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Docket Number 50-346

License Number NPF-3

Serial Number 2625

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United States Nuclear Regulatory Commission
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Washington, DC 20555-0001

Subject: License Amendment Application to Revise Technical Specifications 3/4.3.1, Reactor Protection System Instrumentation; 3/4.3.2.1, Safety Features Actuation System Instrumentation; 3/4.3.2.2, Steam and Feedwater Rupture Control System Instrumentation, and Associated Bases (License Amendment Request No. 99-0004)

Ladies and Gentlemen:

Enclosed is an application for an amendment to the Davis-Besse Nuclear Power Station (DBNPS), Unit Number 1, Operating License Number NPF-3, Appendix A, Technical Specifications. The proposed changes involve Technical Specifications (TS) 3/4.3.1, Reactor Protection System Instrumentation; 3/4.3.2.1, Safety Features Actuation System Instrumentation; TS 3/4.3.2.2, Steam and Feedwater Rupture Control System Instrumentation; and TS Bases 3/4.3.1 and 3/4.3.2, Reactor Protection System and Safety System Instrumentation.

The proposed changes would revise TS Table 3.3-3, Safety Features Actuation System Instrumentation, TS Table 3.3-11, Steam and Feedwater Rupture Control System Instrumentation, and associated Bases to add a provision to allow an eight-hour delay in entering an Action statement when an SFAS or SFRCS instrumentation channel is undergoing Channel Functional Testing. The proposed changes would provide a reasonable time to perform the required surveillance testing and relieve the control room staff of the burden of making multiple Action statement entries and exits in order to complete the testing. Additionally, Surveillance Requirements 4.3.1.1.2, 4.3.2.1.2, and 4.3.2.2.2 would be revised to clarify the term "total bypass function."

The DBNPS requests that this license amendment application be approved by the NRC by October 31, 2001.

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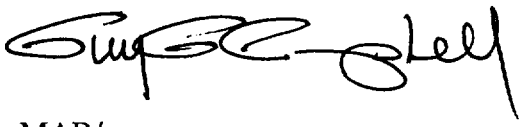
Should you have any questions or require additional information, please contact Mr. David H. Lockwood, Manager - Regulatory Affairs, at (419) 321-8450.

Very truly yours,



MAR/s

Enclosures

cc:

J. E. Dyer, Regional Administrator, NRC Region III
S. P. Sands, NRC/NRR Project Manager
D. J. Shipley, Executive Director, Ohio Emergency Management Agency, State of Ohio (NRC Liaison)
K. S. Zellers, NRC Region III, DB-1 Senior Resident Inspector
Utility Radiological Safety Board

APPLICATION FOR AMENDMENT

TO

FACILITY OPERATING LICENSE NUMBER NPF-3

DAVIS-BESSE NUCLEAR POWER STATION

UNIT NUMBER 1

Attached are the requested changes to the Davis-Besse Nuclear Power Station, Unit Number 1 Facility Operating License Number NPF-3. Also included is the Safety Assessment and Significant Hazards Consideration.

The proposed changes (submitted under cover letter Serial Number 2625) concern:

Appendix A, Technical Specifications:

TS 3/4.3.1	Reactor Protection System Instrumentation
TS 3/4.3.2.1	Safety Features Actuation System Instrumentation
TS 3/4.3.2.2	Steam and Feedwater Rupture Control System Instrumentation
TS Bases 3/4.3.1 and 3/4.3.2	Reactor Protection System and Safety System Instrumentation

I, Guy G. Campbell, state that (1) I am Vice President - Nuclear of the FirstEnergy Nuclear Operating Company, (2) I am duly authorized to execute and file this certification on behalf of the Toledo Edison Company and The Cleveland Electric Illuminating Company, and (3) the statements set forth herein are true and correct to the best of my knowledge, information and belief.

By: _____
Guy G. Campbell, Vice President - Nuclear

Affirmed and subscribed before me this 1st day of April, 2001.

_____
Notary Public, State of Ohio - Nora L. Flood
My Commission expires September 4, 2002.

The following information is provided to support issuance of the requested changes to the Davis-Besse Nuclear Power Station (DBNPS), Unit Number 1 Operating License Number NPF-3, Appendix A, Technical Specifications (TS) 3/4.3.1, Reactor Protection System Instrumentation; 3/4.3.2.1, Safety Features Actuation System Instrumentation; 3/4.3.2.2, Steam and Feedwater Rupture Control System Instrumentation; and associated Bases 3/4.3.1 and 3/4.3.2, Reactor Protection System and Safety System Instrumentation.

A. Time Required to Implement: The License Amendment associated with this license amendment application is to be implemented within 120 days after NRC issuance.

B. Reason for Change (License Amendment Request Number 99-0004):

The proposed changes would revise TS Table 3.3-3, Safety Features Actuation System Instrumentation, and TS Table 3.3-11, Steam and Feedwater Rupture Control System Instrumentation, to add a provision to allow a delay in entering an Action statement when an SFAS or SFRCS instrumentation channel is undergoing Channel Functional Testing. The proposed changes would provide a reasonable time to perform the required surveillance testing and relieve the control room staff of the burden of making multiple Action statement entries and exits in order to complete the testing. The proposed Bases 3/4.3.1 and 3/4.3.2 change is associated with these changes. Additionally, Surveillance Requirements 4.3.1.1.2, 4.3.2.1.2, and 4.3.2.2.2 would be revised to clarify the term "total bypass function."

C. Safety Assessment and Significant Hazards Consideration: See Attachment 1.

D. Environmental Evaluation: See Attachment 2.

Docket Number 50-346
License Number NPF-3
Serial Number 2625
Attachment 1

SAFETY ASSESSMENT AND SIGNIFICANT HAZARDS CONSIDERATION
FOR
LICENSE AMENDMENT REQUEST NUMBER 99-0004

(39 pages follow)

SAFETY ASSESSMENT AND SIGNIFICANT HAZARDS CONSIDERATION FOR LICENSE AMENDMENT REQUEST NUMBER 99-0004

TITLE:

Proposed Changes to Technical Specification (TS) 3/4.3.1, Reactor Protection System Instrumentation; TS 3/4.3.2.1, Safety Features Actuation System Instrumentation; TS 3/4.3.2.2, Steam and Feedwater Rupture Control System Instrumentation; and Associated Bases 3/4.3.1 and 3/4.3.2, Reactor Protection System and Safety System Instrumentation

DESCRIPTION:

The purpose of this License Amendment Request is to change Davis-Besse Nuclear Power Station (DBNPS) Operating License NPF-3, Appendix A, TS 3/4.3.2.1, Safety Features Actuation System Instrumentation; TS 3/4.3.2.2, Steam and Feedwater Rupture Control System Instrumentation, and their associated Bases, by adding a provision to TS Tables 3.3-3 and 3.3-11 to permit certain Safety Features Actuation System (SFAS) and Steam and Feedwater Rupture Control System (SFRCS) instrument channels to be placed in an inoperable condition for up to 8 hours during channel functional testing without declaring the channel inoperable and entering the Action statement. The proposed changes would provide a reasonable time to perform the required surveillance testing and relieve the control room staff of the burden of making multiple Action statement entries and exits in order to complete the testing. Also, Limiting Condition for Operation (LCO) 3.3.1.1 and Surveillance Requirements (SR) 4.3.1.1.2, 4.3.2.1.2 and 4.3.2.2.2 would be changed to clarify the nomenclature for instrumentation bypasses.

Specifically, the proposed changes, as shown on the attached marked-up TS pages, would:

- Revise Table 3.3-3, Safety Features Actuation System Instrumentation, Action 10, to read:

  > With the number of OPERABLE functional units one less than the Total Number of Units, STARTUP and/or POWER OPERATION may proceed provided, within one hour (except as noted below), the inoperable functional unit is placed in the tripped condition. When one functional unit is placed in an inoperable status solely for performance of a CHANNEL FUNCTIONAL TEST, a declaration of inoperability and associated entry into this ACTION statement may be delayed for up to 8 hours, provided at least two other channels are OPERABLE.

- Revise Table 3.3-11, Steam and Feedwater Rupture Control System Instrumentation, Action 16 to read:

With the number of OPERABLE Channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable section of the channel is placed in the tripped condition within 1 hour (except as noted below). When a channel is placed in an inoperable status solely for performance of a CHANNEL FUNCTIONAL TEST, a declaration of inoperability and associated entry into this ACTION statement may be delayed for up to 8 hours, provided the remaining actuation channel is OPERABLE.

- Revise LCO 3.3.1.1, to state:

  As a minimum, the Reactor Protection System instrumentation channels and shutdown bypasses of Table 3.3-1 shall be OPERABLE.

- Revise SR 4.3.1.1.2, to state:

  The shutdown bypass function shall be demonstrated OPERABLE at least once per REFUELING INTERVAL during CHANNEL CALIBRATION testing of each channel affected by shutdown bypass operation.

- Revise SR 4.3.2.1.2, to state:

  The logic for the RCS pressure operating bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of functional units affected by the RCS pressure operating bypass operation. This RCS pressure operating bypass function shall be demonstrated OPERABLE at least once per REFUELING INTERVAL during CHANNEL CALIBRATION testing of each functional unit affected by the RCS pressure operating bypass operation.

- Revise SR 4.3.2.2.2, to state:

  The logic for the shutdown bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of channels affected by bypass operation. The shutdown bypass function shall be demonstrated OPERABLE at least once per REFUELING INTERVAL during CHANNEL CALIBRATION testing of each channel affected by bypass operation.

- Revise TS Bases 3/4.3.1 and 3/4.3.2, Reactor Protection System and Safety System Instrumentation, by adding the following paragraph:

  SFAS Table 3.3-3, Action 10, and SFRCS Table 3.3-11, Action 16, allow entry into the ACTION statement to be delayed for up to 8 hours when a channel is placed in an inoperable status solely for performance of a CHANNEL FUNCTIONAL TEST, provided a sufficient number of channels remain OPERABLE. This 8-hour allowance allows reasonable time to perform the

required surveillance testing without having to enter the ACTION statement and implement the required ACTIONS.

The proposed changes are shown on the attached marked-up Operating License pages.

SYSTEMS, COMPONENTS, AND ACTIVITIES AFFECTED:

The proposed changes affect administrative practices during surveillance testing of SFAS and SFRCS instrument channels. The proposed changes also make various changes to the RPS, SFAS, and SFRCS Technical Specifications and Bases for clarification purposes. There are no hardware modifications involved.

FUNCTIONS OF THE AFFECTED SYSTEMS, COMPONENTS, AND ACTIVITIES:

RPS - General

The RPS is described is the DBNPS Updated Safety Analysis Report (USAR) Section 7.2, "Reactor Protection System (RPS)." The purpose of the RPS is to initiate a reactor trip when a sensed parameter (or group of parameters) exceeds a setpoint value indicating the approach of an unsafe condition. In this manner, the reactor core is protected from exceeding design limits and the Reactor Coolant System (RCS) is protected from over-pressurization. The RPS consists of four physically separated, redundant instrument channels. The RPS monitors the following generating station variables:

1. Total out-of-core neutron flux
2. RCS coolant flow
3. RCS pump status
4. RCS reactor outlet temperature
5. RCS pressure
6. Containment Vessel pressure
7. Out-of-core neutron flux imbalance.

RPS – Bypasses

The RPS includes channel bypasses and shutdown bypasses.

The RPS channel bypass permits the testing and maintenance of a single channel during power operations. This bypass directly energizes the RPS channel's trip relay, preventing it from tripping when any bistable's contact opens. The channel bypass is initiated using key switches.

The RPS shutdown bypass provides for bypassing certain functions of the RPS in order to permit control rod drive tests, zero power physics tests, and certain startup and shutdown procedures, with the plant shut down. The shutdown bypass is initiated by turning the shutdown bypass key switch in each RPS channel. Turning the key removes the

following trips from the logic train: power/imbalance/flow, power/pumps, RCS pressure-temperature, and low RCS pressure. The key switch also inserts the shutdown bypass high pressure trip. The setpoint of this trip is lower than the setpoint of the low pressure trip. During normal operation, the shutdown bypass high pressure trip bistable is normally tripped since operating pressure is greater than the trip setpoint. If the operator initiates the shutdown bypass with the plant at power, that RPS channel trips. The procedure for effecting this bypass is to wait until primary pressure is below the trip setpoint and the plant is shut down. The operator can then reset the tripped shutdown bypass bistable and turn the shutdown bypass key switch in each channel.

SFAS - General

The SFAS is described in the DBNPS USAR Section 7.3, "Safety Features Actuation System (SFAS)". The function of the SFAS is to automatically prevent or limit fission product and energy release from the core, to isolate the containment vessel, and to initiate the operation of the Engineered Safety Features (ESF) equipment in the event of a loss-of-coolant accident (LOCA). The SFAS consists of four physically separated, redundant instrument channels. The SFAS monitors the following station variables: containment vessel (CV) pressure, RCS pressure, and Borated Water Storage Tank (BWST) level. SFAS is activated when two of the four instrument channels are tripped. This prevents the failure or spurious trip of one instrument channel from inadvertently tripping SFAS, leading to an unnecessary reactor shutdown.

SFAS - Bypasses

SFAS includes channel bypasses, operating bypasses, and shutdown bypasses.

The channel bypass permits test, calibration, or maintenance of the analog circuits of SFAS including the transmitters of the generating station variables. Each SFAS sensing channel is provided with one key operated rotary test trip bypass switch. This switch enables the operator to change the two-out-of-four coincidence matrices (logic channels) into a two-out-of-three mode for one given generating station variable. In effect, the operator may (for one sensing channel only) bypass one of the variables to each of the other logic channels. The logic channel associated with the sensing channel being bypassed remains unaffected by the bypass. The key and the operation of the switch is under administrative control.

Each logic channel of the SFAS system also includes two operating bypasses of the RCS pressure actuations, one for the RCS pressure low signal and the other for the RCS pressure low-low signal to allow the depressurization of the RCS without initiating the SFAS on RCS pressure trips. For this purpose, eight push-buttons are located at the main control console, two for each channel. These operating bypasses can only be actuated manually and only when the RCS pressure is below a block bistable setpoint. The bypass will automatically reset when the RCS pressure exceeds the block bistable's reset point. No operating bypasses are provided to prevent actuation of the SFAS on high CV pressure. The low BWST level signal provides only a permissive to allow transferring

the low pressure injection pump and containment spray pump suctions from the BWST to the containment emergency sump.

The SFAS Shutdown Bypass is provided to prevent spurious actuation of the SFAS and is used only when the SFAS is not required to be operable by the Technical Specifications. Use of the Shutdown Bypass will allow maintenance, modification, and testing of the bypassed portion of the SFAS without the possibility of spurious equipment actuation. The Shutdown Bypass is only used in Modes 5 (cold shutdown) and 6 (refueling) and when the reactor is defueled. The bypass is provided with a key actuated switch in each SFAS Logic cabinet (a total of eight) and individual push button switches, one push button switch for each piece of equipment in each Logic Channel. The bypass is provided with latch type relays which require electrical power to be set in the bypass position. This scheme prevents any repositioning of the relays without energization of the bypass circuitry. The key and the operation of the switch are under administrative control.

SFRCS – General

The SFRCS is described in the DBNPS USAR Section 7.4.1.3, "Steam and Feedwater Line Rupture Control System (SFRCS)." The function of the SFRCS is to prevent the release of high energy steam, to automatically start the Auxiliary Feedwater System in the event of a main steam line or main feedwater line rupture, to automatically start the Auxiliary Feedwater System on the loss of both main feed pumps or the loss of all four reactor coolant pumps, and to prevent steam generator overfill and subsequent spillover into the main steam lines. The SFRCS also provides a trip signal to the Anticipatory Reactor Trip System (ARTS).

SFRCS – Bypasses

The SFRCS is provided with both a channel and a shutdown bypass.

Each SFRCS instrument sensing channel is provided with a toggle switch and key switch channel bypass for testing. The channel bypass is maintained under administrative control and is not used in Modes 1 (power operation), 2 (startup), and 3 (hot standby).

The SFRCS shutdown bypass allows the operator to bypass each steam line low pressure channel to prevent initiation during normal cooldown when the main steam line pressure drops below the TS value. The shutdown bypasses can not be added unless main steam line pressure is below the TS value and are automatically reset when the main steam line pressure exceeds the TS value.

EFFECTS ON SAFETY:

Technical Specification Table 3.3-3

The proposed change to TS Table 3.3-3, Action 10, would allow an 8-hour delay in Action statement entry when an SFAS channel is placed in bypass solely for the

performance of a channel functional test, provided at least two of the three remaining channels are operable. The current TS Table 3.3-3, Action 10, requires that an inoperable channel be placed in the tripped condition within one hour. Currently, when a channel is placed in bypass for the purpose of performing a channel functional test, it is declared inoperable, and the Action statement is entered. If the channel functional test can not be completed within the hour, either the surveillance test would need to be exited, and the channel restored to operable status (i.e., bypass removed), or the channel would need to be tripped. If the channel is tripped, existing TS 3.0.6 may be invoked, and the system may be returned to service to complete the channel functional test. TS 3.0.6 states:

> Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to Specification 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

The proposed change to TS Table 3.3-3 would eliminate the requirement to immediately enter TS Table 3.3-3, Action 10, during channel functional testing and subsequently enter TS 3.0.6 should the duration of the test exceed one hour. The proposed change would also alleviate the negative human factor of perceived time pressure to complete the instrumentation testing within a short time period to avoid a tripped channel configuration. It would also reduce the likelihood of putting a channel into a tripped condition that makes the plant more vulnerable to an SFAS actuation as a result of a spurious trip of a second channel of instrumentation.

Since the time required to perform the channel functional test under the proposed revised TS would be the same as under the current TS, in either case, the cumulative time that the channel is incapable of providing a trip signal would be essentially unaffected.

The proposed change would require having at least two remaining channels operable in order to utilize the 8-hour allowance. This requirement in conjunction with the requirement to trip an inoperable channel ensures that the single failure criterion is met when the channel being tested is placed in bypass. If all three remaining channels are operable, the system will be in a 2-out-of-3 logic for actuation during the channel functional testing of one channel. If one of the remaining channels had previously been placed in trip to comply with the Action statement, the system would be in a 1-out-of-2 logic for actuation during the channel functional testing of one channel. In both of these cases, a single failure would not prevent system actuation.

This proposed change is similar to the Engineered Safety Features Actuation System Surveillance Requirement 3.3.5.2 of NUREG-1430, "Standard Technical Specifications - Babcock and Wilcox Plants," Revision 1, April 1995, that provides for up to an eight hour delay in entering required actions when performing channel functional testing. This proposed change to TS Table 3.3-3 would relieve the control room staff of the burden of making multiple Action statement entries and exits. The 8-hour allowance is limited to

use only during performance of channel functional tests and shall not be used for any other purpose. Since channel availability will not be affected by this change, there is no increase in risk as a result of this change. The requirement to have two remaining channels operable ensures that the single failure criterion is met. Therefore, the proposed change to TS Table 3.3-3 will have no adverse effect on nuclear safety.

Technical Specification Table 3.3-11

The proposed change to TS Table 3.3-11, Action 16, is similar to the proposed change to TS Table 3.3-3, Action 10, and would allow an 8-hour delay in Action statement entry when an SFRCS channel is placed in an inoperable condition solely for the performance of a channel functional test, provided the remaining actuation channel is operable. The current TS Table 3.3-11, Action 16, requires that the inoperable portion of a channel be placed in the tripped condition within one hour. Currently, when a channel is placed in an inoperable condition for the purpose of performing a channel functional test, it is declared inoperable, and the Action statement is entered. If the channel functional test can not be completed within the hour, either the surveillance test would need to be exited and the channel restored to operable status, or the inoperable portion of the actuation channel would need to be tripped. If the channel was placed in the tripped condition, existing TS 3.0.6 could then need to be invoked to allow completion of the test. The proposed change would allow for an eight hour delay before entering TS Table 3.3-11, Action 16, during channel functional testing, and subsequently the need to enter TS 3.0.6 should the duration of the test exceed one hour.

The SFRCS consists of two actuation channels, each of which contains two logic channels. For an SFRCS actuation to occur, both logic channels in either actuation channel must trip. Channel functional testing is performed on one logic channel at a time. During this testing, the logic channel being tested may be incapable of receiving a valid signal from its associated instrumentation and during different stages of the test may be in the tripped or untripped state. If the channel is in the tripped state, the tripping of the other logic channel in the same actuation channel or the tripping of both logic channels in the opposite actuation channel is required for SFRCS actuation. If the logic channel being tested is in the untripped state and incapable of receiving a valid signal, then both logic channels in the opposite actuation channel are required to trip for an SFRCS actuation. In order to use the 8-hour delay in Action statement entry, the actuation channel opposite the channel being tested would be required to be operable and capable of providing the SFRCS safety function.

The proposed change to TS Table 3.3-11 would eliminate the requirement to immediately enter TS Table 3.3-11, Action 16, during channel functional testing and subsequently enter TS 3.0.6 should the duration of the test exceed one hour. The proposed change would eliminate the negative human factor of perceived time pressure to complete the instrumentation testing within a short time period to avoid a tripped channel configuration. It would also reduce the likelihood of placing a channel in tripped condition that makes the plant more vulnerable to a shutdown caused by a spurious trip of a second channel. Under these circumstances with only one actuation channel inoperable,

the SFRCS configuration is similar to that when invoking the allowances of existing TS 3.0.6 to complete the testing. Since the time required to perform the channel functional test under the proposed revised TS would be the same as under the current TS, in either case, the cumulative time that the channel is incapable of providing a trip signal would be essentially unaffected.

This proposed change to TS Table 3.3-11 would relieve the control room staff of the burden of making multiple Action statement entries and exits. The 8-hour allowance is limited to use only during performance of channel functional tests and shall not be used for any other purpose. Since channel availability will not be affected by this change, there is no increase in risk as a result of this change. The requirement to have the remaining actuation channel operable provides for performance of the SFRCS safety function. Therefore, the proposed change to TS 3.3-11 will have no adverse effect on nuclear safety if approved.

Limiting Condition for Operation (LCO) 3.3.1.1 and Surveillance Requirement (SR) 4.3.1.1.2

The proposed change would modify LCO 3.3.1.1 and SR 4.3.1.1.2 to clarify that the bypass function being referred to is the shutdown bypass. The LCO presently refers to "bypasses" and the SR presently refers to the "total bypass function." The wording presently used in the SR was originally based on NUREG-0103, *Standard Technical Specifications for Babcock and Wilcox Pressurized Water Reactors*, Revision 0. This wording was revised in Revision 4 of NUREG-0103, and comparable wording does not exist in NUREG-1430, *Standard Technical Specifications - Babcock and Wilcox Plants*. Table 3.3-1, which is referenced by LCO 3.3.1.1, contains only the Shutdown Bypass High Pressure trip (Functional Unit 14).

Consistent with this clarification, testing to comply with the total bypass function requirement of SR 4.3.1.1.2 is accomplished by verifying that the shutdown bypass high pressure trip occurs when RCS pressure is above the TS setpoint.

The proposed change is an administrative change which clarifies the nomenclature in the SR and will have no adverse effect on nuclear safety if approved.

SR 4.3.2.1.2

The proposed change would clarify that the term "total bypass function" for SFAS in SR 4.3.2.1.2 refers to the RCS pressure operating bypass. The wording presently used in the SR was originally based on NUREG-0103, *Standard Technical Specifications for Babcock and Wilcox Pressurized Water Reactors*, Revision 0. This wording was revised in Revision 4 of NUREG-0103, and comparable wording does not exist in NUREG-1430, *Standard Technical Specifications - Babcock and Wilcox Plants*. The RCS pressure operating bypass is the only SFAS bypass referred to in TS Table 3.3-3 (Table Notation "*" and "**").

Consistent with this clarification, testing to comply with the total bypass function requirement of SR 4.3.2.1.2 is accomplished by verifying that the two RCS pressure operating bypasses cannot be added prior to decreasing below the appropriate TS values and that the bypasses are automatically removed prior to exceeding the appropriate TS values.

The proposed change is an administrative change which clarifies the nomenclature in the SR and will have no adverse effect on nuclear safety if approved.

SR 4.3.2.2.2

The proposed change would clarify that the term "total bypass function" for SFRCS in SR 4.3.2.2.2 refers to the shutdown bypass. The wording presently used in the SR was originally based on NUREG-0103, *Standard Technical Specifications for Babcock and Wilcox Pressurized Water Reactors*, Revision 0. This wording was revised in Revision 4 of NUREG-0103, and comparable wording does not exist in NUREG-1430, *Standard Technical Specifications - Babcock and Wilcox Plants*. The shutdown bypass is the only SFRCS bypass referred to in TS Table 3.3-11 (Table Notation "*").

Consistent with this clarification, testing to comply with the total bypass function requirement of SR 4.3.2.2.2 is accomplished by verifying that the SFRCS shutdown bypasses cannot be added prior to decreasing main steam line pressure below the appropriate TS value and that the bypasses are automatically removed prior to exceeding the appropriate TS value.

The proposed change is an administrative change which clarifies the nomenclature in the SR and will have no adverse effect on nuclear safety if approved.

TS Bases 3/4.3.1 and 3/4.3.2

The proposed changes to TS Bases 3/4.3.1 and 3/4.3.2 are associated with the proposed changes to TS Tables 3.3-3 and 3.3-11 and are administrative changes that will have no adverse effect on nuclear safety if approved.

SIGNIFICANT HAZARDS CONSIDERATION:

The Nuclear Regulatory Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazard exists due to a proposed amendment to an Operating License for a facility. A proposed amendment involves no significant hazards consideration if operation of the facility in accordance with the proposed changes would: (1) Not involve a significant increase in the probability or consequences of an accident previously evaluated; (2) Not create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) Not involve a significant reduction in a margin of safety. The Davis-Besse Nuclear Power Station (DBNPS) has reviewed the proposed changes and determined that a significant hazards consideration does not exist

because operation of the Davis-Besse Nuclear Power Station, Unit No. 1, in accordance with these changes would:

1a. Not involve a significant increase in the probability of an accident previously evaluated because no such accidents are affected by the proposed changes. The amendment application proposes to add a provision to TS Table 3.3-3, Safety Features Actuation System (SFAS) Instrumentation, and TS Table 3.3-11, Steam and Feedwater Rupture Control System (SFRCS) Instrumentation, to permit certain SFAS and SFRCS instrument channels to placed in an inoperable condition for up to 8 hours during surveillance testing without declaring the channel inoperable and entering the Action statement. This proposed change would reduce burden placed on the control room operators and is essentially administrative in nature. The proposed change to TS Bases 3/4.3.1 and 3/4.3.2, Reactor Protection System and Safety System Instrumentation, is associated with the changes to TS Tables 3.3-3 and 3.3-11. These changes will not significantly change testing methodology, system unavailability, or system reliability. Initiating conditions and assumptions remain as previously analyzed for accidents in the DBNPS Updated Safety Analysis Report (USAR).

The proposed changes to Limiting Condition for Operation 3.3.1.1, Surveillance Requirement (SR) 4.3.1.1.2, SR 4.3.2.1.2, and SR 4.3.2.2.2 to clarify the nomenclature of the Reactor Protection System (RPS), SFAS, and SFRCS bypass functions being tested are administrative in nature. These changes will not affect any plant hardware or the performance of any test. Initiating conditions and assumptions remain as previously analyzed for accidents in the DBNPS USAR.

1b. Not involve a significant increase in the consequences of an accident previously evaluated because the source term, containment isolation, or radiological releases are not affected by the proposed changes. Existing system and component redundancy is not affected by the proposed changes. The existing system and component operation is not affected by the proposed changes, and the assumptions used in evaluating the radiological consequences in the DBNPS USAR are not invalidated. Therefore, for each postulated accident the consequences remain bounded by the consequences from the previously evaluated accidents.

2. Not create the possibility of a new or different kind of accident from any accident previously evaluated because these proposed changes do not involve any physical changes to systems or components, nor do they alter the manner in which the systems or components are operated. No new or different accident initiators or equipment failure modes are introduced by the proposed changes.

3. Not involve a significant reduction in a margin of safety because, for the proposed changes, there are no new or significant changes to the initial conditions contributing to accident severity or consequences. Accordingly, there are no significant reductions in a margin of safety.

CONCLUSION:

On the basis of the above, the DBNPS has determined that the License Amendment Request does not involve a significant hazards consideration. As this License Amendment Request concerns a proposed change to the Technical Specifications that must be reviewed by the Nuclear Regulatory Commission, this License Amendment Request does not constitute an unreviewed safety question.

ATTACHMENTS:

Attached are the proposed marked-up changes to the Operating License.

REFERENCES:

1. DBNPS Operating License NPF-3, Appendix A, Technical Specifications, through Amendment 243.

2. DBNPS Updated Safety Analysis Report, through Revision 22.

3. NUREG-0103, "Standard Technical Specifications for Babcock and Wilcox Pressurized Water Reactors," Revisions 0 through 4.

4. NUREG-1430, "Standard Technical Specifications – Babcock and Wilcox Plants," Revision 1, April 1995.

3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR PROTECTION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1.1 As a minimum, the Reactor Protection System instrumentation channels and shutdown bypasses of Table 3.3-1 shall be OPERABLE.

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

4.3.1.1.1 Each Reactor Protection System instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the MODES and at the frequencies shown in Table 4.3-1.

4.3.1.1.2 The shutdown~~total~~ bypass function shall be demonstrated OPERABLE at least once per REFUELING INTERVAL during CHANNEL CALIBRATION testing of each channel affected by shutdown bypass operation.

4.3.1.1.3 The REACTOR PROTECTION SYSTEM RESPONSE TIME* of each reactor trip function shall be demonstrated to be within its limit at least once per REFUELING INTERVAL. Neutron detectors are exempt from response time testing; the response time of the neutron flux signal portion of the channel shall be measured from the neutron detector output or from the input of the first electronic component in the channel. Each test shall include at least one channel per function such that all channels are tested at least once every N times the REFUELING INTERVAL where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.

* The response times include the sensor (except for the neutron detectors), Reactor Protection System instrument delay, and the control rod drive breaker delay. A delay time has been assumed for the Reactor Coolant Pump monitor in the determination of the response time of the High Flux/Number of Reactor Coolant Pumps On functional unit.

INFORMATION ONLY

TABLE 3.3-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1. Manual Reactor Trip	2	1	2	1, 2 and *	1
2. High Flux	4	2	3	1, 2	2#, 10
3. RC High Temperature	4	2	3	1, 2	3#, 10
4. Flux - ΔFlux - Flow	4	2(a)(b)	3	1, 2	2#, 10
5. RC Low Pressure	4	2(a)	3	1, 2	3#, 10
6. RC High Pressure	4	2	3	1, 2	3#, 10
7. RC Pressure-Temperature	4	2(a)	3	1, 2	3#, 10
8. High Flux/Number of Reactor Coolant Pumps On	4	2(a)(b)	3	1, 2	3#, 10
9. Containment High Pressure	4	2	3	1, 2	3#, 10
10. Intermediate Range, Neutron Flux and Rate	2	N/A	2(c)	1, 2 and *	4
11. Source Range, Neutron Flux and Rate A. Startup B. Shutdown	2 2	N/A N/A	2 1	2## and * 3, 4 and 5	5 6
12. Control Rod Drive Trip Breakers	2 per trip system	1 per trip system	2 per trip system	1, 2 and *	7#, 8#
13. Reactor Trip Module	2 per trip system	1 per trip system	2 per trip system	1, 2 and *	7#
14. Shutdown Bypass High Pressure	4	2	3	2**, 3**, 4**, 5**	6#
15. SCR Relays	2	2	2	1, 2 and *	9#

TABLE 3.3-1 (Continued)

TABLE NOTATION

*With the control rod drive trip breakers in the closed position and the control rod drive system capable of rod withdrawal.

**When Shutdown Bypass is actuated.

#The provisions of Specification 3.0.4 are not applicable.

##High voltage to detector may be de-energized above 10^{-10} amps on both Intermediate Range channels.

(a) Trip may be manually bypassed when RCS pressure ≤ 1820 psig by actuating Shutdown Bypass provided that:

(1) The High Flux Trip Setpoint is ≤ 5% of RATED THERMAL POWER,

(2) The Shutdown Bypass High Pressure Trip Setpoint of ≤ 1820 psig is imposed, and

(3) The Shutdown Bypass is removed when RCS pressure > 1820 psig.

(b) Trip may be manually bypassed when Specification 3.10.3 is in effect.

(c) The minimum channels OPERABLE requirement may be reduced to one when Specification 3.10.1 or 3.10.2 is in effect.

ACTION STATEMENTS

ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and/or open the control rod drive trip breakers.

ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels STARTUP and/or POWER OPERATION may proceed provided both of the following conditions are satisfied:

a. The inoperable channel is placed in the bypassed or tripped condition within one hour.

b. Either, THERMAL POWER is restricted to ≤ 75% of RATED THERMAL POWER and the High Flux Trip Setpoint is reduced to ≤ 85% of RATED THERMAL POWER within 4 hours or the QUADRANT POWER TILT is monitored at least once per 12 hours.

TABLE 3.3-1 (Continued)

ACTION STATEMENTS (Continued)

ACTION 3 - With the number of OPERABLE channels one less than the Total Number of Channels STARTUP and POWER OPERATION may proceed provided the inoperable channel is placed in the bypassed or tripped condition within one hour.

ACTION 4 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:

a. ≤ 5% of RATED THERMAL POWER restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 5% of RATED THERMAL POWER.

b. > 5% of RATED THERMAL POWER, POWER OPERATION may continue.

INFORMATION ONLY

TABLE 3.3-1 (Continued)

ACTION STATEMENTS (Continued)

ACTION 5 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:

a. $\leq 10^{-10}$ amps on the Intermediate Range (IR) instrumentation, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 10^{-10} amps on the IR instrumentation.

b. $> 10^{-10}$ amps on the IR instrumentation, operation may continue.

ACTION 6 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, verify compliance with the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 within one hour and at least once per 12 hours thereafter.

ACTION 7 - With the number of OPERABLE channels one less than the Total Number of Channels STARTUP and/or POWER OPERATION may proceed provided all of the following conditions are satisfied:

a. Within 1 hour:

1. Place the inoperable channel in the tripped condition, or

2. Remove power supplied to the control rod trip device associated with the inoperative channel.

b. One additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.1.1.1, and the inoperable channel above may be bypassed for up to 30 minutes in any 24 hour period when necessary to test the trip breaker associated with the logic of the channel being tested per Specification 4.3.1.1.1. The inoperable channel above may not be bypassed to test the logic of a channel of the trip system associated with the inoperable channel.

TABLE 3.3-1 (Continued)

ACTION STATEMENTS (Continued)

ACTION 8 - With one of the Reactor Trip Breaker diverse trip features (undervoltage or shunt trip devices) inoperable, restore it to OPERABLE status in 48 hours or place the breaker in trip in the next hour.

ACTION 9 - With one or both channels of SCR Relays inoperable, restore the channels to OPERABLE status during the next COLD SHUTDOWN exceeding 24 hours.

ACTION 10 - With the number of channels OPERABLE one less than the Minimum Channels OPERABLE requirement, within one hour, place one inoperable channel in trip and the second inoperable channel in bypass, and restore one of the inoperable channels to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours and open the reactor trip breakers.

INFORMATION ONLY

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INFORMATION ONLY

TABLE 4.3-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. Manual Reactor Trip	N.A.	N.A.	S/U(1)	N.A.
2. High Flux	S	D(2), and Q(6,9)	N.A.	1, 2
3. RC High Temperature	S	R	SA(9)	1, 2
4. Flux - ΔFlux - Flow	S(4)	M(3) and Q(6,7,9)	N.A.	1, 2
5. RC Low Pressure	S	R	SA(9)	1, 2
6. RC High Pressure	S	R	SA(9)	1, 2
7. RC Pressure-Temperature	S	R	SA(9)	1, 2
8. High Flux/Number of Reactor Coolant Pumps On	S	Q(6,9)	N.A.	1, 2
9. Containment High Pressure	S	E	SA(9)	1, 2
10. Intermediate Range, Neutron Flux and Rate	S	E(6)	N.A.(5)	1, 2 and *
11. Source Range, Neutron Flux and Rate	S	E(6)	N.A.(5)	2, 3, 4 and 5
12. Control Rod Drive Trip Breakers	N.A.	N.A.	Q(8,9) and S/U(1)(8)	1, 2 and *
13. Reactor Trip Module Logic	N.A.	N.A.	Q(9)	1, 2 and *
14. Shutdown Bypass High Pressure	S	R	SA(9)	2**, 3**, 4**, 5**
15. SCR Relays	N.A.	N.A.	R	1, 2 and *

TABLE 4.3-1 (Continued)

NOTATION

(1) - If not performed in previous 7 days.

(2) - Heat balance only, above 15% of RATED THERMAL POWER.

(3) - When THERMAL POWER [TP] is above 50% of RATED THERMAL POWER [RTP] and at a steady state, compare out-of-core measured AXIAL POWER IMBALANCE [API_o] to incore measured AXIAL POWER IMBALANCE [API_i] as follows:

$$\frac{RTP}{TP}\,[API_o - API_i] = \text{Offset Error}$$

Recalibrate if the absolute value of the Offset Error is $\geq$ 2.5%.

(4) - AXIAL POWER IMBALANCE and loop flow indications only.

(5) - CHANNEL FUNCTIONAL TEST is not applicable. Verify at least one decade overlap prior to each reactor startup if not verified in previous 7 days.

(6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.

(7) - Flow rate measurement sensors may be excluded from CHANNEL CALIBRATION. However, each flow measurement sensor shall be calibrated at least once each REFUELING INTERVAL.

(8) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of both the undervoltage and shunt trip devices of the Reactor Trip Breakers.

(9) - Performed on a STAGGERED TEST BASIS.

* - With any control rod drive trip breaker closed.

** - When Shutdown Bypass is actuated.

INFORMATION ONLY

ADDITIONAL CHANGES PREVIOUSLY PROPOSED BY LETTER
Serial No. 2583 Date 7/26/99

INSTRUMENTATION

3/4.3.2 SAFETY SYSTEM INSTRUMENTATION

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2.1 The Safety Features Actuation System (SFAS) functional units shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4, with the exception of: Instrument Strings Functional Units b, c, d, e, and f and Interlock Channels Functional Unit a which shall be set consistent with the Allowable Value column of Table 3.3-4.

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

a. With a SFAS functional unit trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the functional unit inoperable and apply the applicable ACTION requirement of Table 3.3-3, until the functional unit is restored to OPERABLE status with the trip setpoint adjusted consistent with Table 3.3-4.

b. With a SFAS functional unit inoperable, take the action shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

4.3.2.1.1 Each SFAS functional unit shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST during the MODES and at the frequencies shown in Table 4.3-2.

4.3.2.1.2 The logic for the RCS pressure operating bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of functional units affected by the RCS pressure operating bypass operation. This RCS pressure operating ~~The total~~ bypass function shall be demonstrated OPERABLE at least once per REFUELING INTERVAL during CHANNEL CALIBRATION testing of each functional unit affected by the RCS pressure operating bypass operation.

4.3.2.1.3 The SAFETY FEATURES RESPONSE TIME* of each SFAS function shall be demonstrated to be within the limit at least once per REFUELING INTERVAL. Each test shall include at least one functional unit per function such that all functional units are tested at least once every N times the REFUELING INTERVAL where N is the total number of redundant functional units in a specific SFAS function as shown in the "Total No. of Units" Column of Table 3.3-3.

* The response times (except for manual initiation) include diesel generator starting and sequence loading delays, when applicable. The response time limit (except for manual initiation) includes movement of valves and attainment of pump or blower discharge pressure.

INFORMATION ONLY

TABLE 3.3-3

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF UNITS	UNITS TO TRIP	MINIMUM UNITS OPERABLE	APPLICABLE MODES	ACTION
1. INSTRUMENT STRINGS					
a. DELETED	DELETED	DELETED	DELETED	DELETED	DELETED
b. Containment Pressure - High	4	2	3	1, 2, 3	10#
c. Containment Pressure - High-High	4	2	3	1, 2, 3	10#
d. RCS Pressure - Low	4	2	3	1, 2, 3*	10#
e. RCS Pressure - Low-Low	4	2	3	1, 2, 3**	10#
f. BWST Level - Low-Low	4	2	3	1, 2, 3	10#
2. OUTPUT LOGIC					
a. Incident Level #1: Containment Isolation	2	1	2	1, 2, 3, 4	11
b. Incident Level #2: High Pressure Injection and Starting Diesel Generators	2	1	2	1, 2, 3, 4	11
c. Incident Level #3: Low Pressure Injection	2	1	2	1, 2, 3, 4	11
d. Incident Level #4: Containment Spray	2	1	2	1, 2, 3, 4	11
e. Incident Level #5: Containment Sump Recirculation Permissive	2	1	2	1, 2, 3, 4	11

TABLE 3.3-3 (Continued)

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF UNITS	UNITS TO TRIP	MINIMUM UNITS OPERABLE	APPLICABLE MODES	ACTION
3. MANUAL ACTUATION					
a. SFAS (except Containment Spray and Emergency Sump Recirculation)	2	2	2	1,2,3,4	12
b. Containment Spray	2	2	2	1,2,3,4	12
4. SEQUENCE LOGIC CHANNELS					
a. Sequencer	4	2/BUS	2/BUS	1,2,3,4	15#
b. Essential Bus Feeder Breaker Trip (90%)	4*****	2/BUS	2/BUS	1,2,3,4	15#
c. Diesel Generator Start, Load shed on Essential Bus (59%)	4	2/BUS	2/BUS	1,2,3,4	15#
5. INTERLOCK CHANNELS					
a. Decay Heat Isolation Valve	1	1	1	1,2,3	13#
b. Pressurizer Heaters	2	2	2	3******	14

TABLE 3.3-3 (Continued)

TABLE NOTATION

* Trip function may be bypassed in this MODE with RCS pressure below 1800 psig. Bypass shall be automatically removed when RCS pressure exceeds 1800 psig.

** Trip function may be bypassed in this MODE with RCS pressure below 660 psig. Bypass shall be automatically removed when RCS pressure exceeds 660 psig.

*** DELETED

**** DELETED

***** All functional units may be bypassed for up to one minute when starting each Reactor Coolant Pump or Circulating Water Pump.

****** When either Decay Heat Isolation Valve is open.

The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

ACTION 10 - With the number of OPERABLE functional units one less than the Total Number of Units, STARTUP and/or POWER OPERATION may proceed provided, within one hour (except as noted below), the inoperable functional unit is placed in the tripped condition. When one functional unit is placed in an inoperable status solely for performance of a CHANNEL FUNCTIONAL TEST, a declaration of inoperability and associated entry into this ACTION statement may be delayed for up to 8 hours, provided at least two other channels are OPERABLE. ~~both of the following conditions are satisfied:~~

~~a. The inoperable functional unit is placed in the tripped condition within one hour.~~

~~b. The Minimum Units OPERABLE requirement is met; however, one additional functional unit may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.~~

ACTION 11 - With any component in the Output Logic inoperable, trip the associated components within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

TABLE 3.3-3 (Continued)

ACTION STATEMENTS

ACTION 12 - With the number of OPERABLE Units one less than the Total Number of Units, restore the inoperable functional unit to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 13 - a. With less than the Minimum Units OPERABLE and indicated reactor coolant pressure $\geq$ 328 psig, both Decay Heat Isolation Valves (DH11 and DH12) shall be verified closed.

b. With Less than the Minimum Units OPERABLE and indicated reactor coolant pressure < 328 psig operation may continue; however, the functional unit shall be OPERABLE prior to increasing indicated reactor coolant pressure above 328 psig.

ACTION 14 - With less than the Minimum Units OPERABLE and indicated reactor coolant pressure < 328 psig, operation may continue; however, the functional unit shall be OPERABLE prior to increasing indicated reactor coolant pressure above 328 psig, or the inoperable functional unit shall be placed in the tripped state.

ACTION 15 - a. With the number of OPERABLE units one less than the Minimum Units Operable per Bus, place the inoperable unit in the tripped condition within one hour. For functional unit 4.a the sequencer shall be placed in the tripped condition by physical removal of the sequencer module. The inoperable functional unit may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.

b. With the number of OPERABLE units two less than the Minimum Units Operable per Bus, declare inoperable the Emergency Diesel Generator associated with the functional units not meeting the required minimum units OPERABLE and take the ACTION required of Specification 3.8.1.1.

INFORMATION ONLY

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ADDITIONAL CHANGE PREVIOUSLY PROPOSED BY LETTER Serial No. 2583 Date 7/26/99

TABLE 3.3-4

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
INSTRUMENT STRINGS		
a. DELETED	DELETED	DELETED
b. Containment Pressure – High	DELETED	≤ 19.38 psia##
c. Containment Pressure - High-High	DELETED	≤ 41.65 psia##
d. RCS Pressure – Low	N.A.	≥ 1576.2 psig##
e. RCS Pressure - Low-Low	N.A.	≥ 441.42 psig##
f. BWST Level	N.A.	≥ 101.6 and ≤ 115.4 in. H_2O##
SEQUENCE LOGIC CHANNELS		
a. Essential Bus Feeder Breaker Trip (90%)	≥ 3744 volts for ≤ 7.8 sec	≥ 3558 volts ≤ 7.8 sec
b. Diesel Generator Start, Load Shed on Essential Bus (59%)	≥ 2071 and ≤ 2450 volts for 0.5 ± 0.1 sec	≥ 2071 and ≤ 2450 volts for 0.5 ± 0.1 sec#
INTERLOCK CHANNELS		
a. Decay Heat Isolation Valve and Pressurizer Heater	N.A.	< 328 psig## *

Allowable Value for CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION
* Referenced to the RCS Pressure instrumentation tap.
Allowable Value for CHANNEL FUNCTIONAL TEST

INFORMATION ONLY

TABLE 3.3-5

SAFETY FEATURES SYSTEM RESPONSE TIMES

DELETED

TABLE 4.3-2

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. INSTRUMENT STRINGS				
a. DELETED	DELETED	DELETED	DELETED	DELETED
b. Containment Pressure - High	S	E	M(2)	1, 2, 3
c. Containment Pressure - High-High	S	E	M(2)	1, 2, 3
d. RCS Pressure - Low	S	R	M	1, 2, 3
e. RCS Pressure - Low-Low	S	R	M	1, 2, 3
f. BWST Level - Low-Low	S	E	M	1, 2, 3
2. OUTPUT LOGIC				
a. Incident Level #1: Containment Isolation	S	E	M	1, 2, 3, 4
b. Incident Level #2: High Pressure Injection and Starting Diesel Generators	S	E	M	1, 2, 3, 4
c. Incident Level #3: Low Pressure Injection	S	E	M	1, 2, 3, 4
d. Incident Level #4: Containment Spray	S	E	M	1, 2, 3, 4
e. Incident Level #5: Containment Sump Recirculation Permissive	S	E	M	1, 2, 3, 4
3. MANUAL ACTUATION				
a. SFAS (Except Containment Spray and Emergency Sump Recirculation)	NA	NA	M(1)	1, 2, 3, 4
b. Containment Spray	NA	NA	M(1)	1, 2, 3
4. SEQUENCE LOGIC CHANNELS	S	NA	M	1, 2, 3, 4

TABLE 4.3-2 (Continued)

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
5. INTERLOCK CHANNELS				
a. Decay Heat Isolation Valve	S	R	**	1, 2, 3
b. Pressurizer Heater	S	R	**	3 ##

**See Specification 4.5.2.d.1

TABLE NOTATION

(1) Manual actuation switches shall be tested at least once per REFUELING INTERVAL. All other circuitry associated with manual safeguards actuation shall receive a CHANNEL FUNCTIONAL TEST at least once per 31 days.

(2) The CHANNEL FUNCTIONAL TEST shall include exercising the transmitter by applying either vacuum or pressure to the appropriate side of the transmitter.

DELETED

When either Decay Heat Isolation Valve is open.

INSTRUMENTATION

STEAM AND FEEDWATER RUPTURE CONTROL SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2.2 The Steam and Feedwater Rupture Control System (SFRCS) instrumentation channels shown in Table 3.3-11 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-12, with the exception of the Steam Generator Level-Low Functional Unit which shall be set consistent with the Allowable Value column of Table 3.3-12.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With a SFRCS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-12, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-11, until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with Table 3.3-12.

b. With a SFRCS instrumentation channel inoperable, take the action shown in Table 3.3-11.

SURVEILLANCE REQUIREMENTS

4.3.2.2.1 Each SFRCS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST during the MODES and at the frequencies shown in Table 4.3-11.

4.3.2.2.2 The logic for the shutdown bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of channels affected by bypass operation. The ~~total~~shutdown bypass function shall be demonstrated OPERABLE at least once per REFUELING INTERVAL during CHANNEL CALIBRATION testing of each channel affected by bypass operation.

4.3.2.2.3 The STEAM AND FEEDWATER RUPTURE CONTROL SYSTEM RESPONSE TIME* of each SFRCS function shall be demonstrated to be within the limit at least once per REFUELING INTERVAL. Each test shall include at least one channel per function such that all channels are tested at least once every N times the REFUELING INTERVAL where N is the total number of redundant channels in a specific SFRCS function as shown in the "Total No. of Channels" Column of Table 3.3-11.

* The Main Steam Isolation Valves (MSIVs) response time is to be the time elapsed from the monitored variable exceeding the trip setpoint until the MSIV is fully closed. The Turbine Stop Valves (TSVs) response time is to be the time elapsed from the main steam line low pressure trip condition until the TSV is fully closed.

TABLE 3.3-11

STEAM AND FEEDWATER RUPTURE CONTROL SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	ACTION
1. Main Steam Pressure Low Instrument Channels*	2	1	2	16#
a. PS 3689B Steam Line 1 Channel 1				
b. PS 3689D Steam Line 2 Channel 1				
c. PS 3689F Steam Line 1 Channel 1				
d. PS 3689H Steam Line 2 Channel 1				
e. PS 3687A Steam Line 2 Channel 2				
f. PS 3687C Steam Line 1 Channel 2				
g. PS 3687E Steam Line 2 Channel 2				
h. PS 3687G Steam Line 1 Channel 2				

INFORMATION ONLY

TABLE 3.3-11 (Continued)

STEAM AND FEEDWATER RUPTURE CONTROL SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	ACTION
2. Feedwater/Steam Generator Differential Pressure - High Instrument Channels	2	1	2	16#
a. PDS 2685A Feedwater/Steam Generator 2 Channel 2 PDS 2685B Feedwater/Steam Generator 2 Channel 2				
b. PDS 2685C Feedwater/Steam Generator 2 Channel 1 PDS 2685D Feedwater/Steam Generator 2 Channel 1				
c. PDS 2686A Feedwater/Steam Generator 1 Channel 1 PDS 2686B Feedwater/Steam Generator 1 Channel 1				
d. PDS 2686C Feedwater/Steam Generator 1 Channel 2 PDS 2686D Feedwater/Steam Generator 1 Channel 2				
3. Steam Generator Level - Low Instrument Channels	2	1	2	16#
a. LSLL SP9B8 Steam Generator 1 Channel 1 LSLL SP9B9 Steam Generator 1 Channel 1				
b. LSLL SP9A6 Steam Generator 2 Channel 1 LSLL SP9A7 Steam Generator 2 Channel 1				
c. LSLL SP9A8 Steam Generator 2 Channel 2 LSLL SP9A9 Steam Generator 2 Channel 2				

TABLE 3.3-11 (Continued)

STEAM AND FEEDWATER RUPTURE CONTROL SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	ACTION
3. Steam Generator Level - Low Instrument Channels (continued)				
d. LSLL SP9B6 Steam Generator 1 Channel 2 LSLL SP9B7 Steam Generator 1 Channel 2	2	1	2	16#
4. Loss of RCP Channels				
a. Initiate AFPT #1	1	1	1	17
b. Initiate AFPT #2	1	1	1	17
c. Initiate AFPT #1 and Isolate SG #1	1	1	1	17
d. Initiate AFPT #2 and Isolate SG #2	1	1	1	17
5. Manual Initiation (Push buttons)				

TABLE 3.3-11 (Continued)

TABLE NOTATION

* May be bypassed when steam pressure is below 750 psig. Bypass shall be automatically removed when the steam pressure exceeds 800 psig.

\# The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

ACTION 16 - With the number of OPERABLE Channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable section of the channel is placed in the tripped condition within 1 hour (except as noted below). When a channel is placed in an inoperable status solely for performance of a CHANNEL FUNCTIONAL TEST, a declaration of inoperability and associated entry into this ACTION statement may be delayed for up to 8 hours, provided the remaining actuation channel is OPERABLE.

ACTION 17 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

TABLE 3.3-12

STEAM AND FEEDWATER RUPTURE CONTROL SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNITS	TRIP SETPOINTS	ALLOWABLE VALUES
1. Steam Line Pressure - Low	≥ 591.6 psig	≥ 591.6 psig* ≥ 586.6 psig**
2. Steam Generator Level - Low[(1)]	N.A.	≥ 16.9"*
3. Steam Generator Feedwater Differential Pressure - High[(2)]	≤ 197.6 psid	≤ 197.6 psid* ≤ 199.6 psid**
4. Reactor Coolant Pumps - Loss of	High ≤ 1384.6 amps Low ≥ 106.5 amps	≤ 1384.6 amps# ≥ 106.5 amps#

[(1)] Actual water level above the lower steam generator tubesheet.
[(2)] Where differential pressure is steam generator minus feedwater pressure.
*Allowable Value for CHANNEL FUNCTIONAL TEST
**Allowable Value for CHANNEL CALIBRATION
#Allowable Value for CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION

INFORMATION ONLY

INFORMATION ONLY

DELETED

TABLE 4.3-11

STEAM AND FEEDWATER RUPTURE CONTROL SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. Instrument Channel			
a. Steam Line Pressure - Low	S	E	M
b. Steam Generator Level - Low	S	R	M
c. Steam Generator - Feedwater Differential Pressure - High	S	E	M
d. Reactor Coolant Pumps - Loss of	S	E	M
2. Manual Actuation	NA	NA	R

ADDITIONAL CHANGES PREVIOUSLY PROPOSED BY LETTER Serial No. 2583 Date 7/26/99

3/4.3.1 and 3/4.3.2 REACTOR PROTECTION SYSTEM AND SAFETY SYSTEM INSTRUMENTATION

The OPERABILITY of the RPS, SFAS and SFRCS instrumentation systems ensure that 1) the associated action and/or trip will be initiated when the parameter monitored by each channel or combination thereof exceeds its setpoint, 2) the specified coincidence logic is maintained, 3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and 4) sufficient system functional capability is available for RPS, SFAS and SFRCS purposes from diverse parameters.

The OPERABILITY of these systems is required to provide the overall reliability, redundance and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the accident analyses.

The surveillance requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability. The response time limits for these instrumentation systems are located in the Updated Safety Analysis Report and are used to demonstrate OPERABILITY in accordance with each system's response time surveillance requirements.

SFAS Table 3.3-3, Action 10, and SFRCS Table 3.3-11, Action 16, allow entry into the ACTION statement to be delayed for up to 8 hours when a channel is placed in an inoperable status solely for performance of a CHANNEL FUNCTIONAL TEST, provided a sufficient number of channels remain OPERABLE. This 8-hour allowance allows reasonable time to perform the required surveillance testing without having to enter the ACTION statement and implement the required ACTIONS.

For the RPS, SFAS Table 3.3-4 Functional Unit Instrument Strings b, c, d, e, and f, and Interlock Channel a, and SFRCS Table 3.3-12 Functional Unit 2:

> Only the Allowable Value is specified for each Function. Nominal trip setpoints are specified in the setpoint analysis. The nominal trip setpoints are selected to ensure the setpoints measured by CHANNEL FUNCTIONAL TESTS do not exceed the Allowable Value if the bistable is performing as required. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable provided that operation and testing are consistent with the assumptions of the specific setpoint calculations. Each Allowable Value specified is more conservative than the analytical limit assumed in the safety analysis to account for instrument uncertainties appropriate to the trip parameter. These uncertainties are defined in the specific setpoint analysis.
>
> A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended function. Setpoints must be found within the specified Allowable Values. Any setpoint adjustment shall be consistent with the assumptions of the current specific setpoint analysis.
>
> A CHANNEL CALIBRATION is a complete check of the instrument channel, including the sensor. The test verifies that the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drift to

3/4.3.1 and 3/4.3.2 REACTOR PROTECTION SYSTEM AND SAFETY SYSTEM INSTRUMENTATION (Continued)

ensure that the instrument channel remains operational between successive tests. CHANNEL CALIBRATION shall find that measurement errors and bistable setpoint errors are within the assumptions of the setpoint analysis. CHANNEL CALIBRATIONS must be performed consistent with the assumptions of the setpoint analysis.

The frequency is justified by the assumption of an 18 or 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

The measurement of response time at the specified frequencies provides assurance that the RPS, SFAS, and SFRCS action function associated with each channel is completed within the time limit assumed in the safety analyses.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

The actuation logic for Functional Units 4.a., 4.b., and 4.c. of Table 3.3-3, Safety Features Actuation System Instrumentation, is designed to provide protection and actuation of a single train of safety features equipment, essential bus or emergency diesel generator. Collectively, Functional Units 4.a., 4.b., and 4.c. function to detect a degraded voltage condition on either of the two 4160 volt essential buses, shed connected loads, disconnect the affected bus(es) from the offsite power source and start the associated emergency diesel generator. In addition, if an SFAS actuation signal is present under these conditions, the sequencer channels for the two SFAS channels which actuate the train of safety features equipment powered by the affected bus will automatically sequence these loads onto the bus to prevent overloading of the emergency diesel generator. Functional Unit 4.a. has a total of four units, one associated with each SFAS channel (i.e., two for each essential bus). Functional Units 4.b. and 4.c. each have a total of four units, (two associated with each essential bus); each unit consisting of two undervoltage relays and an auxiliary relay.

An SFRCS channel consists of 1) the sensing device(s), 2) associated logic and output relays (including Isolation of Main Feedwater Non Essential Valves and Turbine Trip), and 3) power sources.

The SFRCS response time for the turbine stop valve closure is based on the combined response times of main steam line low pressure sensors, logic cabinet delay for main steam line low pressure signals and closure time of the turbine stop valves. This SFRCS response time ensures that the auxiliary feedwater to the unaffected steam generator will not be isolated due to a SFRCS low pressure trip during a main steam line break accident.

Safety-grade anticipatory reactor trip is initiated by a turbine trip (above 45 percent of RATED THERMAL POWER) or trip of both main feedwater pump turbines. This anticipatory trip will operate in advance of the reactor coolant system high pressure reactor trip to reduce the peak reactor coolant system pressure and thus reduce challenges to the pilot operated relief valve. This anticipatory reactor trip system was installed to satisfy Item II.K.2.10 of NUREG-0737. The justification for the ARTS turbine trip arming level of 45% is given in BAW-1893, October, 1985.

Docket Number 50-346
License Number NPF-3
Serial Number 2625
Attachment 2

Environmental Evaluation

The FirstEnergy Nuclear Operating Company (FENOC) has determined that the proposed amendment would change requirements with respect to the installation or use of a facility component located within the restricted area, as defined in 10CFR20, or would change an inspection or surveillance requirement. FENOC has evaluated the proposed changes and has determined that the changes do not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amount of effluent that may be released offsite, or (iii) a significant increase in the individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10CFR51.22 (c)(9). Therefore, pursuant to 10CFR51.22 (b), an environmental assessment of the proposed change is not required.

Docket Number 50-346
License Number NPF-3
Serial Number 2625
Enclosure 2

PROPOSED TECHNICAL SPECIFICATION CHANGES
REVISION BAR FORMAT

(7 Pages Follow)

3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR PROTECTION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1.1 As a minimum, the Reactor Protection System instrumentation channels and shutdown bypasses of Table 3.3-1 shall be OPERABLE.

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

4.3.1.1.1 Each Reactor Protection System instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the MODES and at the frequencies shown in Table 4.3-1.

4.3.1.1.2 The shutdown bypass function shall be demonstrated OPERABLE at least once per REFUELING INTERVAL during CHANNEL CALIBRATION testing of each channel affected by shutdown bypass operation.

4.3.1.1.3 The REACTOR PROTECTION SYSTEM RESPONSE TIME* of each reactor trip function shall be demonstrated to be within its limit at least once per REFUELING INTERVAL. Neutron detectors are exempt from response time testing; the response time of the neutron flux signal portion of the channel shall be measured from the neutron detector output or from the input of the first electronic component in the channel. Each test shall include at least one channel per function such that all channels are tested at least once every N times the REFUELING INTERVAL where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.

* The response times include the sensor (except for the neutron detectors), Reactor Protection System instrument delay, and the control rod drive breaker delay. A delay time has been assumed for the Reactor Coolant Pump monitor in the determination of the response time of the High Flux/Number of Reactor Coolant Pumps On functional unit.

INSTRUMENTATION

3/4.3.2 SAFETY SYSTEM INSTRUMENTATION

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2.1 The Safety Features Actuation System (SFAS) functional units shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4, with the exception of: Instrument Strings Functional Units b, c, d, e, and f and Interlock Channels Functional Unit a which shall be set consistent with the Allowable Value column of Table 3.3-4.

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

a. With a SFAS functional unit trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the functional unit inoperable and apply the applicable ACTION requirement of Table 3.3-3, until the functional unit is restored to OPERABLE status with the trip setpoint adjusted consistent with Table 3.3-4.

b. With a SFAS functional unit inoperable, take the action shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

4.3.2.1.1 Each SFAS functional unit shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST during the MODES and at the frequencies shown in Table 4.3-2.

4.3.2.1.2 The logic for the RCS pressure operating bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of functional units affected by the RCS pressure operating bypass operation. This RCS pressure operating bypass function shall be demonstrated OPERABLE at least once per REFUELING INTERVAL during CHANNEL CALIBRATION testing of each functional unit affected by the RCS pressure operating bypass operation.

4.3.2.1.3 The SAFETY FEATURES RESPONSE TIME* of each SFAS function shall be demonstrated to be within the limit at least once per REFUELING INTERVAL. Each test shall include at least one functional unit per function such that all functional units are tested at least once every N times the REFUELING INTERVAL where N is the total number of redundant functional units in a specific SFAS function as shown in the "Total No. of Units" Column of Table 3.3-3.

* The response times (except for manual initiation) include diesel generator starting and sequence loading delays, when applicable. The response time limit (except for manual initiation) includes movement of valves and attainment of pump or blower discharge pressure.

TABLE 3.3-3 (Continued)

TABLE NOTATION

* Trip function may be bypassed in this MODE with RCS pressure below 1800 psig. Bypass shall be automatically removed when RCS pressure exceeds 1800 psig.

** Trip function may be bypassed in this MODE with RCS pressure below 660 psig. Bypass shall be automatically removed when RCS pressure exceeds 660 psig.

*** DELETED

**** DELETED

***** All functional units may be bypassed for up to one minute when starting each Reactor Coolant Pump or Circulating Water Pump.

****** When either Decay Heat Isolation Valve is open.

The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

ACTION 10 - With the number of OPERABLE functional units one less than the Total Number of Units, STARTUP and/or POWER OPERATION may proceed provided, within one hour (except as noted below), the inoperable functional unit is placed in the tripped condition. When one functional unit is placed in an inoperable status solely for performance of a CHANNEL FUNCTIONAL TEST, a declaration of inoperability and associated entry into this ACTION statement may be delayed for up to 8 hours, provided at least two other channels are OPERABLE.

ACTION 11 - With any component in the Output Logic inoperable, trip the associated components within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

INSTRUMENTATION

STEAM AND FEEDWATER RUPTURE CONTROL SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2.2 The Steam and Feedwater Rupture Control System (SFRCS) instrumentation channels shown in Table 3.3-11 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-12, with the exception of the Steam Generator Level-Low Functional Unit which shall be set consistent with the Allowable Value column of Table 3.3-12.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With a SFRCS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-12, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-11, until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with Table 3.3-12.

b. With a SFRCS instrumentation channel inoperable, take the action shown in Table 3.3-11.

SURVEILLANCE REQUIREMENTS

4.3.2.2.1 Each SFRCS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST during the MODES and at the frequencies shown in Table 4.3-11.

4.3.2.2.2 The logic for the shutdown bypasses shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of channels affected by bypass operation. The shutdown bypass function shall be demonstrated OPERABLE at least once per REFUELING INTERVAL during CHANNEL CALIBRATION testing of each channel affected by bypass operation.

4.3.2.2.3 The STEAM AND FEEDWATER RUPTURE CONTROL SYSTEM RESPONSE TIME* of each SFRCS function shall be demonstrated to be within the limit at least once per REFUELING INTERVAL. Each test shall include at least one channel per function such that all channels are tested at least once every N times the REFUELING INTERVAL where N is the total number of redundant channels in a specific SFRCS function as shown in the "Total No. of Channels" Column of Table 3.3-11.

* The Main Steam Isolation Valves (MSIVs) response time is to be the time elapsed from the monitored variable exceeding the trip setpoint until the MSIV is fully closed. The Turbine Stop Valves (TSVs) response time is to be the time elapsed from the main steam line low pressure trip condition until the TSV is fully closed.

TABLE 3.3-11 (Continued)

TABLE NOTATION

* May be bypassed when steam pressure is below 750 psig. Bypass shall be automatically removed when the steam pressure exceeds 800 psig.

\# The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

ACTION 16 - With the number of OPERABLE Channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable section of the channel is placed in the tripped condition within 1 hour (except as noted below). When a channel is placed in an inoperable status solely for performance of a CHANNEL FUNCTIONAL TEST, a declaration of inoperability and associated entry into this ACTION statement may be delayed for up to 8 hours, provided the remaining actuation channel is OPERABLE.

ACTION 17 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

3/4.3.1 and 3/4.3.2 REACTOR PROTECTION SYSTEM AND SAFETY SYSTEM INSTRUMENTATION

The OPERABILITY of the RPS, SFAS and SFRCS instrumentation systems ensure that 1) the associated action and/or trip will be initiated when the parameter monitored by each channel or combination thereof exceeds its setpoint, 2) the specified coincidence logic is maintained, 3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and 4) sufficient system functional capability is available for RPS, SFAS and SFRCS purposes from diverse parameters.

The OPERABILITY of these systems is required to provide the overall reliability, redundance and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the accident analyses.

The surveillance requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability. The response time limits for these instrumentation systems are located in the Updated Safety Analysis Report and are used to demonstrate OPERABILITY in accordance with each system's response time surveillance requirements.

SFAS Table 3.3-3, Action 10, and SFRCS Table 3.3-11, Action 16, allow entry into the ACTION statement to be delayed for up to 8 hours when a channel is placed in an inoperable status solely for performance of a CHANNEL FUNCTIONAL TEST, provided a sufficient number of channels remain OPERABLE. This 8-hour allowance allows reasonable time to perform the required surveillance testing without having to enter the ACTION statement and implement the required ACTIONS.

For the RPS, SFAS Table 3.3-4 Functional Unit Instrument Strings b, c, d, e, and f, and Interlock Channel a, and SFRCS Table 3.3-12 Functional Unit 2:

> Only the Allowable Value is specified for each Function. Nominal trip setpoints are specified in the setpoint analysis. The nominal trip setpoints are selected to ensure the setpoints measured by CHANNEL FUNCTIONAL TESTS do not exceed the Allowable Value if the bistable is performing as required. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable provided that operation and testing are consistent with the assumptions of the specific setpoint calculations. Each Allowable Value specified is more conservative than the analytical limit assumed in the safety analysis to account for instrument uncertainties appropriate to the trip parameter. These uncertainties are defined in the specific setpoint analysis.
>
> A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended function. Setpoints must be found within the specified Allowable Values. Any setpoint adjustment shall be consistent with the assumptions of the current specific setpoint analysis.
>
> A CHANNEL CALIBRATION is a complete check of the instrument channel, including the sensor. The test verifies that the channel responds to the measured parameter within the necessary range and accuracy. CHANNEL CALIBRATION leaves the channel adjusted to account for instrument drift to

3/4.3.1 and 3/4.3.2 REACTOR PROTECTION SYSTEM AND SAFETY SYSTEM INSTRUMENTATION (Continued)

ensure that the instrument channel remains operational between successive tests. CHANNEL CALIBRATION shall find that measurement errors and bistable setpoint errors are within the assumptions of the setpoint analysis. CHANNEL CALIBRATIONS must be performed consistent with the assumptions of the setpoint analysis.

The frequency is justified by the assumption of an 18 or 24 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

The measurement of response time at the specified frequencies provides assurance that the RPS, SFAS, and SFRCS action function associated with each channel is completed within the time limit assumed in the safety analyses.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

The actuation logic for Functional Units 4.a., 4.b., and 4.c. of Table 3.3-3, Safety Features Actuation System Instrumentation, is designed to provide protection and actuation of a single train of safety features equipment, essential bus or emergency diesel generator. Collectively, Functional Units 4.a., 4.b., and 4.c. function to detect a degraded voltage condition on either of the two 4160 volt essential buses, shed connected loads, disconnect the affected bus(es) from the offsite power source and start the associated emergency diesel generator. In addition, if an SFAS actuation signal is present under these conditions, the sequencer channels for the two SFAS channels which actuate the train of safety features equipment powered by the affected bus will automatically sequence these loads onto the bus to prevent overloading of the emergency diesel generator. Functional Unit 4.a. has a total of four units, one associated with each SFAS channel (i.e., two for each essential bus). Functional Units 4.b. and 4.c. each have a total of four units, (two associated with each essential bus); each unit consisting of two undervoltage relays and an auxiliary relay.

An SFRCS channel consists of 1) the sensing device(s), 2) associated logic and output relays (including Isolation of Main Feedwater Non Essential Valves and Turbine Trip), and 3) power sources.

The SFRCS response time for the turbine stop valve closure is based on the combined response times of main steam line low pressure sensors, logic cabinet delay for main steam line low pressure signals and closure time of the turbine stop valves. This SFRCS response time ensures that the auxiliary feedwater to the unaffected steam generator will not be isolated due to a SFRCS low pressure trip during a main steam line break accident.

Safety-grade anticipatory reactor trip is initiated by a turbine trip (above 45 percent of RATED THERMAL POWER) or trip of both main feedwater pump turbines. This anticipatory trip will operate in advance of the reactor coolant system high pressure reactor trip to reduce the peak reactor coolant system pressure and thus reduce challenges to the pilot operated relief valve. This anticipatory reactor trip system was installed to satisfy Item II.K.2.10 of NUREG-0737. The justification for the ARTS turbine trip arming level of 45% is given in BAW-1893, October, 1985.

Docket Number 50-346
License Number NPF-3
Serial Number 2625
Enclosure 3

COMMITMENT LIST

THE FOLLOWING LIST IDENTIFIES THOSE ACTIONS COMMITTED TO BY THE DAVIS-BESSE NUCLEAR POWER STATION (DBNPS) IN THIS DOCUMENT. ANY OTHER ACTIONS DISCUSSED IN THE SUBMITTAL REPRESENT INTENDED OR PLANNED ACTIONS BY THE DBNPS. THEY ARE DESCRIBED ONLY FOR INFORMATION AND ARE NOT REGULATORY COMMITMENTS. PLEASE NOTIFY THE MANAGER – REGULATORY AFFAIRS (419-321-8450) AT THE DBNPS OF ANY QUESTIONS REGARDING THIS DOCUMENT OR ANY ASSOCIATED REGULATORY COMMITMENTS.

COMMITMENTS	DUE DATE
None	N/A