3/4.4.9 PRESSURE/TEMPERATURE LIMITS

REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION

3.4.9.1 The Reactor Coolant System (except the pressurizer) temperature and pressure shall be limited in accordance with the limit lines shown on Figures 3.4-2, 3.4-3 and 3.4-4 during heatup, cooldown, criticality, and inservice leak and hydrostatic testing with:

a. A maximum heatup of 100°F in any one hour period, and

b. A maximum cooldown of 100°F in any one hour period.

APPLICABILITY: At all times.

ACTION:

With any of the above limits exceeded, restore the temperature and/or pressure to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the fracture toughness properties of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce RCS T_{avg} and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.9.1.1 The Reactor Coolant System temperature and pressure shall be determined to be within the limits at least once per 30 minutes during system heatup, cooldown, and inservice leak and hydrostatic testing operations.

4.4.9.1.2 The reactor vessel material irradiation surveillance specimens representative of the vessel materials shall be removed and examined, to determine changes in material properties, at the intervals shown in Table 4.4-5. The results of these examinations shall be used to update Figures 3.4-2, 3.4-3 and 3.4-4.

TABLE 4.4-5

REACTOR VESSEL MATERIAL IRRADIATION SURVEILLANCE SCHEDULE

Sequence	Time of Withdrawal
First	Earliest of: 1.5 EFPY; capsule fluence $> 5 \times 10^{18}$ n/cm^2; highest RT_{NDT} of an encapsulated material equals 50F.
Second	Earliest of: 3 EFPY; capsule fluence midway between that of the first and third capsules.
Third	Earliest of: 6 EFPY; capsule fluence corresponds to that of the EOL fluence of the reactor vessel 1/4T location.
Fourth	Earliest of: 15 EFPY; capsule fluence corresponds to that of the EOL fluence of the reactor vessel inside surface location.
Fifth	Standby; not less than once nor greater than twice the EOL Fluence of the reactor vessel inside surface location. Capsule may be held without testing after withdrawal.
Sixth	Standby capsule.

BASES

The number of reactor vessel irradiation surveillance specimens and the frequencies for removing and testing these specimens are provided in Table 4.4-5. The withdrawal schedule is based on four considerations: (a) uncover possible technical anomalies as early in life as they can be detected (end of first fuel cycle), (b) define the material properties needed to perform the analysis required by Appendix G to 10 CFR 50, (c) reserve two capsules for evaluation of the effectiveness of thermal annealing in the event the inplace annealing becomes necessary, (d) provide material property data corresponding to the reactor vessel line surface conditions at the end of service. The withdrawal schedule of Table 4.4-5 is specified to assure compliance with the requirements of Appendix H to 10 CFR 50. Appendix H references the requirements of ASTM E185 for surveillance program criteria. Table 4.4-5 is designed to meet the requirements of ASTM E185-82.

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

Attachment II

I. Changes to Davis-Besse Nuclear Power Station Unit 1, Appendix A Technical Specifications 4.7.1.2.

A. Time required to Implement . This change is to be effective upon NRC approval.

B. Reason for Change (Facility Change Request 83-032). In response to NRC request dated February 21, 1984 on the AFW System.

C. Safety Evaluation
(See Attached)

D. Significant Hazard Consideration
(See Attached)

Safety Evaluation

This amendment request to the Technical Specifications Surveillance requirement Section 4.7.1.2 adds flow test requirement to verify Auxiliary Feedwater (AFW) System Operability following: 1) refueling outage (every 18 months); 2) an extended outage (>30 days in Mode 5); and 3) modification to the system that could affect system capability. It also requires verification of locked valve positions.

The safety function of the Technical Specification surveillance requirement 4.7.1.2 is to insure that the AFW System availability is maintained during Modes 1, 2 and 3 to provide a heat sink to the Reactor Coolant System (RCS) when main feedwater is lost.

The proposed change to Section 4.7.1.2 will provide adequate assurance that the AFW flow paths to the steam generators are maintained. The flow test will be conducted prior to entering Mode 3 so that the feedwater can be properly cleaned up before full power operation to minimize the impact on the steam generators. When performing tests required under 4.7.1.2 e.2, a dedicated individual will be stationed at those manual valves, with direct communication to the control room, so that the system can be restored to normal operable status if necessary.

Those valves that are locked in the AFW system are currently controlled by administrative procedures. With the proposed change, they will become a Technical Specification required item for verification. The changes as proposed, meet NRC staff's position as outlined in NRC letter dated February 21, 1984 (log No. 1455) The changes as proposed do not degrade the safety function of the AFW system.

Pursuant to the above evaluation, it is concluded that there is no unreviewed safety questions involved.

pk a/5

Significant Hazard Consideration

This amendment request for the Surveillance requirement for the Auxiliary Feedwater (AFW) system does not represent a Significant Hazard. The proposed change includes valve position verification, 18 month flow verification, flow verification after modification or extended cold shutdown (>30 days in Mode 5) and an operator for valve realignment during testing.

The 18 month and extended outage (>30 days in Mode 5) flow path verification will provide adequate assurance that the AFW flow paths to the Steam Generators (SG) are maintained. Flow path verification after maintenance and/or modification ensures that the AFW System is capable of delivering water to the SG.

When the plant is in Modes 1, 2 or 3 which requires Local Manual realignment of valves that make the system inoperable, a dedicated individual shall be stationed at the valves (in communication with the control room) able to restore the valves to the normal operating status. This ensures that the AFW system will be realigned should the safety system be required to function.

The Commission has provided guidance concerning the application of the standards in 10 CFR 50.92 by providing certain examples (48 FR 14870). One of the examples of actions involving no significant hazards considerations related to a change that constitutes an additional limitation, restriction, or control not presently included in the technical specifications: for example, a more stringent surveillance requirement. (example ii)

The amendment request is in compliance with a request from the NRC dated February 21, 1984 (Log No. 1455). These Technical Specifications are new restrictions and requirements that are not presently included in Davis-Besse Technical Specifications. These requirements ensure a flow path is available from the water source through the AFW pumps to the S.G.'s and if required during certain testing the system will be realigned so as to perform its intended safety function.

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.

PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2 Two independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one auxiliary feedwater system inoperable, restore the inoperable system to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater system shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by:

1. Verifying that each steam turbine driven pump develops a differential pressure of ≥ 1070 psid on recirculation flow when the secondary steam supply pressure is greater than 800 psia, as measured on PI SP 12B for pump 1-1 and PI SP 12A for pump 1-2.

2. Verifying that each valve (~~manual,~~ power operated or automatic) in the flow path ~~that is not locked, sealed or otherwise secured in position,~~ is in its correct position.

3. VERIFYING THAT ALL LOCAL MANUAL VALVES IN THE ~~NORMAL AF PUMP~~ AUXILIARY FEEDWATER PUMP SUCTION AND DISCHARGE LINES ARE LOCKED IN THEIR PROPER POSITION. THAT AFFECT THE SYSTEM'S CAPACITY TO DELIVER WATER TO THE STEAM GENERATOR

b. At least once per 18 months, ~~during shutdown~~, by: PRIOR TO ENTERING MODE 3

1. Verifying that each automatic valve in the flow path actuates to its correct position on an auxiliary feedwater actuation test signal.

2. Verifying that each pump starts automatically upon receipt of an auxiliary feedwater actuation test signal.

3. VERIFYING THAT THERE IS A FLOW PATH BETWEEN EACH AUXILIARY FEEDWATER PUMP AND EACH STEAM GENERATOR BY PUMPING WATER FROM THE AUXILIARY FEED PUMP TO THE STEAM GENERATOR. THE FLOW PATH TO THE STEAM GENERATOR SHALL BE VERIFIED BY EITHER STEAM GENERATOR LEVEL CHANGE OR AUXILIARY FEEDWATER FLOW INDICATION. VERIFICATION OF THE AUXILIARY FEEDWATER SYSTEM'S FLOW CAPACITY IS NOT REQUIRED.

SURVEILLANCE REQUIREMENTS (Continued)

c. The Auxiliary Feed Pump Turbine Steam Generator Level Control System shall be demonstrated OPERABLE by performance of a CHANNEL CHECK at least once per 12 hours, a CHANNEL FUNCTIONAL TEST at least once per 31 days, and a CHANNEL CALIBRATION at least once per 18 months.

d. The Auxiliary Feed Pump Suction Pressure Interlocks, and Auxiliary Feed Pump Turbine Inlet Steam Pressure Interlocks shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST at least once per 31 days, and a CHANNEL CALIBRATION at least once per 18 months.

e. AFTER ANY MODIFICATION OR REPAIR TO THE AUXILIARY FEEDWATER SYSTEM THAT COULD AFFECT THE SYSTEM'S CAPABILITY TO DELIVER WATER TO THE STEAM GENERATOR, THE AFFECTED FLOW PATH SHALL BE DEMONSTRATED AVAILABLE PRIOR TO ENTERING MODE 3 AS FOLLOWS:

1. IF THE MODIFICATION OR REPAIR IS DOWNSTREAM OF THE TEST FLOW LINE, THE AUXILIARY FEED PUMP SHALL PUMP WATER TO THE STEAM GENERATOR; AND THE FLOW PATH AVAILABILITY WILL BE VERIFIED BY STEAM GENERATOR LEVEL CHANGE OR AUXILIARY FEEDWATER FLOW INDICATION.

2. IF THE MODIFICATION OR REPAIR IS UPSTREAM OF THE TEST FLOW LINE, THE AUXILIARY FEED PUMP SHALL PUMP WATER THROUGH THE AUXILIARY FEEDWATER SYSTEM TO THE TEST FLOW LINE; AND THE FLOW PATH AVAILABILITY WILL BE VERIFIED BY FLOW INDICATION IN THE TEST FLOW LINE, (SEE NOTE BELOW)

VERIFICATION OF THE AUXILIARY FEEDWATER SYSTEM'S FLOW CAPACITY IS NOT REQUIRED.

f. FOLLOWING EACH EXTENDED COLD SHUTDOWN (> 30 DAYS IN MODE 5), BY:

1. VERIFYING THAT THERE IS A FLOW PATH BETWEEN EACH AUXILIARY FEEDWATER PUMP AND EACH STEAM GENERATOR BY PUMPING WATER FROM THE AUXILIARY FEED PUMP TO THE STEAM GENERATOR. THE FLOW PATH TO THE STEAM GENERATOR SHALL BE VERIFIED BY EITHER STEAM GENERATOR LEVEL CHANGE OR AUXILIARY FEEDWATER FLOW INDICATION.

VERIFICATION OF THE AUXILIARY FEEDWATER SYSTEM'S FLOW CAPACITY IS NOT REQUIRED.

NOTE: WHEN CONDUCTING TESTS OF THE AUXILIARY FEEDWATER SYSTEM IN MODES 1, 2, AND 3 WHICH REQUIRE LOCAL MANUAL REALIGNMENT OF VALVES THAT MAKE THE SYSTEM INOPERABLE, A DEDICATED INDIVIDUAL SHALL BE STATIONED AT THE VALVES (IN COMMUNICATION WITH THE CONTROL ROOM) ABLE TO RESTORE THE VALVES TO NORMAL SYSTEM OPERABLE STATUS.