

Duquesne Light Company

Beaver Valley Power Station
PO Box 4
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JOHN D. SIEBER
Vice President - Nuclear Group

December 26, 1990

4121 389-6255

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

Reference: Beaver Valley Power Station, Unit No. 1 and No. 2
BV-1 Docket No. 50-334, License No. DPR-66
BV-2 Docket No. 50-412, License No. NPF-73
Response To Generic Letter 90-06

Gentlemen:

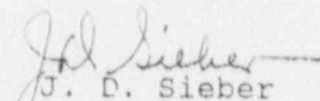
This provides our response to Generic Letter 90-06, [Resolution of Generic Issue 70, "Power-Operated Relief Valve and Block Valve Reliability" and Generic Issue 94, "Additional Low-Temperature Overpressure Protection for Light-Water Reactors"]. Based on the technical studies performed for these generic issues, the NRC staff provided various recommendations to improve the reliability of the PORV's and Block Valves. Attachment A lists each NRC staff recommendation followed by our corresponding response. Attachments B-1 and B-2 provide marked-up informational copies of changes to the BV-1 and BV-2 Technical Specifications respectively. The final submittal may be somewhat different following safety committee review of the proposed changes.

In accordance with the schedule provided in Generic Letter 90-06, we expect to incorporate improvements 1, 2 and 3 in Section 3.1 of Enclosure A as described above and to submit the Modified Technical Specifications by the end of the eighth refueling outage (8R: June 21, 1991).

Attachment C provides a Relief Request so we can add the BV-1 PORV air control solenoid valves to the IST program. If our response to recommendation 2 is found acceptable, we will formally submit the proposed Relief Request within 45 days following receipt of your response.

If you have any questions regarding this submittal, please call members of my staff.

Sincerely,


J. D. Sieber
Vice President
Nuclear Group

9101030290 901226
PDR ADOCK 05000334
P PDR

cc: Mr. J. Beall, Sr. Resident Inspector
Mr. T. T. Martin, NRC Region I Administrator
Mr. A. W. DeAgazio, Project Manager
Mr. R. Saunders (VEPCO)

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COMMONWEALTH OF PENNSYLVANIA))
COUNTY OF BEAVER)) SS:

On this 30th day of December, 1990,
before me, Sheila M. Fattore, a Notary Public in and for said
Commonwealth and County, personally appeared J. D. Sieber, who being
duly sworn, deposed, and said that (1) he is Vice President - Nuclear
of Duquesne Light, (2) he is duly authorized to execute and file the
foregoing Submittal on behalf of said Company, and (3) the statements
set forth in the Submittal are true and correct to the best of his
knowledge, information and belief.

Sheila M. Fattore

Notarial Seal
Sheila M. Fattore, Notary Public
Shippingport Boro. Beaver County
My Commission Expires Sept. 26, 1994
Member, Pennsylvania Association of Notaries

ATTACHMENT A

Recommendations and Responses

RECOMMENDATION 1.a

The addition of PORV's and Block Valves to the Plant Operational Quality Assurance List.

RESPONSE 1.a

The PORV's and Block Valves for both BV-1 and BV-2 are listed QA Category I on the Master Equipment List.

RECOMMENDATION 1.b

Implementation of a maintenance/refurbishment program for PORV's and Block Valves that is based on the manufacturers recommendations or guidelines and is implemented by trained plant maintenance personnel.

RESPONSE 1.b

Our current maintenance program includes maintenance and refurbishment of the PORV's and Block Valves in accordance with the manufacturers recommendations. Plant maintenance personnel are trained and qualified to perform the required valve maintenance and refurbishment.

RECOMMENDATION 2

Include PORVs, valves in PORV control air systems, and Block Valves within the scope of a program covered by Subsection IWV, "Inservice Testing of Valves in Nuclear Power Plants," of Section XI of the ASME Boiler and Pressure Vessel Code. Stroke testing of PORVs should only be performed during Mode 3 (HOT STANDBY) or Mode 4 (HOT SHUTDOWN) and in all cases prior to establishing conditions where the PORVs are used for low-temperature overpressure protection. Stroke testing of the PORVs should not be performed during power operation. Additionally, the PORV Block Valves should be included in the licensees' expanded MOV test program discussed in NRC Generic Letter 89-10, "Safety-Related Motor Operated Valve Testing and Surveillance," dated June 28, 1989.

RESPONSE 2

The BV-1 and BV-2 PORV's and Block Valves are in the Inservice Test (IST) program and the following PORV air control solenoid valves will be added to the BV-1 IST program:

SOV-1RC-455C1, SOV-1RC-455C2
SOV-1RC-455D1, SOV-1RC-455D2
SOV-1RC-456-1, SOV-1RC-456-2

These SOV's, however, are located in the Reactor Containment building and do not have position indications. There are no individual control switches or lights associated with these valves. Quarterly stroke and time testing in accordance with subsection IWV, "Inservice Testing of Valves in Nuclear Power Plants," of Section XI of the ASME Boiler and Pressure Vessel Code cannot be performed.

Therefore, a request for relief will be added to the BV-1 IST Program for the PORV air control solenoid valves. A copy of the proposed Relief Request is included as Attachment C.

No air control solenoid valves are associated with the BV-2 PORV's. The PORV Block Valves are included in the expanded MOV test program discussed in Generic Letter 89-10.

Attachments B-1 and B-2 provide information copies of Specifications 3.4.9.3 and 3.4.11 that have been revised to incorporate those changes provided in Generic Letter 90-06. Stroke testing the PORV's with the Block Valve closed will be performed in Mode 3 or 4 above 275°F for BV-1, however, for BV-2 the PORV's cannot be stroke tested with the Block Valve closed. This was the subject of Technical Specification Amendment 32 where surveillance requirement 4.4.9.3.1.d was deleted. This surveillance requirement required stroking the operable PORV's each time the plant enters Mode 5, unless tested within the preceding 3 months. The NRC approved deleting this requirement since it was redundant to other PORV stroke testing requirements. Our proposed surveillance requirement 4.4.11.1.b states "In addition to the requirement of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by operating the valve through one complete cycle of full travel." However, the revised surveillance requirements provided in Generic Letter 90-06 require "Operating the PORV through one complete cycle of full travel during Modes 3 or 4."

Surveillance requirement 4.4.11.1.b for BV-2 is proposed to remain unchanged without specifying the modes in which stroking the PORV's is required. This is not consistent with the staff position in Generic Letter 90-06, however, we find this acceptable based on the following:

1. Specification 4.0.5 specifies, in part, that the inservice testing requirements of Section XI of the ASME Code Class 1, 2 and 3 pumps and valves shall be applicable and shall be in addition to other specified surveillance requirements. The IST program includes an exception to testing in higher modes with a cold shutdown justification which provides for testing the PORV's in Mode 5 to limit the effects of a LOCA should the PORV stick open when stroked.

2. The BV-2 PORV's require a minimum system pressure (approximately 60 psig or greater) to operate, therefore, with the Block Valves closed the PORV will only partially lift to relieve the pressure from that section of piping between it and the Block Valve and cannot be verified to operate through one complete cycle of full travel.
3. If the PORV's are required to be stroke tested in Mode 3 and are found inoperable, the action statement requires the plant to go to a condition where the valve is not required to be operable. For BV-2 there are no modes where the PORV's are not required to be operable.
4. The lifetime of the downstream piping would be unnecessarily reduced if the PORV's are stroke tested in Mode 3 with the Block Valve open since the downstream piping is designed to withstand a limited number of cycles at full system pressure.

RECOMMENDATION 3

For operating PWR plants, modify the limiting conditions of operation of PORVs and block valves in the Technical Specifications for Modes 1, 2, and 3 to incorporate the position adopted by the staff in recent licensing actions. Attachments A-1 through A-3 are provided for guidance. The staff recognizes that some recently licensed PWR plants already have Technical Specifications in accordance with the staff position. Such plants are already in compliance with this position and need merely state that in their response. These recent Technical Specifications require that plants that run with the Block Valves closed (e.g., due to leaking PORVs) maintain electrical power to the Block Valves so they can be readily opened from the control room upon demand. Additionally, plant operation in Modes 1, 2, and 3 with PORVs and Block Valves inoperable for reasons other than seat leakage is not permitted for periods of more than 72 hours.

RESPONSE 3

Information copies of Specification 3.4.9.3 and 3.4.11 are provided in Attachments B-1 and B-2 and include the changes provided in Generic Letter 90-06 with the following exceptions:

BV-1 Exceptions:

1. Specification 3.4.9.3 actions a, b, and c specify 48 hours to vent the RCS. This will provide sufficient time to safely transition through a water solid plant condition and depressurize the plant. This is consistent with the Baltimore Gas and Electric submittal noticed in Federal Register Volume 55, No. 220 dated Wednesday, November 14, 1990 page 47567.
2. Item i [Operation of PORV's or RCS vents, Specification 3.4.9.3] has been added to Administrative Control 6.9.2 Special Reports for consistency with BV-2.

3. Specification 3.4.11 Action b is a new action statement to address an inoperable PORV due to causes other than excessive seat leakage. Action c is also a new action statement and addresses two inoperable PORV's due to causes other than excessive seat leakage. These changes, along with Action d, provide a logical progression with actions appropriate to component inoperability.
4. Surveillance requirement 4.4.11.1.a, has been revised by adding a qualifier "above 275°F" to Mode 4, this is consistent with the Applicability statement of Specification 3.4.9.3.

BV-2 Exceptions:

1. Specification 3.4.9.3 actions a, b, and c specify 48 hours to vent the RCS. This will provide sufficient time to safely transition through a water solid plant condition and depressurize the plant. This is consistent with the Baltimore Gas and Electric submittal noticed in Federal Register Volume 55, No. 220 dated Wednesday, November 14, 1990 page 47567.
2. Specification 3.4.11 Action a includes a qualification statement "or PORV limit switch position indicator inoperable per Specification 3.3.3.8 Action a." This will allow continued plant operation with an inoperable PORV limit switch position indicator and is consistent with Specification 3.3.3.8. The Generic Letter 90-06 statement "With power maintained to the block valve(s)" has not been added to Action a because of downstream piping concerns. With the block valve closed, the potential would exist to condense steam in the downstream piping. If the block valve were then opened and the PORV actuated the piping could be overstressed due to the slug of water being forced down the piping. Therefore, we feel it is more prudent to omit the requirement to maintain power to the PORV block valves.

Action b has been revised to address one inoperable PORV due to causes other than specified in Action a. This is consistent with the current requirement

Action c is a new action statement to address two inoperable PORV's due to causes other than specified in Action a.

These changes to Actions b, c, and d provide a logical progression with actions appropriate to component inoperability.

3. Surveillance requirement 4.4.11.1.b does not specify the mode in which to operate the PORV through one complete cycle of full travel as discussed in Response 2 and is consistent with the current requirements.

BV-2 Clarification

A minimum pressure is required to actuate the BV-2 PORV's, therefore, following valve repair or replacement the untested PORV's will be "assumed operable" while plant pressure is increased and plant conditions can be attained to verify valve operability by testing.

ATTACHMENT B-1

Information Copy Of
BV-1 Technical Specification Changes
In Response To Generic Letter 90-06

REACTOR COOLANT SYSTEM

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 At least one of the following overpressure protection systems shall be OPERABLE:

→
INSERT 3

- a. Two power operated relief valves (PORVs) with a nominal trip setpoint of ≤ 350 psig, or
- b. A reactor coolant system vent of ≥ 3.14 square inches.

APPLICABILITY: When the temperature of one or more of the non-isolated RCS cold legs is $\leq 275^{\circ}\text{F}$.

ACTION:

- a. With one PORV inoperable, either restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through a 3.14 square inch vent(s) within the next 12 hours; maintain the RCS in a vented condition until both PORVs have been restored to OPERABLE status. Refer to Technical Specification 3.4.1.6 for further limitations.
- b. With both PORV's inoperable, depressurize and vent the RCS through a 3.14 square inch vent(s) within 12 hours; maintain the RCS in a vented condition until both PORVs have been restored to OPERABLE status.

f. ~~X~~. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENT

4.4.9.3.1 Each PORV shall be demonstrated OPERABLE BY:

INSERT 3

3.4.9.3 Two Overpressure Protection System (OPPS) power-operated relief valves (PORV's) shall be OPERABLE with a nominal maximum allowable lift setting of less than or equal 350 psig.

APPLICABILITY: Mode 4 when the temperature of any RCS cold leg is less than or equal to 275°F, MODE 5, and MODE 6 when the head is on the reactor vessel and the RCS is not vented through a 3.14 square inch or larger vent.

ACTION:

- a. With one PORV inoperable in MODE 4, restore the inoperable PORV to OPERABLE status within 5 days or depressurize and vent the RCS through at least a 3.14 square inch vent within the next 48 hours.
- b. With one PORV inoperable in MODES 5 or 6, either (1) restore the inoperable PORV to OPERABLE status within 24 hours, or (2) complete depressurization and venting of the RCS through at least a 3.14 square inch vent within a total of 48 hours.
- c. With both PORV's inoperable, restore at least one PORV to OPERABLE status within 1 hour or complete depressurization and venting of the RCS through at least a 3.14 square inch vent within 48 hours.
- d. With the RCS vented per actions a, b, or c, verify the vent pathway at least once per 31 days when the pathway is provided by a valve(s) that is locked, sealed or otherwise secured in the open position; otherwise, verify the vent pathway every 12 hours.
- e. In the event either the PORV's or the RCS vent(s) are used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORV's or RCS vent(s) on the transient, and any corrective action necessary to prevent recurrence.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

- a. Performance of a CHANNEL FUNCTIONAL TEST on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required OPERABLE and at least once per 31 days thereafter when the PORV is required OPERABLE.
- b. Performance of a CHANNEL CALIBRATION on the PORV actuation channel at least once per 18 months.
- c. Verifying the PORV isolation valve is open at least once per 72 hours when the PORV is being used for overpressure protection.

~~d. Stroking the operable PORV(s) each time the plant enters Mode 5, unless tested within the preceding three months.~~

~~4.4.9.3.2 The \geq 3.14 square inch RCS vent(s) shall be verified to be open at least once per 12 hours* when the vent(s) is being used for overpressure protection.~~

~~* Except when the vent pathway is provided with a valve which is locked, or provided with remote position indication, sealed, or otherwise secured in the open position, then verify these valves open at least once per 7 days.~~

ADMINISTRATIVE CONTROLS

- a. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- b. Inoperable Seismic Monitoring Instrumentation, Specification 3.3.3.3.
- c. Inoperable Meteorological Monitoring Instrumentation, Specification 3.3.3.4.
- d. Seismic event analysis, Specification 4.3.3.3.2
- e. Sealed source leakage in excess of limits, Specification 4.7.9.1.3.
- f. Miscellaneous reporting requirements specified in the Action Statements for Radiological Effluent Technical Specifications.
- g. Containment Inspection Report, Specification 4.6.1.6.2.
- h. Steam Generator Tube Inservice Inspection Results Report, Specification 4.4.5.5.
- i. *Operation of PORV's or RCS vents, Specification 3.4.9.3.*

6.10 RECORD RETENTION

- 6.10.1 The following records shall be retained for at least five (5) years:
- a. Records and logs of facility operation covering time interval at each power level.
 - b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
 - c. All Reportable Events.
 - d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
 - e. Records of reactor tests and experiments.
 - f. Records of changes made to Operating Procedures.
 - g. Records of radioactive shipments.
 - h. Records of sealed source leak tests and results.
 - i. Records of annual physical inventory of all sealed source material of record.

REACTOR COOLANT SYSTEM

3/4.4.11 RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.4.11 ^{ALL} ~~(Two)~~ power operated relief valves (PORVs) and their associated block valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3

ACTION:

- INSERT 1*
- ~~a. With less than 2 PORV(s) operable, within 1 hour either restore two PORV(s) to OPERABLE status or close the associated block valve(s) and remove power from the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~
 - ~~b. With one or more block valve(s) inoperable, within 1 hour either restore the block valve(s) to OPERABLE status or close the block valve(s) and remove power from the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~

SURVEILLANCE REQUIREMENTS

~~4.4.11.1 Each PORV shall be demonstrated OPERABLE:~~

- INSERT 2*
- ~~a. At least once per 31 days by performance of a CHANNEL CHECK of the position indication, excluding valve operation and~~
 - ~~b. By performance of a CHANNEL CALIBRATION in accordance with Table 4.3-7 on the operable PORV(s) Control Channel(s).~~

~~4.4.11.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel.~~

~~4.4.11.3 The emergency power supply for the PORVs and block valves shall be demonstrated OPERABLE at least once per 18 months by operating the valves through a complete cycle of full travel.~~

INSERT 1

- a. With one or more PORVs inoperable because of excessive seat leakage, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) with power maintained to the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and HOT SHUTDOWN within the following 6 hours.
- b. With one PORV inoperable due to causes other than excessive seat leakage, within 1 hour either restore the PORV to OPERABLE status or close the associated block valve and remove power from the block valve .
- c. With two PORVs inoperable due to causes other than excessive seat leakage, within 1 hour either restore the PORV's to OPERABLE status or close the associated block valve s and remove power from the block valve s ; restore the PORV's to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- d. With three PORVs inoperable due to causes other than excessive seat leakage, within 1 hour either restore at least one PORV to OPERABLE status or close the block valves and remove power form the block valve(s) and be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- e. With one or more block valves inoperable, within 1 hour restore the block valve(s) to OPERABLE status or place its associated PORV in manual control. Restore at least one block valve to OPERABLE status within the next hour if three block valves are inoperable; restore any remaining inoperable block valve(s) to operable status within 72 hours; otherwise, be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- f. The provisions of Specification 3.0.4 are not applicable.

INSERT 2

4.4.11.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by:

- a. Operating the PORV through one complete cycle of full travel during MODES 3 or 4 above 275°F, and
- b. Performing a CHANNEL CALIBRATION of the actuation instrumentation.

4.4.11.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed in order to meet the requirements of ACTION b, c, or d in Specification 3.4.11.

4.4.11.3 The emergency power supply for the PORVs and block valves shall be demonstrated OPERABLE at least once per 18 months by:

- a. Manually transferring motive and control power from the normal to the emergency power bus, and
- b. Operating the valves through a complete cycle of full travel.

REACTOR COOLANT SYSTEM

BASES

Vessel inside radius are essentially identical, the measured transition shift for a sample can be applied with confidence to the adjacent section of the reactor vessel. The heatup and cooldown curves must be recalculated when the ΔRT_{NDT} determined from the surveillance capsule is different from the calculated ΔRT_{NDT} for the equivalent capsule radiation exposure.

The pressure-temperature limit lines shown on Figure 3.4-2 for reactor criticality and for inservice leak and hydrostatic testing have been provided to assure compliance with the minimum temperature requirements of Appendix G to 10 CFR 50 for reactor criticality and for inservice leak and hydrostatic testing.

The number of reactor vessel irradiation surveillance specimens and the frequencies for removing and testing these specimens are provided in UFSAR Table 4.5-3 to assure compliance with the requirements of Appendix H to 10 CFR 50.

The limitations imposed on the pressurizer heatup and cooldown rates and spray water temperature differential are provided to assure that the pressurizer is operated within the design criteria assumed for the fatigue analysis performed in accordance with the ASME Code requirements.

The OPERABILITY of two PORV's or an RCS vent opening of greater than 3.14 square inches ensures that the RCS will be protected from pressure transients which could exceed the limits of Appendix G to 10 CFR Part 50 when one or more of the RCS cold legs are $\leq 275^\circ\text{F}$. Either PORV has adequate relieving capability to protect the RCS from over-pressurization when the transient is limited to either (1) the start of an idle RCP with the secondary water temperature of the steam generator $\leq 25^\circ\text{F}$ above the RCS cold leg temperature or (2) the start of a charging pump and its injection into a water solid RCS.

3/4.4.10 STRUCTURAL INTEGRITY

The inservice inspection and testing programs for ASME Code Class 1, 2, and 3 components ensure that the structural integrity and operational readiness of these components will be maintained at an acceptable level throughout the life of the plant. These programs are in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR Part 50.55a(g) except where specific written relief has been granted by the Commission pursuant to 10 CFR Part 50.55a(g)(6)(i).

3/4.4.11 RELIEF VALVES

The relief valves have remotely operated block valves to provide a positive shutoff capability should a relief valve become inoperable. The electrical power for both the relief valves and the block valves is capable of being supplied from an emergency power source to ensure the ability to seal this possible RCS leakage path.

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BEAVER VALLEY - UNIT 1

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PROPOSED

INSERT 4

The OPERABILITY of the PORV's and block valves is based on their capability to perform the following functions:

- A. Manual control of PORV's to control reactor coolant system pressure for the steam generator tube rupture accident and for plant shutdown.
- B. Maintaining the integrity of the reactor coolant pressure boundary by controlling identified leakage and ensuring the ability to detect unidentified reactor coolant pressure boundary leakage.
- C. Manual control of the block valve to: (1) unblock an isolated PORV to allow it to be used for manual control of reactor coolant system pressure (Item A), and (2) isolate a PORV with excessive seat leakage (Item B).
- D. Automatic control of PORV's to control reactor coolant system pressure to reduce challenges to the code safety valves for overpressurization events.
- E. Manual control of a block valve to isolate a stuck-open PORV.

Surveillance requirements provide the assurance that PORV's and block valves can perform their functions the block valves are exempt from the surveillance requirements to cycle the valves when they have been closed to comply with the Action requirements. This precludes the need to cycle the valves with full system differential pressure or when maintenance is being performed to restore an inoperable PORV to operable status. Testing the PORV's in HOT STANDBY or HOT SHUTDOWN simulates the temperature and pressure environmental effects on PORV's.

ATTACHMENT B-2

Information Copy Of
BV-2 Technical Specification Changes
In Response To Generic Letter 90-06

REACTOR COOLANT SYSTEM

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.4.9.3 ~~At least one of the following Overpressure Protection Systems (OPPS) shall be OPERABLE:~~

Overpressure Protection System (OPPS)

shall be OPERABLE

- ~~a. Two power-operated relief valves (PORVs) with nominal maximum allowable lift settings which vary with the RCS temperature and which do not exceed the limits established in FIGURE 3.4-4.~~

~~b. A Reactor Coolant System vent of \geq 3.14 square inches.~~

~~APPLICABILITY: When the temperature of one or more of the non-isolated RCS cold legs is \leq 350°F.~~

ACTION:

INSERT 2

- ~~a. With one PORV inoperable, either restore the inoperable PORV to OPERABLE status within 7 days or depressurize and vent the RCS through a 3.14 square inch vent(s) within the next 12 hours; maintain the RCS in a vented condition until both PORVs have been restored to OPERABLE status. Refer to Technical Specification 3.4.1.6 for further limitations.~~
- ~~b. With both PORVs inoperable, depressurize and vent the RCS through a 3.14 square inch vent(s) within 12 hours; maintain the RCS in a vented condition until both PORVs have been restored to OPERABLE status.~~
- ~~e. In the event either the PORVs or the RCS vent(s) are used to mitigate an RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs or RCS vent(s) on the transient, and any corrective action necessary to prevent recurrence.~~
- ~~f. The provisions of Specification 3.0.4 are not applicable.~~

SURVEILLANCE REQUIREMENTS

4.4.9.3.1 Each PORV shall be demonstrated OPERABLE BY:

- a. Performance of a CHANNEL FUNCTIONAL TEST on the PORV actuation channel, but excluding valve operation, within 31 days prior to entering a condition in which the PORV is required OPERABLE and at least once per 31 days thereafter when the PORV is required OPERABLE.
- b. Performance of a CHANNEL CALIBRATION on the PORV actuation channel at least once per 18 months.

INSERT 2

APPLICABILITY: MODE 4, MODE 5 and MODE 6 when the head is on the reactor vessel and the RCS is not vented through a 3.14 square inch or larger vent.

ACTION:

- a. With one PORV inoperable in MODE 4, restore the inoperable PORV to OPERABLE status within 5 days or depressurize and vent the RCS through at least a 3.14 square inch vent within the next 48 hours.
- b. With one PORV inoperable in MODES 5 or 6, either (1) restore the inoperable PORV to OPERABLE status within 24 hours, or (2) complete depressurization and venting of the RCS through at least a 3.14 square inch vent within a total of 48 hours.
- c. With both PORV's inoperable, restore at least one PORV to OPERABLE status within 1 hour or complete depressurization and venting of the RCS through at least a 3.14 square inch vent within 48 hours.
- d. With the RCS vented per ACTIONS a, b, or c, verify the vent pathway at least once per 31 days when the pathway is provided by a valve(s) that is locked, sealed or otherwise secured in the open position; otherwise, verify the vent pathway every 12 hours.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

- c. Verifying the PORV isolation valve is open at least once per 72 hours when the PORV is being used for overpressure protection.

~~4.4.9.3.2 The > 3.14 square inch RCS vent(s) shall be verified to be open at least once per 12 hours^a when the vent(s) is being used for overpressure protection.~~

~~^aExcept when the vent pathway is provided with a valve which is locked, or provided with remote position indication, sealed, or otherwise secured in the open position, then verify these valves open at least once per 7 days.~~

REACTOR COOLANT SYSTEM

3/4.4.11 RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.4.11 All power-operated relief valves (PORVs) and their associated block valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3

ACTION: *or PORV limit switch position indicator inoperable per Specification 3.3.3.8 Action a*

Specified in Action a

a. With one or more PORV(s) inoperable, because of excessive seat leakage, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in ~~COLD~~ SHUTDOWN within the following ~~6~~ ^{HOT} hours.

b. With one ~~or two~~ PORV(s) inoperable ~~as a result of~~ ^{due to} causes other than excessive seat leakage, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) and remove power from the block valve(s).

INSERT

~~d.~~ ^{new} With ~~all~~ three PORVs inoperable due to causes other than excessive seat leakage, within ~~1~~ hour either restore one PORV to OPERABLE status or be in HOT STANDBY within the next 6 hours and ~~COLD~~ SHUTDOWN within the following ~~6~~ ^{HOT} hours.

~~e.~~ ^{new} With one or more block valve(s) inoperable, within 1 hour ~~restore the block valve(s) to OPERABLE status, or close the block valve(s) and remove power from the block valve(s), or close the PORV, and (2) apply the ACTION b. or c. above, as appropriate, for the isolated PORV(s).~~

~~f.~~ The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.4.11.1 In addition to the requirements of Specification 4.0.5, each PORV shall be demonstrated OPERABLE at least once per 18 months by:

- a. Performance of a CHANNEL CALIBRATION, and
- b. Operating the ~~valve~~ ^{PORV} through one complete cycle of full travel.

4.4.11.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed ~~with power removed~~ in order to meet the requirements of ACTION b., c. or d. in Specification 3.4.11.

INSERT 1

- c. With two PORVs inoperable due to causes other than specified in Action a within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) and remove power from the block valve(s); restore the PORV(s) to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- d. With three PORVs inoperable due to causes other than specified in Action a, within 1 hour either restore at least one PORV to OPERABLE status or close the block valves and remove power from the block valve(s) and be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- e. With one or more block valves inoperable, within 1 hour restore the block valve(s) to OPERABLE status or place its associated PORV in manual control. Restore at least one block valve to OPERABLE status within the next hour if three block valves are inoperable; restore any remaining inoperable block valve(s) to operable status within 72 hours; otherwise, be in HOT SHUTDOWN within the following 6 hours.

REACTOR COOLANT SYSTEM

BASES

3/4.4.11 REACTOR COOLANT SYSTEM RELIEF VALVES

The relief valves have remotely operated block valves to provide a positive shutoff capability should a relief valve become inoperable. The electrical power for both the relief valves and the block valves is supplied from an emergency power source to ensure the ability to seal this possible RCS leakage path. The operability of at least one PORV will ensure the additional capability to vent the pressurizer steam space via the PORV's.

INSERT 3 →

3/4.4.12 REACTOR COOLANT SYSTEM HEAD VENTS

Reactor Coolant System Vents are provided to exhaust noncondensable gases and/or steam from the primary system that could inhibit natural circulation core cooling. The OPERABILITY of at least one reactor coolant system vent path from the reactor vessel head or the pressurizer steam space via the PORV's ensures the capability exists to perform this function.

The valve redundancy of the Reactor Coolant System Head vent paths serves to minimize the probability of inadvertent or irreversible actuation while ensuring that a single failure of a vent valve, power supply or control system does not prevent isolation of the vent path.

The function, capabilities, and testing requirements of the Reactor Coolant System vent systems are consistent with the requirements of Item II.B.1 of NUREG-0737, "Clarification of TMI Action Plan Requirements", November 1980.

INSERT 3

The OPERABILITY of the PORV's and block valves is based on their capability to perform the following functions:

- A. Manual control of PORV's to control reactor coolant pressure for the steam generator tube rupture accident and for plant shutdown.
- B. Maintaining the integrity of the reactor coolant pressure boundary by controlling identified leakage and ensuring the ability to detect unidentified reactor coolant pressure boundary leakage.
- C. Manual control of the block valve to: (1) unblock an isolated PORV to allow it to be used for manual control of reactor coolant system pressure (Item A), and (2) isolate a PORV with excessive seat leakage (Item B).
- D. Automatic control of PORV's to control reactor coolant system pressure to reduce challenges to the code safety valves for overpressurization events.
- E. Manual control of a block valve to isolate a stuck-open PORV.

Surveillance requirements provide the assurance that PORV's and block valves can perform their functions. The block valves are exempt from the surveillance requirements to cycle the valves when they have been closed to comply with the Action requirements. This precludes the need to cycle the valves with full system differential pressure or when maintenance is being performed to restore an inoperable PORV to operable status.

ATTACHMENT C

BV 1 IST

Relief Request _____

Valve No.: SOV-RC-455C1 SOV-RC-455D1 SOV-RC-456-1
 SOV-RC-455C2 SOV-RC-455D2 SOV-RC-456-2

Category _____ Class _____

Function: PORV air control SOVs

Test Requirement: Quarterly Stroke and Time

Basis for Relief: These series SOVs are located inside the sub atmospheric containment building and do not have position indication. There are no individual control switches or lights associated with the valves. Individual operation of these valves can only be monitored by locally disconnecting a lead for one of the SOVs and observing the PORV stroke. The SOV stroke cannot be timed directly, because the valves cannot be stroked without stroking the PORVs, relief is requested from quarterly full or part stroke and time testing at power. In addition, stroking the SOVs associated with the low-temperature overpressure protection system cannot be performed while it is in service, therefore, relief from cold shutdown stroke and time testing is also requested.

Alternate Test: A refueling frequency test procedure will be developed to individually stroke the SOVs open and closed. The valve stroke time will be indirectly measured by timing the PORV stroke. An acceptable PORV stroke time will indicate an acceptable SOV stroke time.