse changing to a 18 month refueling cycle with an anticipated reduction in accumulated neutron fluence of the reactor vessel material. Also the revised schedule will reduce unnecessary handling of "dummy capsule" which will reduce personnel exposure.
  - C. Safety Evaluation  
(See Attached)
  - D. Significant Hazard Consideration  
(See Attached)

### Significant Hazard Consideration

This amendment request for revision to the Reactor Vessel Material Irradiation Surveillance Schedule (RVMISS) does not represent a Significant Hazard. The proposed change to the Technical Specifications would incorporate the requirements of ASTM E185-82 for Surveillance Capsule withdrawal.

The proposed change to Table 4.4-5 would incorporate the requirements of ASTM E185-82 for surveillance capsule withdrawal. This change would allow a more technically correct characterization of the reactor vessel material condition as a function of accumulated neutron fluence over the life of Davis-Besse. The 1982 edition of ASTM E185 differs from the 1973 edition in that the 1982 edition provides better defined removal intervals for the characterization of material properties that are of particular interest. 10 CFR 50 Appendix H Section II.B.1 allows the use of ASTM E185-82 for the purposes of capsule withdrawal for those surveillance programs that were designed to earlier editions of ASTM E185. The change to Table 4.4-5 would delete the surveillance program specifics and insert the requirements for surveillance capsule withdrawal in accordance with present regulations. The surveillance program specifics are contained in the Babcock & Wilcox Owners Group report BAW-1543, Integrated Reactor Vessel Material Surveillance Program. BAW-1543 complies with all regulations regarding the Davis-Besse Reactor Vessel Materials Surveillance Program including capsule location and description, actual and anticipated fluence accumulation, and capsule withdrawal sequence.

The program would ease capsule handling during refueling outages. With the revised shuffling scheme there would be a decrease in the time involved in performance of this task. This reduces the exposure levels to the personnel involved in capsule handling evolution.

The program limits the introduction to only one dummy capsule over the life of the plant. Presently, up to 6 dummy capsules are planned for insertion into the Surveillance Specimen Holder Tubes (SSHTs) to serve as space fillers as specimen containing capsules are removed for testing. This is an unnecessary introduction of non-functioning components into the reactor vessel that would be additional radioactive waste. The new capsule shuffle scheme would allow movement of lone capsules to another SSHT while maintaining identical lead factors.

The proposed change to the RVMISS complies with revisions allowed by 10CFR50 Appendix H Section II.B.1 and the 1982 edition of ASTM E185. This does not change any commitment already proposed on the Licensee but allows for more technically correct characterization of the reactor vessel material condition over the life of the plant. This data is the basis for the Reactor Coolant System (RCS) temperature and pressure operating limits. These limits prevent non-ductile failure during normal operation; including anticipated operational occurrences and system hydrostatic tests.

Although the commission has provided guidance as to application of the standards of 10CFR50.92 this request does not lend itself to the cited examples. However, this request is a change which is allowed by 10CFR50 Appendix H and the resulting data will provide a more accurate RCS temperature and pressure limits on the operations of Davis-Besse. This ensures that all accident analysis and safety margins in the FSAR are bounded thereby, assuring that the health and safety of the public is not endangered.

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 (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.

## SAFETY EVALUATION

This Technical Specification change is requested to revise Table 4.4-5, Reactor Vessel Material Irradiation Surveillance (RVMIS) Schedule, Paragraph 4.4.9.1.2, and Basis Page B3/4 4-12.

The safety function of the RVMIS schedule is to ensure performance of the Reactor Vessel Material Surveillance Program. The Reactor Vessel Material Surveillance Program monitors the effects of neutron irradiation on the tensile and fracture toughness properties of the reactor pressure vessel materials by the testing and evaluation of tension, Charpy impact, and fracture toughness specimens. The program was designed in accordance with the requirements of Appendix H (Reactor Vessel Materials Surveillance Program Requirements) to 10 CFR 50 and ASTM Specification E185-73. Further, this program was designed to provide data to fulfill the requirements of Appendix G (Fracture Toughness Requirements) to 10 CFR 50. The test results from the surveillance program are used to revise (as necessary) the reactor coolant system pressure-temperature operating limits.

The proposed change to Table 4.4-5 would incorporate the requirements of ASTM E185-82 for surveillance capsule withdrawal. This change would allow a more technically correct characterization of the reactor vessel material condition as a function of accumulated neutron fluence over the life of Davis-Besse. The 1982 edition of ASTM E185 differs from the 1973 edition in that the 1982 edition provides better defined removal intervals for the characterization of material properties that are of particular interest. 10 CFR 50 Appendix H Section II.B.1 allows the use of ASTM E185-82 for the purposes of capsule withdrawal for those surveillance programs that were designed to earlier editions of ASTM E185. The change to Table 4.4-5 would delete the surveillance program specifics and insert the requirements for surveillance capsule withdrawal in accordance with present regulations. The surveillance program specifics are contained in the Babcock and Wilcox Owners Group Report BAW-1543, Integrated Reactor Vessel Material Surveillance Program. BAW-1543 has been reviewed and approved by Nuclear Facility Engineering. BAW-1543 has been submitted to the NRC and complies with all regulations regarding the Davis-Besse Reactor Vessel Materials Surveillance Program including capsule location and description, actual and anticipated fluence accumulation, and capsule withdrawal sequence.

The proposed change to Paragraph 4.4.9.1.2 emphasizes that material specimens representative of the Davis-Besse reactor vessel materials will be tested to determine changes in the material properties.

The proposed change to Basis Page B3/4 4-12 would delete redundant information and specifically state the basis, and origin of Table 4.4-5.

The proposed changes would provide for:

1. Ease of capsule handling during refueling outages. The capsule shuffle scheme as detailed in BAW-1543 would decrease the time involved in the performance of this task. This is beneficial to reduce the exposure levels of the personnel involved in capsule handling evolutions.

2. Limits the introduction to only one dummy capsule over the life of the plant. Presently, up to six dummy capsules are planned for insertion into the Surveillance Specimen Holder Tubes (SSHTs) to serve as space fillers as specimen containing capsules are removed for testing. This is an unnecessary introduction of non-functioning components into the reactor vessel that would be additional radioactive waste. The new capsule shuffle scheme would allow movement of lone capsules to another SSHT while maintaining identical lead factors.

It is concluded that:

1. The proposed changes maintain the requirements for surveillance capsule withdrawal in accordance with 10 CFR 50, Appendix H.
2. BAW-1543 is technically correct and fulfills all regulatory requirements.

Pursuant to the above, it is concluded that the Technical Specification change proposed does not constitute an unreviewed safety question.

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