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SUBJECT: Application for amend to license NPF-21,revising TS 3/4.1.3.1, "Reactivity Control Sys."

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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October 31, 1994
GO2-94-248

Docket No. 50-397

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21**
REQUEST FOR AMENDMENT TO TECHNICAL SPECIFICATION 3/4.1.3.1, "REACTIVITY CONTROL SYSTEMS"

References:

1) Letter GO2-90-178, dated October 23, 1990, GC Sorensen (SS) to NRC, "Request for Amendment to Technical Specification 3.1.3.1, Actions for Inoperable Scram Discharge Volume Vent and Drain Lines"

2) Letter, dated November 17, 1993, JW Clifford (NRC) to JV Parrish (SS), "Request for Additional Information with Regard to Proposed Amendment to Technical Specification (TS) 3.1.3.1 - Control Rods, for Washington Nuclear Plant, Unit No. 2 (TAC No. M77947)"

3) Letter GO2-93-029, dated February 10, 1993, GC Sorensen (SS) to NRC, "Request for Amendment to Technical Specification 4.1.3.1.4.a, Reactivity Control Systems, Scram Discharge Volume Valve Testing"

4) Letter GO2-94-046, dated February 22, 1994, JV Parrish (SS) to NRC, "Request for Amendment to Technical Specification 3.1.3.1, Actions for Inoperable Scram Discharge Volume Vent and Drain Lines, Response to Request for Additional Information"

5) Letter GO2-94-208, dated September 2, 1994, JV Parrish (SS) to NRC, "Withdrawal of Requests for Amendment to Technical Specifications"

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, the Supply System hereby requests an amendment to the WNP-2 Technical Specifications. This amendment request combines and supersedes the amendment requests of References 1 and 3 and proposes to (1) provide an allowed outage time (AOT) for the scram discharge volume (SDV) vent and drain valves and (2) delete the requirement for the SDV vent and drain valve surveillance to be performed from a normal control rod configuration of less than or equal to 50% rod density. It is requested that review and approval of this amendment be completed by February 17, 1995 to support continued plant operation and allow time for required procedure revisions.

It is the Supply System's intent to take credit for SDV vent and drain valve testing performed during the Spring 1994 Maintenance and Refueling Outage (R-9). The testing satisfies Surveillance Requirement 4.1.3.1.4.a as proposed in (2) above, which allows the surveillance to be performed during shutdown conditions. The surveillance is due March 17, 1995; however, the plant will still be operating at that time. The next scheduled plant outage is planned for April 1995. Taking credit for the testing already completed will avoid a scram at power that would subject the plant to an unnecessary transient that challenges plant safety systems.

This Technical Specification amendment request is subdivided as follows:

- Attachment 1 provides a discussion and the justification for the proposed changes.
- Attachment 2 describes the Supply System's evaluation of the proposed changes performed in accordance with 10 CFR 50.92(c).
- Attachment 3 includes the affected pages of the Technical Specifications with the proposed changes indicated.

As discussed in Attachment 2, the Supply System has concluded that the proposed changes to the WNP-2 Technical Specifications do not involve a significant hazards consideration. In addition, as discussed herein, the proposed changes do not create a potential for a significant change in the types or a significant increase in the amount of any effluents that may be released offsite, nor do the changes involve a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the changes meet the eligibility criteria for a categorical exclusion as set forth in 10 CFR 51.22(c)(9). Therefore, in accordance with 10 CFR 51.22(b), an environmental assessment of the changes is not required.

This Technical Specification amendment request has been reviewed and approved by the WNP-2 Plant Operations Committee and the Supply System Corporate Nuclear Safety Review Board. In accordance with 10 CFR 50.91, the State of Washington has been provided a copy of this letter.

Should you have any questions or desire additional information regarding this matter, please call me or Mr. D.A. Swank at (509) 377-4563.

Sincerely,

J.V. Parrish (Mail Drop 1023)
Assistant Managing Director, Operations

CDM/ml
Attachments

cc: LJ Callan - NRC RIV
KE Perkins, Jr. - NRC RIV, Walnut Creek Field Office
NS Reynolds - Winston & Strawn
JW Clifford - NRC
DL Williams - BPA/399
NRC Sr. Resident Inspector - 927N
FS Adair - EFSEC

STATE OF WASHINGTON)
)
COUNTY OF BENTON)

Subject: Request for Amend to TS 3/4.1.3.1
Reactivity Control Systems

I. J. V. PARRISH, being duly sworn, subscribe to and say that I am the Assistant Managing Director, Operations for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that I have the full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information, and belief the statements made in it are true.

DATE Oct 31, 1994

J. V. Parrish, Assistant Managing Director
Operations

On this date personally appeared before me J. V. PARRISH, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

GIVEN under my hand and seal this 31 day of October 1994.

Notary Public in and for the
STATE OF WASHINGTON

Residing at Kennewick, WA

My Commission Expires 4/28/98

DISCUSSION AND JUSTIFICATION FOR THE PROPOSED CHANGES

The purpose of the scram discharge volume (SDV) is to serve as a collection volume for reactor coolant displaced by the control rod drive (CRD) pistons during a scram. The SDV is described in Subsection 4.6.1.1.2.4 of the WNP-2 Final Safety Analysis Report (FSAR). During normal operation, the SDV vent and drain valves remain open to allow operational leakage from the CRDs to drain from the SDV to the reactor building equipment drain sump. This ensures that a sufficient air volume is available in the SDV at all times to allow a complete scram. The SDV vent lines are open to the reactor building atmosphere to assure proper drainage of the SDV.

The SDV consists of header piping that connects to the scram outlet valve of each control rod hydraulic control unit and drains into an instrument volume. There are two headers and two instrument volumes, each receiving approximately one-half of the 185 CRD piston discharges. The two instrument volumes are connected to a common drain line, which has two redundant air operated isolation valves in series. Similarly, the two headers are connected to a common vent line having two redundant air operated isolation valves in series. The drain line is hard piped to the reactor building equipment drain sump, and the vent line is hard piped to a reactor building floor drain sump, with the discharge pipe below the water level. Except for two test pushbuttons, which are used for valve stroke timing, there are no controls in the control room for operating these valves. The valves are located in the reactor building and may be operated locally. They close automatically upon receipt of a scram signal to isolate the SDV to prevent leakage of reactor coolant past the CRD seals from entering the reactor building equipment drain sump following a scram. The valves also close automatically upon loss of air to the valves or electrical power to the associated solenoid pilot valves. Following a scram, the valves will reopen automatically when the scram signal is reset.

The two redundant automatic isolation valves in each SDV vent and drain line provide assurance that the SDV will be isolated during a scram, thereby limiting the amount of reactor coolant discharged to the reactor building drain sumps. The NRC staff has reviewed the consequences of a structural failure of the SDV following a scram in NUREG-0803, "Generic Safety Evaluation Report Regarding Integrity of BWR Scram System Piping." In the NUREG safety evaluation, the NRC staff concluded that, for a bounding leakage case corresponding to a rupture of the SDV, offsite doses would be well within the 10 CFR Part 100 reference values and adequate core cooling would be maintained. The failure to isolate one or more SDV vent or drain lines is bounded by the NUREG evaluation.

In order to permit control rods to insert completely during a scram, an adequate free volume must exist in the SDV to accommodate the water displaced by the CRD pistons as the control rods are inserted into the reactor. As a precautionary measure, the reactor will automatically scram if the water level in the SDV instrument volume exceeds the high level setpoint. This assures that the reactor will shutdown while an adequate volume remains in the SDV to support full insertion of the control rods. The SDV high level scram can be manually blocked only when the reactor mode switch is in the "Shutdown" or "Refuel" positions. This permits the control room operators to reset the scram signal, which automatically reopens the SDV vent and drain valves to drain the SDVs. Water level in the SDV is detected by both float-type level switches and differential pressure (dp) type level transmitters. Separate level switches actuate a high level alarm in the control room and establish a control rod withdrawal block condition before reaching the SDV high level scram setpoint. This gives operators time to take corrective action before the scram occurs.

During normal operation, the only potential source of leakage into the SDV is from CRD seal leakage past the scram outlet valves. This leakage is typically maintained at very small values, because excessive leakage past the scram outlet valves would cause the control rods to drift. A drifting rod can initiate a rod block, as well as a scram, if the associated trip setpoints are exceeded. If the SDV drain lines were isolated, SDV level would increase due to normal scram outlet valve leakage. The leakage rate was estimated in Reference 4 to be approximately 40 gallons per hour. As discussed in WNP-2 Technical Specification Limiting Safety System Settings Bases 2.2.1.8, "Scram Discharge Volume Water Level - High," each SDV instrument volume provides 64.9 gallons of margin between the high level alarm and the high level automatic scram setpoints. Hence, the level increase allows approximately 1.6 hours to respond to the SDV high level alarm in the control room before actuation of the automatic scram. This is ample time to take action to reduce a SDV instrument volume level to prevent the scram.

Currently, WNP-2 Technical Specifications do not provide an allowed outage time (AOT) for the CRD system SDV vent and drain valves to allow time for restoration should one of these valves become inoperable. If one or more of the valves are discovered to be inoperable, an immediate plant shutdown would be required in accordance with Limiting Condition for Operation (LCO) 3.0.3. This situation limits plant operational flexibility and increases the risk of a plant scram and challenges to safety systems.

The Supply System proposes to amend Technical Specification 3.1.3.1 to include the following AOTs for the SDV vent and drain valves:

d.[#] With one or more SDV vent or drain lines with one valve inoperable,

1. Isolate[##] the associated line within 7 days.

2. Otherwise, be in HOT SHUTDOWN within the next 12 hours.

e.# With one or more SDV vent or drain lines with both valves inoperable,

1. Isolate## the associated line within 8 hours.

2. Otherwise, be in HOT SHUTDOWN within the next 12 hours.

#Separate ACTION statement entry is allowed for each SDV vent and drain line.

##An isolated line may be unisolated under administrative control to allow draining and venting of the SDV.

Proposed Technical Specification Action Statement 3.1.3.1.d prescribes actions if one of the two redundant valves in a SDV vent or drain line becomes inoperable. With one or more SDV vent or drain valves inoperable, the isolation function would be maintained since the redundant valve in the affected line would perform its safety function of isolating the SDV. Therefore, proposed Action Statement 3.1.3.1.d allows 7 days to repair the inoperable valve or to isolate the affected line. If the affected line is not isolated within the 7 day time period, action must be initiated to be in hot shutdown within the next 12 hours. The 7 day AOT is considered reasonable, given the level of redundancy in the SDV vent and drain lines, and the acceptably low probability of a valve failing its surveillance test combined with a scram occurring in the next 7 days and a failure of the redundant valve. The probability of this condition occurring is about 8.2×10^{-7} per year.

Proposed Action Statement 3.1.3.1.e would permit up to 8 hours to effect repairs should there be two inoperable valves in the same SDV vent or drain line, or to isolate the affected line. If this requirement is not met, action must be initiated to be in hot shutdown within the following 12 hours. The 8 hour AOT is appropriate given the low probability of entering the action statement, combined with a scram occurring during the time that both valves in one or more SDV vent or drain lines are allowed to be inoperable. The probability of this condition occurring is about 2.6×10^{-7} year.

Note ## is proposed to allow periodic opening of an isolated line under administrative control for venting and draining of the SDV instrument volume. As previously described, there is ample time and warning to allow the instrument volume to be drained before an automatic scram on high level. In the event of a scram with vent or drain lines unisolated for instrument volume venting and draining, the release of reactor coolant to the reactor building floor drain or equipment drain sump through the unisolated lines can be terminated. The operable SDV vent and drain valves would close automatically on the scram signal to isolate the lines. If both

valves in a line were inoperable, the reactor coolant release could be terminated by resetting the scram from the control room or by manually closing the valves. Resetting the scram automatically closes the scram outlet valves, isolating the CRD discharge path to the SDV.

Note # is proposed to treat each vent and drain line separately by permitting separate action statement entry for each SDV vent and drain line. This Note is not safety significant since the probability of entering the proposed action statements is acceptably low.

Proposed Action Statements 3.1.3.1.d and 3.1.3.1.e and the associated Notes are consistent with Revision 0 of the BWR-4 and BWR-6 Improved Technical Specifications (ITS), NUREG-1433 and 1434, respectively. The proposed action statements are also consistent with LaSalle County Station Units 1 and 2 Technical Specification Amendments 89 and 74, respectively, which were approved by the NRC staff on January 15, 1993.

Technical Specification Surveillance Requirement 4.1.3.1.4 currently states, in part:

"The scram discharge volume shall be determined OPERABLE by demonstrating:

a. The scram discharge volume drain and vent valves OPERABLE, when control rods are scram tested from a normal control rod configuration of less than or equal to 50% ROD DENSITY at least once per 18 months,* by verifying that the drain and vent valves:

   1. Close within 30 seconds after receipt of a signal for control rods to scram, and

   2. Open when the scram signal is reset.

*The provisions of Specification 4.0.4 are not applicable for entry into OPERATIONAL CONDITION 2 provided the surveillance is performed within 12 hours after achieving less than or equal to 50% ROD DENSITY."

This surveillance requires a plant scram in Operational Condition 1 (Power Operation) or Operational Condition 2 (Startup) to meet the requirement for a normal control rod configuration of less than or equal to 50% rod density. The scram is performed solely to verify operability of the SDV vent and drain valves and, as such, cannot be performed in conjunction with other required tests. Performing this surveillance at power subjects the plant to an unnecessary transient every 18 months (usually every 12 months at WNP-2) that challenges plant safety systems.

The Supply System proposes to amend Technical Specification Surveillance Requirement 4.1.3.1.4.a as follows:

The scram discharge volume shall be determined OPERABLE by demonstrating:

a. The scram discharge volume drain and vent valves OPERABLE at least once per 18 months by verifying that the drain and vent valves:

   1. Close within 30 seconds after receipt of an actual or simulated scram signal, and

   2. Open when the actual or simulated scram signal is reset.

Proposed Surveillance Requirement 4.1.3.1.4.a deletes the requirement to perform the surveillance with control rods withdrawn and adds the option of verifying SDV vent and drain valve operability using an actual or simulated scram signal. This would allow the surveillance to be performed during shutdown conditions, which would eliminate approximately 20 scrams at power over the current 40 year life of the plant and prevent the concomitant transients and challenges to plant safety systems. It is also proposed to delete Note * at the bottom of page 3/4 1-5, which gives exception to Technical Specification 4.0.4, since the proposed surveillance requirement removes the need to change modes to perform the surveillance.

The operability of the SDV vent and drain valves can be satisfactorily demonstrated during an actual or simulated scram from shutdown conditions even though the surveillance test conditions do not match power conditions. At shutdown, reactor coolant temperatures and pressures are nearly ambient, and the CRD discharge flow is reduced due to the rods being fully inserted. The maximum SDV pressure (back pressure) for a test at shutdown will be equal to the static pressure head of the reactor pressure vessel (RPV) water, as opposed to full reactor pressure for a test at 50% rod density. However, the back pressure and CRD discharge due to a scram from power conditions will not significantly affect the SDV vent and drain valve closure times. Procedures performed at LaSalle County Station demonstrated that there is less than or equal to a 1 second difference in valve closing time from a scram at less than or equal to 50% rod density versus the closure time from either the test pushbuttons or a cold shutdown scram with all rods full in. The test pushbuttons provide simulated Reactor Protection System (RPS) scram logic signals to the SDV vent and drain valve solenoid pilot valves to initiate the valve closure response. WNP-2 has a similar SDV design as LaSalle, and testing at WNP-2 demonstrated that there is less than a 1 second difference in valve closing time from a scram at less than or equal to 50% rod density versus the closure time using the test pushbuttons during either power or cold shutdown conditions. These test results show that the differences in temperatures,

pressures, and CRD discharge flows between power and cold shutdown conditions have a negligible effect on SDV vent and drain valve closing times.

The proposed surveillance requirement will not demonstrate the ability of the SDV vent and drain valves to open against a back pressure equal to full reactor pressure. However, the valves are verified to be open following a scram reset as part of WNP-2 Scram Recovery Procedure 3.3.1, "Reactor Scram." Thus, the ability of the valves to open against full reactor pressure will be demonstrated after each reactor scram during operation. Any necessary repairs and post maintenance operability testing would be performed prior to startup.

The proposed amendment to Surveillance Requirement 4.1.3.1.4.a and the associated deletion of Note * are consistent with Revision 0 of the BWR-4 and BWR-6 ITS, NUREG-1433 and 1434, respectively. The proposed amendments ensure that the SDV will be isolable and that the CRD system will effect a safe shutdown as discussed in the Standard Review Plan, NUREG-0800, Section 4.6, "Functional Design of the Control Rod Drive System." Furthermore, the proposed amendments use language very similar to Technical Specification Amendments 89 and 74 for LaSalle County Station Units 1 and 2, respectively, which were approved by the NRC staff on January 15, 1993. The only difference is that LaSalle did not specify that the scram signal could be either "actual or simulated." Although, based on the information contained in their amendment request submittal, this was their intent.

EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

In accordance with the criteria for defining a significant hazards consideration established in 10 CFR 50.92, the Supply System has evaluated the proposed amendment to WNP-2 Technical Specification 3.1.3.1 and determined that it does not represent a significant hazards consideration. The following discussion is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The primary functions of the SDV vent and drain valves are to isolate the SDV following a scram to stop leakage of reactor coolant past the CRD seals and to reopen following a scram reset to drain the reactor coolant from the SDV to the reactor building equipment drain sump. The SDV is sized to accept CRD over piston discharge water from all 185 CRDs. The SDV vent and drain valves reopen when the scram signal is reset to provide assurance that there is sufficient SDV volume available to accept the CRD discharge in the event of another scram. Each vent and drain line contains two redundant valves in series, which close to isolate the SDV on a scram signal.

   Proposed Action Statement 3.1.3.1.d allows 7 days to repair an inoperable valve when the redundant valve is still operable, or isolate the affected line. The reliability of the isolation function is reduced during the period of the 7 day Allowed Outage Time (AOT) since a single failure could prevent a redundant valve from isolating a SDV vent or drain line. As a result, the proposed 7 day AOT introduces an increase in the risk of an unisolated path for reactor coolant release to the reactor building floor drain or equipment drain sump. However, the reduction in reliability can only affect plant safety if the redundant valve should fail to close during an accident involving core damage. The probability of two valves in series failing to isolate the SDV upon demand is about 4.9×10^{-5}. The redundant valve is designed to automatically close in response to a scram signal or upon loss of air or electrical power. The probability of having one valve fail a surveillance test, combined with a subsequent scram and redundant valve failure during the 7 day AOT following the surveillance is about 8.2×10^{-7} per year. The risk of failure to isolate the SDV is increased by about 2% (as determined by the WNP-2 Individual Plant Evaluation (IPE)) by proposed Action Statement 3.1.3.1.d, which is not considered significant.

   A failure of the SDV to isolate during a scram generally does not pose a hazard because the reactor coolant from CRD discharge and seal leakage is routed to the reactor building drain sumps. The release of reactor coolant can be terminated by resetting the scram from the control room, which would close the scram outlet valves, or by manually

closing the isolation valves located in the reactor building. Failure of the SDV to isolate can pose a risk of higher consequences if a core damage accident occurs simultaneously. The increased risk of activity release during a core damage accident due to addition of the 7 day AOT is less than 1×10^{-9} per year.

Proposed Action Statement 3.1.3.1.e allows 8 hours for repair when both valves in a line are inoperable. If a scram should occur during this 8 hour period, both valves in a SDV vent or drain line could fail to isolate the line, creating a path for reactor coolant release to the reactor building floor drain or equipment drain sump. The probability of having to enter the proposed action statement is low, at about 4.9×10^{-5} per year. The probability of entering the action statement, combined with a scram occurring in the following 8 hours is about 2.6×10^{-7} per year. This represents less than a 1% increase in the probability of SDV isolation failure upon demand during normal operation, which is not considered significant.

As stated above, a failure of the SDV to isolate during a scram generally does not pose a hazard. The reactor coolant from CRD discharge and seal leakage is routed to the reactor building equipment drain sump. The release of reactor coolant can be terminated by resetting the scram from the control room or by manually closing the isolation valves located in the reactor building. Failure of the SDV to isolate can pose a risk of higher consequences if a core damage accident occurs simultaneously. The increased risk of radioactivity release during a core damage accident due to addition of the 8 hour AOT is less than 1×10^{-9} per year. To date, there have not been any instances at WNP-2 where both valves in a SDV vent or drain line were inoperable at the same time during plant operation. If this unlikely event were to occur, the proposed action statement would require the affected line to be isolated within 8 hours. With a SDV vent or drain line isolated, normal operational leakage from the scram outlet valves would cause the SDV instrument volume level to increase. However, ample time would exist after receipt of a SDV high level alarm in the control room to drain the SDV instrument volume to prevent actuation of an automatic scram on high SDV level.

Since it is unlikely that both valves in a SDV vent or drain line would be inoperable and isolated, the periodic opening of an isolated line under administrative control for SDV instrument volume venting and draining in accordance with proposed Note ## is expected to be very infrequent. In addition, Proposed Note # does not adversely affect plant safety by permitting separate action statement entry for each vent and drain line since the probability of entering the proposed action statements is low.

Based on the information presented above, it is concluded that the AOTs proposed in Action Statements 3.1.3.1.d and 3.1.3.1.e and the associated Notes do not represent changes that involve a significant increase in the probability of an accident previously evaluated.

As discussed above, the proposed AOTs and the associated Notes introduce a small increase in the risk of an unisolated path for reactor coolant release to the reactor building floor drain or equipment drain sump through an unisolated SDV vent or drain line. However, this event is bounded by the NUREG-0803 evaluation of the consequences of a postulated reactor scram and SDV rupture. Based on the NUREG safety evaluation, the volume of coolant lost via the bounding leakage pathway is relatively small (approximately 550 gpm or the equivalent of a 1.008 inch break), and adequate core cooling would be maintained such that no fuel failures are predicted for the event. The NRC staff concluded in the NUREG safety evaluation that resulting reactor building flooding for this event did not adversely impact safety-related equipment. The NRC staff also concluded that the area of the reactor building where the leak occurs will become contaminated only to the activity level normally present in the reactor coolant, and offsite doses would be well within the 10 CFR Part 100 reference values for plants operating with Standard Technical Specification (STS) coolant activity limits (0.2 μCi/gm). The release of reactor coolant through an unisolated SDV vent or drain line can be terminated by resetting the scram from the control room, which would close the scram outlet valves, or by manually closing the isolation valves located in the reactor building. The NUREG-0803 evaluation determined that the reactor building would be accessible to terminate leakage during a postulated reactor scram and SDV rupture with appropriate radiological precautions. In addition, the SDV vent and drain lines route the release in a controlled manner to the reactor building floor drain and equipment drain sumps. Thus, the consequences are significantly less than those of the SDV rupture analysis.

The WNP-2 FSAR Accident Analyses, Section 15.6, "Decrease in Reactor Coolant Inventory," acceptance limits for radiological consequences are based on the guidance set forth in 10 CFR Part 100. Since WNP-2 operates in accordance with the STS coolant activity limits and the offsite dose reference values of 10 CFR Part 100, the consequences established in the NUREG-0803 safety evaluation bound the consequences of an unisolated SDV vent or drain line event. Therefore, the AOTs proposed in Action Statements 3.1.3.1.d and 3.1.3.1.e and the associated Notes do not represent changes that involve a significant increase in the consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

The AOTs proposed in Action Statements 3.1.3.1.d and 3.1.3.1.e and the associated Notes do not involve any changes to the facility or operation of the facility as described in the WNP-2 FSAR. The isolation function of the SDV vent and drain valves to prevent the discharge of reactor coolant into the reactor building floor drain and equipment drain sumps following a scram is maintained. The release of reactor coolant through a SDV vent or drain line during a scram can be isolated either by automatic closure of the redundant valve in response to the scram signal or by manual isolation of the affected line. The valves will also close automatically upon loss of air to the valves or electrical power to the associated solenoid pilot valves. The alarm, control rod withdrawal block, and reactor scram functions on increasing water level in the SDV instrument volume are unaffected by the proposed amendments. Although the proposed AOTs will change the method of plant operation, potentially resulting in a reduction in SDV vent or drain line isolation reliability, the potential release to the reactor building drain sumps has been previously evaluated in NUREG-0803, and as shown in (1) above, the associated probabilities of the event are acceptably low.

Since the AOTs proposed in Action Statements 3.1.3.1.d and 3.1.3.1.e and the associated Notes do not involve a change to the facility or the method of operation that has not been previously evaluated, the change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the change involve a significant reduction in the margin of safety?

As discussed in (1) above, the AOTs proposed in Action Statements 3.1.3.1.d and 3.1.3.1.e and the associated Notes introduce a small increase in the risk of an unisolated path for reactor coolant release to the reactor building floor drain and equipment drain sumps through an unisolated SDV vent or drain line. The increased risk is due to the reduction in isolation function reliability when SDV vent and drain valves are inoperable. Since this reduction in reliability can only affect plant safety during a scram, it is expected that the increased risk of release due to a scram attributed to the AOTs will be offset by the reduced risk of a scram that will result from a reduction in the number of manual plant shutdowns. Currently, if one or more of the SDV vent or drain valves is discovered to be inoperable, an immediate plant shutdown is required. Establishment of the AOTs will eliminate these unnecessary plant shutdowns that limit plant operational flexibility and increase the risk of a plant scram and challenges to safety systems. Moreover, there is only a small probability of a scram occurring during the AOTs coincident with the failure of a SDV vent or drain line to isolate. The release of reactor

coolant to the reactor building floor drain and equipment drain sumps through an unisolated line can be terminated by resetting the scram from the control room or by manually closing the isolation valves. Furthermore, the consequences of such an event are bounded by the consequences of the postulated reactor scram and SDV rupture event evaluated in NUREG-0803 and would be well within the 10 CFR Part 100 reference values.

Since the AOTs proposed in Action Statement 3.1.3.1.d and 3.1.3.1.e and the associated Notes do not change the assumptions or increase the consequences of the bounding NUREG-0803 accident analysis, the margin to the 10 CFR Part 100 reference values is not changed. Therefore, the change does not involve a significant reduction in the margin of safety.

In accordance with the criteria for defining a significant hazards consideration established in 10 CFR 50.92, the Supply System has evaluated the proposed amendment to WNP-2 Technical Specification Surveillance Requirement 4.1.3.1.4.a and determined that it does not represent a significant hazards consideration. The following discussion is provided in support of this conclusion.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   The primary functions of the SDV vent and drain valves are to isolate the SDV following a scram to stop leakage of reactor coolant past the CRD seals and to reopen following a scram reset to drain the reactor coolant from the SDV to the reactor building equipment drain sump. The basis for Surveillance Requirement 4.1.3.1.4.a is to verify SDV vent and drain valve operability so that the SDV will be available when needed to accept CRD over piston discharge water and so that the reactor coolant collected in the SDV will be isolated from the secondary containment (reactor building). Performance of Surveillance Requirement 4.1.3.1.4.a, with the proposed deletion of the control rod configuration and density requirements and associated Note *, will still ensure that the safety functions and operability requirements are met.

   Valve operability can be demonstrated from shutdown conditions even though the surveillance test conditions of nearly ambient temperature and pressure and reduced CRD discharge flow do not match power conditions. Maximum SDV back pressure and CRD discharge flow will not significantly affect the SDV vent and drain valve closure rates. As verified by testing at LaSalle County Station and WNP-2, there is only approximately a 1 second difference in SDV vent and drain valve closing time from a scram at less than or equal to 50% rod density versus the closure time from either the test pushbuttons or

a cold shutdown scram with all rods full in. These test results show that the differences in temperatures, pressures, and CRD discharge flows between power and cold shutdown conditions have a negligible effect on SDV vent and drain valve closing times. Although the ability of the valves to open against full reactor pressure cannot be demonstrated during shutdown conditions, the valves are verified to be open as part of the scram recovery procedure. Thus, the ability of the valves to open against full reactor pressure will still be demonstrated after each reactor scram during operation.

Since operability of the SDV vent and drain valves can be demonstrated by performing Surveillance Requirement 4.1.3.1.4.a during shutdown conditions, the change does not represent a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

The deletion of the control rod configuration and density requirements and associated Note * proposed for Surveillance Requirement 4.1.3.1.4.a only change the conditions under which the surveillance is performed. As such, the change does not involve a change to the facility or method of operation as described in the WNP-2 FSAR. As discussed in (1) above, performance of the surveillance with the proposed changes will still demonstrate SDV vent and drain valve operability to ensure that the SDV will perform as evaluated in the FSAR accident analysis.

Since the performance of Surveillance Requirement 4.1.3.1.4.a during shutdown conditions does not involve a change to the facility or the method of operation, the change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the change involve a significant reduction in the margin of safety?

Performance of Surveillance Requirement 4.1.3.1.4.a with the proposed deletion of the control rod configuration and density requirements and associated Note * will still ensure that the SDV vent and drain valve safety functions and operability requirements are met. Valve operability can be demonstrated from shutdown conditions even though the surveillance test conditions of nearly ambient temperature and pressure at shutdown and reduced CRD discharge flow do not match power conditions. As discussed in (1) above, the difference in test conditions represents only approximately a 1 second difference in the 30 second (as specified in Surveillance Requirement 4.1.3.1.4.a.1) SDV vent and drain valve closing times.

The potential reduction in safety margin is related to the reliability of the SDV vent and drain valves to close within the required time to contain the reactor coolant leakage past the CRD seals following a scram. The consequences of the valves failing to close to isolate a line are bounded by the postulated reactor scram and SDV rupture event evaluated in NUREG-0803, which assumes a constant leakage rate for 4 hours. Since the NUREG evaluation concluded that the consequences of such an event would be well within the 10 CFR Part 100 reference values, the potential one second difference in valve closing time is relatively insignificant. In addition, the proposed surveillance requirement would eliminate approximately 20 scrams at power over the remaining life of the plant and prevent the concomitant transients and challenges to safety systems. This would be expected to increase the reliability of the SDV vent and drain valves and mitigate any reduction in safety margin. Although performance of the proposed surveillance requirement during shutdown conditions will not demonstrate the ability of the valves to open against a back pressure equal to full reactor pressure, the valves are verified to be open as part of the scram recovery procedure. Thus, the ability of the valves to open against full reactor pressure will still be demonstrated after each reactor scram during operation.

Since the performance of Surveillance Requirement 4.1.3.1.4.a during shutdown conditions does not change the assumptions or increase the consequences of the bounding NUREG-0803 accident analysis, the margin to the 10 CFR Part 100 reference values is not changed. Therefore, the change does not involve a significant reduction in the margin of safety.