

Docket No. 50-346

License No. NPF-3

Serial No. 529

July 27, 1979



LOWELL E. ROE

Vice President
Facilities Development
(419) 259-5242

Director of Nuclear Reactor Regulation
Attention: Mr. Robert N. Reid, Chief
Operating Reactors Branch No. 4
Division of Operating Reactors
United States Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Reid:

Under separate cover, we are transmitting three (3) original and forty (40) conformed copies of an application for Amendment to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station Unit No. 1

This application requests that the Davis-Besse Nuclear Power Station Unit 1 Technical Specification, Appendix A, be revised. The proposed change includes alterations in section 4.4.5 to provide: 1) an extension of calendar time to perform the first in-service inspections of steam generator tubes after initial criticality in sub-section 4.4.5.3; and 2) revised steam generator tube sampling selection in sub-section 4.4.5.2.

This amendment request involves a Class III type issue. Therefore, \$4,000 is enclosed as required by 10CFR170.

The two attachments identify each section of the proposed change, its safety evaluation and schedule required to implement the change after NRC approval. Your attention is particularly directed to Attachment 1 concerning steam generator tube inspection schedules. As we have discussed with your staff we request your final action on this prior to August 12, 1979.

Yours very truly,


LER:TJM

Attachments

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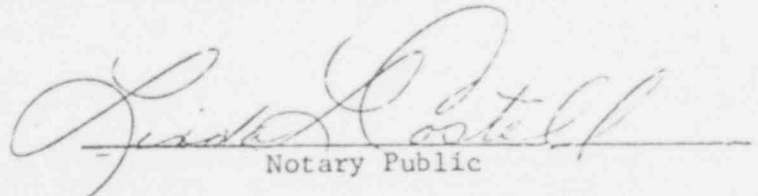
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APPLICATION FOR AMENDMENT
TO
FACILITY OPERATING LICENSE NO. NPF-3
FOR
DAVIS-BESSE NUCLEAR POWER STATION
UNIT NO. 1

Enclosed are forty-three (43) copies of the requested changes to the Davis-Besse Nuclear Power Station Unit No. 1 Technical Specifications, Appendix A to Facility Operating License No. NPF-3, together with the Safety Evaluation for the requested change. The proposed changes include alterations in section 4.4.5 to provide: 1) an extension of calendar time to preform the first inservice inspection of steam generator tubes after initial criticality in sub-section 4.4.5.3; and 2) revised steam generator tube sampling selection in sub-section 4.4.5.2.

By s/Lowell E. Roe
Vice President, Facilities Development

Sworn to and subscribed before me this twenty-seventh day of July, 1979.


Notary Public

LINDA L. COSTELL
Notary Public — State of Ohio
My Commission Expires Feb. 9, 1982

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- I. Change to Davis-Besse Nuclear Power Station, Unit No. 1 (DB-1) Technical Specifications, Appendix A of section 4.4.5.3 to allow the first steam generator tube inservice inspection to be preformed during the first refueling outage. - See proposed change attached.

A. Time Required to Implement

This change can be effective upon NRC issuance.

B. Reason for change (Facility Change Request 78-258)

Due to the extended outages Davis-Besse Unit 1 has had since initial criticality, the first refueling outage has been delayed until March, 1980. The first steam generator tube inservice inspection was expected to be done during that outage. The current refueling outage schedule would not coincide with the 24 calendar months stated in section 4.4.5.3.

C. Safety Evaluation

See attached

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

Note: In all inspections, previously degraded tubes must exhibit significant ($> 10\%$) further wall penetrations to be included in the above percentage calculations.

4.4.5.3 Inspection Frequencies - The above required inservice inspections of steam generator tubes shall be performed at the following frequencies:

- a. ~~The first inservice inspection shall be performed after 6 effective full power months but within 24 calendar months of initial criticality.~~ ^{TO COINCIDE WITH THE SCHEDULED REFUELING OUTAGE.} Subsequent inservice inspections shall be performed at intervals of not less than 12 nor more than 24 calendar months after the previous inspection. If two consecutive inspections following service under AVT conditions, not including the preservice inspection, result in all inspection results falling into the C-1 category or if two consecutive inspections demonstrate that previously observed degradation has not continued and no additional degradation has occurred, the inspection interval may be extended to a maximum of once per 40 months.
- b. If the results of the inservice inspection of a steam generator conducted in accordance with Table 4.4-2 at 40 month intervals fall into Category C-3, the inspection frequency shall be increased to at least once per 20 months. The increase in inspection frequency shall apply until the subsequent inspections satisfy the criteria of Specification 4.4.5.3.a; the interval may then be extended to a maximum of once per 40 months.
- c. Additional, unscheduled inservice inspections shall be performed on each steam generator in accordance with the first sample inspection specified in Table 4.4-2 during the shutdown subsequent to any of the following conditions:
 1. Primary-to-secondary tubes leaks (not including leaks originating from tube-to tube sheet welds) in excess of the limits of Specification 3.4.6.2.
 2. A seismic occurrence greater than the Operating Basis Earthquake.
 3. A loss-of-coolant accident requiring actuation of the engineered safeguards.
 4. A main steam line or feedwater line break.

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SAFETY EVALUATION

The Davis-Besse Nuclear Power Station in-service inspection (ISI) frequency Technical Specification, Appendix A, Section, Para. 4.4.5.3 presently requires that the first ISI of the steam generator tubes be performed after 6 effective full-power months but within 24 months of initial criticality (8/12/77). The currently scheduled first refueling outage is scheduled for March 1980. The first ISI of the steam generator tubes is scheduled to be performed during the March 1980 outage. The results of the tube inspection will be submitted to the NRC as per Technical Specification 4.4.5.5. Thus, it is desired that the time limit of Technical Specification 4.4.5.3 be extended to allow for the steam generator tube ISI to coincide with the first refueling outage.

The 6 effective full-power months but within 24 months of initial criticality was based on the projected operating schedule for Davis-Besse at the time the operating license was issued.

Davis-Besse is requesting relief from this schedule due to the first regularly scheduled refueling outage will be later than originally planned.

The additional time requested prior to the steam generator tube ISI does not add significant probability of tube failure.

The Davis-Besse Nuclear Power Station Technical Specifications (3/4.4.5) notes, the program for ISI of the steam generator tubes is based on a modification of US NRC Regulatory Guide 1.83, Revision 1. Therefore, justification for this request appears below:

1. As referenced in US NRC Regulatory Guide 1.83, Revision 1, "Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes", paragraph c(6)(c) which states:

"Inspections may be made coincident with refueling outages or any shutdown for plant repair and maintenance in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section XI."

2. That the intent of Section XI is to provide a mechanism for the direction of an inspection based on operating time of the power facility.

Paragraph IWA-2400(a) of the 1974 Section XI with addenda through Summer 1975 states:

"....These inspections intervals represent calendar years after the reactor facility has been placed into commercial service. The interval may be extended by as much as one year to permit inspections to be concurrent with plant outages."

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Due to the fact that Davis-Besse has undergone a number of outages since initial criticality on August 12, 1977, the reactor will have not operated with any additional burnup than was originally planned by the present March 1980 refueling, main outages when Davis-Besse was not in operating modes include: from 4/29/78 to 7/27/78 (2 months 28 days - 87 Effective Full-Power Days (EFPDs)) due to the removal of the Burnable Poison Rod Assemblies (BPRAs) and from 3/29/79 to present (approx. 3 months 6 days - 211 EFPDs) due to NRC order in conjunction with events at TMI-2. The EFPDs (Effective Full-Power Days) for the 24 months after initial criticality equals approximately 433.


Additional outages in which the station was not in operating modes were: 10/9/78 through 10/27/78 for repair of Reactor Coolant Pump Seals (18 days), 12/16/78 through 1/1/79 for repair of extraction steam line bellows in secondary system (16 days) and 1/4/79 through 1/3/79 for Repair of Reactor Coolant Pump Seals (15 days).

Since the intent of Regulatory Guide 1.83, Revision 1, and of the ASME Code is to provide for inspections based on operating time of equipment, it is requested that the outage time of 7 months and 22 days be added to our 24 month interval to provide for an allowed inspection interval for the steam generator tubes.

As of July 4, 1979, including the outages from the BPRAs, the repair to the reactor coolant pump seals and the NRC order in lieu of TMI-2, Davis-Besse has had 211 EFPDs. Therefore, the frequency for the steam generator tube ISI could be extended to March 1980 to coincide with the scheduled refueling outage.

For the above reasons, this is not to be determined an unreviewed safety question.

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7/24/79
CR Dornack / F/M 7/24/79

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- II. Change to Davis-Besse Nuclear Power Station, Unit No. 1 Technical Specifications, Appendix A, section 4.4.5.2.a concerning sampling of steam generator tubes for inspections.

A. Time Required to Implement

This change can be effective upon NRC issuance

B. Reason for Change (Facility Change Request 79-195)

To provide inspection of all tubes in critical areas without affecting sample size and additional sampling criteria of non-critical areas.

C. Safety Evaluation

See Attached

POOR ORIGINAL

STEAM GENERATORS

LIMITING CONDITION FOR OPERATION

3.4.5 Each steam generator shall be OPERABLE with a water level between 18 and 348 inches.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one or more steam generators inoperable due to steam generator tube imperfections, restore the inoperable generator(s) to OPERABLE status prior to increasing T_{avg} above 200°F.
- b. With one or more steam generators inoperable due to the water level being outside the limits, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.5.0 Each steam generator shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

4.4.5.1. Steam Generator Sample Selection and Inspection - Each steam generator shall be determined OPERABLE during shutdown by selecting and inspecting at least the minimum number of steam generators specified in Table 4.4-1.

4.4.5.2 Steam Generator Tube Sample Selection and Inspection - The steam generator tube minimum sample size, inspection result classification, and the corresponding action required shall be as specified in Table 4.4-2. The inservice inspection of steam generator tubes shall be performed at the frequencies specified in Specification 4.4.5.3 and the inspected tubes shall be verified acceptable per the acceptance criteria of Specification 4.4.5.4. The tubes selected for each inservice inspection shall include at least 3% of the total number of tubes in all steam generators; the tubes selected for these inspections shall be selected on a random basis except:

- a. Where experience in similar plants with similar water chemistry indicates critical areas to be inspected, then ~~at least 50% of the tubes inspected shall be from these critical areas~~ an additional sampling shall be performed which shall include all of the tubes in the critical areas. Degraded and Defective tubes found in these critical areas shall not count in determining the classification of the results of the inspection for purposes of determining the sample size but shall count for purposes of determining inspection frequency.

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SAFETY EVALUATION

The results of steam generator tube inspections at other B&W 177 FA plants have identified certain critical areas in the steam generators (such as along the open lane) which have a higher incidence of degraded and defective tubes. B&W recommends that all of the tubes in these critical areas be inspected. The remaining tubes in the steam generators have had a very low incidence of degraded and defective tubes. Detection of degraded and/or defective tubes in the critical areas could require additional inspections in non-critical areas if the criteria presently in the technical specification are used. These additional inspections in the non-critical areas should not be required if the results of the initial 3% inspection of these non-critical areas do not meet the additional sampling criteria.

The proposed technical specification change will result in inspection 100% of the critical areas, with the remaining areas of the steam generator being inspected to the 3% sampling plan and its attendant additional sampling where degraded and/or defective tubes are detected.

The frequency of inspections will still be determined by the inspection results on all of the tubes. This is warranted by the need to inspect the critical areas at the frequency presently specified.

A review of U. S. Regulatory Guide 1.83 indicates that this change is within compliance with that guide; and a review of the 1977 edition of the ASME B&PV Code Section XI indicates that this change is within compliance with that code.

George L. Hurrell II

George Hurrell
5/11/79

CR Domeck/fzm 7/24/79

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