



# Duquesne Light

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November 7, 1984

United States Nuclear Regulatory Commission  
Washington, DC 20555

ATTENTION: Mr. George W. Knighton, Chief  
Licensing Branch 3  
Office of Nuclear Reactor Regulation

SUBJECT: Beaver Valley Power Station - Unit No. 2  
Docket No. 50-412  
Mechanical Branch Question 210.40 Response

Gentlemen:

This letter forwards a revised response to FSAR Mechanical Engineering Branch (MEB) Question 210.40. Also enclosed are four sets of Piping and Instrumentation Drawings as requested in the question.

This question was discussed along with others in the October 2, 1984, meeting with MEB. DLC can make arrangements for a meeting to specifically discuss this response in Bethesda for the week of November 26 or early December.

Before November 26, please notify us of the closed, confirmatory, or open status of this response and how you intend to treat this subject in the Safety Evaluation Report.

DUQUESNE LIGHT COMPANY

By *E. J. Woolever*  
E. J. Woolever  
Vice President

JJS/wjs  
Attachment

cc: Mr. B. K. Singh, Project Manager (w/a)

*Aperture  
and Dist*

*Drawings TR:  
Req File - 1  
L. Lazo - 1  
MEB - 2*

*3001  
11*

*4 sets  
of Drawings*

SUBSCRIBED AND SWORN TO BEFORE ME THIS  
7th DAY OF November, 1984.

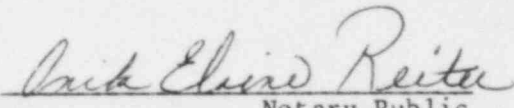
*Anita Elaine Reiter*  
Notary Public

ANITA ELAINE REITER, NOTARY PUBLIC  
ROBINSON TOWNSHIP, ALLEGHENY COUNTY  
MY COMMISSION EXPIRES OCTOBER 20, 1986

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COMMONWEALTH OF PENNSYLVANIA )  
  )    SS:  
COUNTY OF ALLEGHENY            )

On this 7th day of November, 1984, before me, a Notary Public in and for said Commonwealth and County, personally appeared E. F. Kurtz, Jr., who being duly sworn, deposed and said that he is authorized to sign for E. J. Woolever who is (1) Vice President of Duquesne Light, (2) 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.

  
Notary Public  
ANITA ELAINE REITER, NOTARY PUBLIC  
ROBINSON TOWNSHIP, ALLEGHENY COUNTY  
MY COMMISSION EXPIRES OCTOBER 20, 1986

Response to NRC Question 210.40

All isolation valves that connect Reactor Coolant System (RCS) to safety systems in BVPS-2 have been reviewed.

Based on DLC's ISI program, which has been scheduled for submittal to the NRC in June, 1985, the attached list covers all pressure isolation valves installed on pipes greater than one-inch in size that requires testing, along with its P&ID coordinates and test requirements.

Also enclosed are four sets of piping and instrument diagrams: Flow Diagrams RM-75A, 75B, 76A, 79A, 79C, 79D, 87A, 87B, and 89A; and OM Figures 6-1A, 6-1B, 6-1C, 6-2A, 6-3, 7-3A, 7-3B, 7-4, 10-1, 11-1, and 11-2.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2RHS*MOV701A  SC-1	OM Figure 10-1 (C-1) RM-76A (A-4)	Motor operated suction Valve from RCS loop A to RHS pumps; N.C., SC-1/ SC-2 boundary valve.	B	Frequency relief required. Valve to be exercised and timed.	Valve cannot be cycled when RCS pressure greater than 400 psig.
2RHS*MOV701B  SC-1	OM Figure 10-1 (D-1) RM-76A (A-6)	Motor operated suction Valve from RCS loop A to RHS pumps; N.C., SC-1/ SC-2 boundary valve.	B	Frequency relief required. Valve to be exercised and timed.	Valve cannot be cycled when RCS pressure greater than 400 psig.
2RHS*MOV702A  SC-1	OM Figure 10-1 (D-1) RM-76A (A-5)	Motor operated suction valve from RCS loop A to RHS pump; N.C.	B	Frequency relief required. Valve to be exercised and timed.	Valve cannot be cycled when RCS pressure greater than 400 psig.
2RHS*MOV702B  SC-1	OM Figure 10-1 (D-1) RM-76A (A-6)	Motor operated suction valve from RCS loop A to RHS pump; N.C.	B	Frequency relief required. Valve to be exercised and timed.	Valve cannot be cycled when RCS pressure greater than 400 psig.
2SIS*151  SC-1	OM Figure 6-3 (G-2) RM-87B (A-9)	Check valve, SI Accumu- lator to RCS loop A, cold leg; N.C.	A/C	Frequency relief req'd. for partial forward flow and reverse flow. Leak test using water in reverse flow direction.	Valve cannot be stroked when RCS pressure is greater than that of SI accumulator.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*145  SC-1	OM Figure 6-3 (F-2) RM-87B (A-7)	Check valve, SI Accumulator to RCS loop B, cold leg; N.C.	A/C	Frequency relief req'd. for partial forward flow and reverse flow. Leak test using water in reverse flow direction.	Valve cannot be stroked when RCS pressure is greater than that of SI accumulator.
2SIS*141  SC-1	OM Figure 6-3 (E-2) RM-87B (A-6)	Check Valve. SI Accumulator to RCS loop C, cold leg; N.C.	A/C	Frequency relief req'd. for partial forward flow and reverse flow. Leak test using water in reverse flow direction.	Valve cannot be stroked when RCS pressure is greater than that of SI accumulator.
2SIS*148  SC-1	OM Figure 6-2, (G-4) RM-87B (D-9)	SC-1/SC-2 boundary check valve, SI Accumulator to RCS loop A, cold leg; N.C.	A/C	Frequency relief req'd. for partial forward flow and reverse flow. Leak test using water in reverse flow direction.	Valve cannot be stroked when RCS pressure is greater than that of SI accumulator.
2SIS*147  SC-1	OM Figure 6-3 (F-4) RM-87B (G-9)	SC-1/SC-2 boundary check valve, SI Accumulator to RCS loop B, cold leg; N.C.	A/C	Frequency relief req'd. for partial forward flow and reverse flow. Leak test using water in reverse flow direction.	Valve cannot be stroked when RCS pressure is greater than that of SI accumulator.
2SIS*142  SC-1	OM Figure 6-3 (E-3) RM-87B (D-6)	SC-1/SC-2 boundary check valve, SI Accumulator to RCS loop C, cold leg; N.C.	A/C	Frequency relief req'd. for partial forward flow and reverse flow. Leak test using water in reverse flow direction.	Valve cannot be stroked when RCS pressure is greater than that of SI accumulator.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*MOV865A  SC-2	OM Figure 11-2 (F-7) RM-87B (D-9)	High/low pressure boundary, motor operated valve; N.O., SI accumulator to RCS loop C, cold leg.	B	Frequency relief req'd. valve to be exercised and timed.	Closing of this valve during operation would compromise a safety system and possibly lead to a plant shutdown if it could not be re-opened.
2SIS*MOV865B  SC-2	OM Figure 11-2 (F-4) RM-87B (G-8)	High/low pressure boundary, motor operated valve; N.O., SI Accumulator to RCS loop B, cold leg.	B	Frequency relief req'd. valve to be exercised and timed.	Closing of this valve during operation would compromise a safety system and possibly lead to a plant shutdown if it could not be re-opened.
2SIS*MOV865C  SC-2	OM Figure 11-2 (B-7) RM-87B (D-5)	High/low pressure boundary, motor operated valve; N.O., SI Accumulator to RCS loop C, cold leg.	B	Frequency relief req'd. valve to be exercised and timed.	Closing of this valve during operation would compromise a safety system and possibly lead to a plant shutdown if it could not be re-opened.
2RHS*MOV720A  SC-1	OM Figure 10-1 (C-8) RM-76A (I-4)	RHS pump discharge to RCS loop B, SC-1/SC-2 boundary, motor operated valve; N.C.	B	Frequency relief req'd. valve to be exercised and timed.	Valve cannot be cycled when RCS pressure is greater than 400 psig.
2RHS*MOV720B  SC-1	OM Figure 10-1 (F-8) RM-76A (I-8)	RHS pump discharge to RCS loop C. SC-1/SC-2 boundary, motor operated valve; N.C.	B	Frequency relief req'd. valve to be exercised and timed.	Valve cannot be cycled when RCS pressure is greater than 400 psig.



## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*547  SC-1	OM Figure 6-3 (B-2) RM-87B (B-2)	Check valve, SI from charging pump to RCS loop A, hot leg; N.C.	C	Frequency relief req'd. Exercised for full for- ward flow.	Test cannot be done during normal operation when pres- sure at RCS side is greater.
2SIS*545  SC-1	OM Figure 6-3 (A-2) RM-87B (B-1)	Check valve, SI from charging pump to RCS loop B, hot leg; N.C.	C	Frequency relief req'd. Exercised for full for- ward flow.	Test cannot be done during normal operation when pres- sure at RCS side is greater.
2SIS*546  SC-1	OM Figure 6-3 (A-2) RM-87B (B-1)	Check valve, SI from charging pump to RCS loop C, hot leg; N.C.	C	Frequency relief req'd. Exercised for full for- ward flow.	Test cannot be done during normal operation when pres- sure at RCS side is greater.
2SIS*124  SC-1	OM Figure 6-3 (B-8) RM-37B (H-2)	SC-1/SC-2 boundary. Check valve. SI from charging pump to RCS loop A, hot leg; N.C.	C	Frequency relief req'd. Exercised for full for- ward flow.	Test cannot be done during normal operation when pres- sure at RCS side is greater.
2SIS*125  SC-1	OM Figure 6-3 (B-8) RM-87B (H-2)	SC-1/SC-2 boundary. Check valve. SI from charging pump to RCS loop A, hot leg; N.C.	C	Frequency relief req'd. Exercised for full for- ward flow.	Test cannot be done during normal operation when pres- sure at RCS side is greater.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*128  SC-1	OM Figure 8-3 (A-8) RM-87B (H-1)	SC-1/SC-2 boundary check valve; LHSI pump to RCS loop B, hot leg; N.C.	C	Frequency relief req'd. Exercised for full for- ward flow.	Test cannot be done during normal operation when pres- sure at RCS side is greater.
2SIS*122  SC-1	OM Figure 6-3 (B-8) RM-87B (H-1)	SC-1/SC-2 boundary check valve; charging pump to RCS loop B, hot leg; N.C.	C	Frequency relief req'd. Exercised for full for- ward flow.	Test cannot be done during normal operation when pres- sure at RCS side is greater.
2SIS*127  SC-1	OM Figure 6-3 (B-8) RM-87B (H-3)	SC-1/SC-2 boundary check valve; charging pump to RCS loop B, hot leg; N.C.	C	Frequency relief req'd. Exercised for full for- ward flow.	Test cannot be done during normal operation when pres- sure at RCS side is greater.
2SIS*129  SC-1	OM Figure 6-3 (A-8) RM-87B (H-1)	SC-1/SC-2 boundary check valve; LHSI pump to RCS loop C, hot leg; N.C.	C	Frequency relief req'd. Exercised for full for- ward flow.	Test cannot be done during normal operation when pres- sure at RCS side is greater.
2SIS*123  SC-1	OM Figure 6-3 (B-8) RM-87B (H-2)	SC-1/SC-2 boundary check valve; charging pump to RCS loop C, hot leg; N.C.	C	Frequency relief req'd. Exercised for full for- ward flow.	Test cannot be done during normal operation when pres- sure at RCS side is greater.



## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*126  SC-1	OM Figure 6-3 (B-8) RM-87B (H-3)	SC-1/SC-2 boundary check valve, charging pump to RCS loop C, hot leg; N.C.	C	Frequency relief req'd. Exercised for full forward flow.	Test cannot be done during normal operation when pressure at RCS side is greater.
2SIS*83  SC-2	OM Figure 11-2 (A-2) RM-87B (J-2)	From charging pump to loop hot legs, weight loaded, soft seated check valve at containment penetration; N.C.	A/C	Frequency relief req'd. for forward flow exercise. Leak test using water in reverse flow direction.	Test cannot be done during normal operation when pressure at RCS side is greater. Valve is closed during normal operation and inside containment.
2SIS*84  SC-2	OM Figure 11-2 (B-2) RM-87B (J-3)	From charging pump to loop hot legs, weight loaded, soft seated check valve at containment penetration; N.C.	A/C	Frequency relief req'd. for forward flow using water in reverse flow direction.	Test cannot be done during normal operation when pressure at RCS side is greater. Valve is closed during normal operation and inside containment.
2SIS*130  SC-2	OM Figure 6-3 (A-8) RM-87B (J-1)	From LHSI pump to loop hot legs, weight loaded, soft seated check valve at containment penetration; N.C.	A/C	Frequency relief req'd. for forward flow using water in reverse flow direction.	Test cannot be done during normal operation when pressure at RCS side is greater. Valve is closed during normal operation and inside containment.
2SIS*85  SC-2	OM Figure 6-3 (A-4) RM-87B (H-2)	Passive SI throttle valve from charging pump to RCS loop A, hot leg.	B	Position verification only.	None

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*54  SC-2	OM Figure 6-3 (B-4) RM-87B (H-2)	Passive SI throttle valve from charging pump to RCS loop A, hot leg.	B	Position verification only.	None
2SIS*87  SC-2	OM Figure 6-3 (A-4) RM-87B (H-1)	Passive SI throttle valve from charging pump to RCS loop B, hot leg.	B	Position verification only.	None
2SIS*55  SC-2	OM Figure 6-3 (B-4) RM-87B (H-3)	Passive SI throttle valve from charging pump to RCS loop B, hot leg.	B	Position verification only.	None
2SIS*86  SC-2	OM Figure 11-2 (B-4) RM-87B (H-2)	Passive SI throttle valve from charging pump to RCS loop C, hot leg.	B	Position verification only.	None
2SIS*66  SC-2	OM Figure 11-2 (B-4) RM-87B (H-2)	Passive SI throttle valve from charging pump to RCS loop C, hot leg.	B	Position verification only.	None

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*MOV869A  SC-2	OM Figure 11-1 (A-6) RM-87A (A-1)	Motor operated valve from charging pump to loop, hot legs; N.C.	A	Frequency relief req'd. valve to be exercised and timed. Leak test using water.	Valve required to be closed during normal operation to preclude injection from the charging system.
2SIS*MOV869B  SC-2	OM Figure 11-1 (C-6) RM-87A (E-4)	Motor operated valve from charging pump to loop, hot legs; N.C.	A	Frequency relief req'd. valve to be exercised and timed. Leak test using water.	Valve required to be closed during normal operation to preclude injection from the charging system.
2SIS*MOV8889  SC-2	OM 7-19 11-1 (D-8) RM-87A (B-6)	High/low pressure bound- ary, motor operated valve; N.C., from LHSI pump to loop, hot legs.	A	Frequency relief req'd. valve to be exercised and timed. Leak test using water.	Valve required to be closed during normal operation to preclude a Class V event.
2RCS*MOV535  SC-1	OM Figure 6-2A (C-8) RM-75B (K-2)	Motor operated PORV isolation valve; N.O.	B	Valve to be exercised and timed.	To be closed by operator in the event of stuck open PORV.
2RCS*MOV536  SC-1	OM Figure 6-2A (C-8) RM-75B (K-2)	Motor operated PORV isolation valve; N.O.	B	Valve to be exercised and timed.	To be closed by operator in the event of stuck open PORV.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2RCS*MOV537  SC-1	OM Figure 6-2A (D-8) RM-753 (K-3)	Motor operated PORV isolation valve; N.O.	B	Valve to be exercised and timed.	To be closed by operator in the even of stuck open PORV.
2RCS*PCV455C  SC-1	OM Figure 6-2A (C-9) RM-75B (K-2)	PORV SC-1/NSS boundary valve; N.C.	B	Frequency relief req'd.	Although block valve is provided, PORV should only be exercised in cold shutdown.
2RCS*PCV455D  SC-1	OM Figure 6-2A (D-9) RM-75B (K-3)	PORV SC-1/NSS boundary valve; N.C.	B	Frequency relief req'd.	Although block valve is provided, PORV should only be exercised in cold shutdown.
2RCS*PCV456  SC-1	OM Figure 6-2A (C-9) RM-75B (K-2)	PORV SC-1/NSS boundary valve; N.C.	B	Frequency relief req'd.	Although block valve is provided, PORV should only be exercised in cold shutdown.
2RCS*623  SC-1	OM Figure 6-2A (F-7) RM-75B (E-2)	Reactor head vent isola- tion, manual (passive) valve; N.O.	B	Position verification only.	None

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2RCS*SOV200A  SC-1	OM Figure 6-2A (F-8) RM-75B (E-2)	Reactor head vent isolation, solenoid operated valve; N.C.	B	Valve to be exercised and timed.	None
2RCS*SOV200B  SC-1	OM Figure 6-2A (F-8) RM-75B (E-2)	Reactor head vent isolation, solenoid operated valve; N.C.	B	Valve to be exercised and timed.	None
2RCS*SOV201A  SC-1	OM Figure 6-2A (F-8) RM-75-B (F-2)	Reactor head vent isolation, solenoid operated valve. SC-1/SC-2 boundary; N.C.	B	Valve to be exercised and timed.	None
2RCS*SOV201B  SC-1	OM Figure 6-2A (F-8) RM-75B (F-2)	Reactor head vent isolation, solenoid operated valve. SC-1/SC-2 boundary; N.C.	B	Valve to be exercised and timed.	None
2CHS*472  SC-2	OM Figure 7-3B (F-8) RM-79C (J-4).	Containment isolation check valve for loop fill line; N.C.	A/C	Frequency relief req'd. for reverse flow exercise and time. Leak test using water in reverse flow direction.	Valve is inside containment and not used during normal operation.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test requirements	Comments
2CHS*FCV160  SC-2	OM Figure 7-4 (B-2) RM-79D (A-1)	Containment isolation for loop fill line. Air operated valve; N.C.	A	Valve to be exercised and timed. Leak test using water.	None.
2CHS*MOV289  SC-2	OM Figure 7-4 (B-2) RM-79D (A-2)	Normal charging to RCS loop B isolation, motor- operated valve; N.O., Closes upon S.I. signal.	A	Valve to be exercised and timed. Leak test using water.	None.
2CHS*MOV310  SC-2	OM Figure 7-3B (C-4) RM-79C (D-2)	Isolation between Regen- erative Heat Exchange and RCS loop B. Motor- operated valve; N.O., Closes upon S.I. signal.	B	Valve to be exercised and timed.	None.
2CHS*31  SC-2	OM Figure 7-3B (F-8) RM-79C (I-3)	Normal charging to RCS loop B, inside contain- ment isolation check valve. Weight loaded and soft seated; N.O.	A/C	Frequency relief req'd for reverse flow exer- cise. Leak test using water in reverse flow direction	None.
2CHS*MOV308A  SC-2	OM Figure 7-4 (C-2) RM-79D (A-2)	Reactor seal injection containment isolation, motor-operated valve; N.O.	A	Frequency relief req'd. Valve to be exercised and timed. Leak test using water.	Seal injection should not be interrupted during normal operation.



## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2CHS*MOV308B  SC-2	OM Figure 7-4 (D-2) RM-79D (A-2)	Reactor seal injection containment isolation, motor-operated valve; N.O.	A	Frequency relief req'd. Valve to be exercised and timed. Leak test using water.	Seal injection should not be interrupted during normal operation.
2CHS*MOV308C  SC-2	OM Figure 7-4 (E-2) RM-79D (A-3)	Reactor seal injection containment isolation, motor-operated valve; N.O.	A	Frequency relief req'd. Valve to be exercised and timed. Leak test using water.	Seal injection should not be interrupted during normal operation.
2CHS*474  SC-2	OM Figure 7-3A (G-2) RM-79C (C-9)	Reactor seal injection inside containment iso- lation. Weight loaded and soft seated check valve; N.O.	A/C	Frequency relief req'd for reverse flow exer- cise (close) and time. Leak test using water in reverse flow direction.	Seal injection should not be interrupted during normal operation.
2CHS*475  SC-2	OM Figure 7-3A (G-7) RM-79C (H-9)	Reactor seal injection inside containment iso- lation. Weight loaded and soft seated check valve; N.O.	A/C	Frequency relief req'd for reverse flow exer- cise (close) and time. Leak test using water in reverse flow direction.	Seal injection should not be interrupted during normal operation.
2CHS*476  SC-2	OM Figure 7-3A (G-4) RM-79C (E-9)	Reactor seal injection inside containment iso- lation. Weight loaded and soft seated check valve; N.O.	A/C	Frequency relief req'd for reverse flow exer- cise (close) and time. Leak test using water in reverse flow direction.	Seal injection should not be interrupted during normal operation.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2CHS*A0V200A  SC-2	OM Figure 7-3B (B-7) RM-79C (G-2)	RCS loop A letdown inside containment isolation valve. Air operated; N.O.	A	Valve to be exercised and timed. Leak test per 10CFR50, Appendix J. Type C.	None.
2CHS*A0V200B  SC-2	OM Figure 7-3B (D-7) RM-79C (G-3)	RCS loop A letdown inside containment isolation valve. Air operated; N.O.	A	Valve to be exercised and timed. Leak test per 10CFR50, Appendix J. Type C.	None.
2CHS*A0V200C  SC-2	OM Figure 7-3B (G-7) RM-79C (G-3)	RCS loop A letdown inside containment isolation valve. Air operated; N.O.	A	Valve to be exercised and timed. Leak test per 10CFR50, Appendix J. Type C.	None.
2CHS*A0V204  SC-2	OM Figure 7-1 (B-1) RM-79A (B-2)	RCS loop A letdown outside containment isolation valve. Air operated; N.O.	A	Valve to be exercised and timed. Leak test per 10CFR50, Appendix J. Type C.	None.
2CHS*HCV142  SC-2	OM Figure 7-3B (D-6) RM-79C (H-4)	RCS loop A letdown outside containment isolation valve. Air operated; N.C.	A	Valve to be exercised and timed. Leak test per 10CFR50, Appendix J. Type C.	None.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*MOV8888A  SC-2	OM Figure 11-1 (C-8) RM-87A (B-6)	High/low pressure boundary, containment isolation. Motor-operated valve from LHSI pump to RCS loop cold legs; N.O.	A	Valve to be exercised and timed. Leak test using water.	None.
2SIS*MOV8888B  SC-2	OM Figure 11-1 (Z-8) RM-87A (B-6)	High/low pressure boundary, containment isolation. Motor-operated valve from LHSI pump to RCS loop cold legs; N.O.	A	Valve to be exercised and timed. Leak test using water.	None.
2SIS*MOV836  SC-2	OM Figure 11-1 (A-4) RM-87A (B-1)	Containment isolation, motor-operated valve from charging pump to RCS loop, cold legs; N.C.	A	Frequency relief req'd. Valve to be exercised and timed. Leak test using water.	Closed during normal operation and open for cold leg injection.
2SIS*HCV868A  SC-2	OM Figure 11-1 (A-4) RM-87A (B-1)	High hand S.I. throttle valve for safety grade cold shutdown; N.C.	B	Valve to be exercised and timed.	None.
2SIS*MOV840  SC-2	OM Figure 11-1 (A-5) RM-87A (A-2)	High head S.I. motor-operated valve for safety grade cold shutdown; N.C.	A	Valve to be exercised and timed. Leak test using water.	None.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*MOV867C  SC-2	OM Figure 11-1 (B-6) RM-87A (B-2)	Motor-operated valve, from charging pump to loop cold legs; N.C.	A	Valve should be exer- cised and timed. Leak test using water.	Closed during normal opera- tion and open for cold leg injection.
2SIS*MOV867D  SC-2	OM Figure 11-1 (B-5) RM-87A (B-2)	Motor-operated valve, from charging pump to loop cold legs; N.C.	A	Valve should be exer- cised and timed. Leak test using water.	Closed during normal opera- tion and open for cold leg injection.
2SIS*132  SC-2	OM Figure 6-3 (C-8) RM-87B (J-3)	Inside containment iso- lation for Low Head SI to RCS cold legs. Weight loaded. Soft seated check valve; N.C.	A/C	Frequency relief req'd for forward exercised only. Leak test using water in reverse flow direction.	Normally closed but open only for LHSI.
2SIS*133  SC-2	OM Figure 6-3 (C-8) RM-87B (J-3)	Inside containment iso- lation for Low Head SI to RCS cold legs. Weight loaded. Soft seated check valve; N.C.	A/C	Frequency relief req'd for forward exercised only. Leak test using water in reverse flow direction.	Normally closed but open only for LHSI.
2SIS*94  SC-2	OM Figure 11-2 (C-2) RM-87B (J-4)	Inside containment iso- lation for High Head SI to RCS cold legs. Weight loaded. Soft seated check valve; N.C.	A/C	Frequency relief req'd for forward exercised only. Leak test using water in reverse flow direction.	Normally closed but open only for HHSI.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*95  SC-2	OM Figure 11-2 (D-2) RM-87B (J-5)	Inside containment iso- lation for High Head SI to RCS cold legs. Weight loaded. Soft seated check valve; N.C.	A/C	Frequency relief req'd for forward exercised only. Leak test using water in reverse flow direction.	Normally closed but open only for HHSI.
2SIS* 07  SC-1	OM Figure 6-3 (B-4) RM-87B (E-2)	SC-1/SC-2 boundary check valve; N.C., Low Head SI to RCS loop A. Cold leg.	C	Frequency relief req'd for forward flow exer- cise and time.	Open only for LHSI.
2SIS*136  SC-1	OM Figure 6-3 (D-8) RM-87B (H-4)	SC-1/SC-2 boundary check valve; N.C., High Head SI to RCS loop A. Cold leg.	C	Frequency relief req'd for forward flow exer- cise and time.	Open only for HHSI.
2SIS*139  SC-1	OM Figure 6-3 (D-8) RM-87B (H-5)	SC-1/SC-2 boundary check valve; N.C., High Head SI to RCS loop A. Cold leg.	C	Frequency relief req'd for forward flow exer- cise and time.	Open only for HHSI.
2SIS*108  SC-1	OM Figure 6-3 (C-4) RM-87B (E-3)	SC-1/SC-2 boundary check valve; N.C., Low Head SI to RCS loop B. Cold leg.	C	Frequency relief req'd for forward flow exer- cise and time.	Open only for LHSI.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*135  SC-1	OM Figure 6-3 (C-8) RM-87B (H-4)	SC-1/SC-2 boundary check valve; N.C., High Head SI to RCS loop B. Cold leg.	C	Frequency relief req'd for forward flow exer- cise and time.	Open only for HHSI.
2SIS*138  SC-1	OM Figure 6-3 (D-8) RM-87B (H-5)	SC-1/SC-2 boundary check valve; N.C., High Head SI to RCS loop B. Cold leg.	C	Frequency relief req'd for forward flow exer- cise and time.	Open only for HHSI.
2SIS*109  SC-1	OM Figure 6-3 (C-4) RM-87B (E-3)	SC-1/SC-2 boundary check valve; N.C., Low Head SI to RCS loop C. Cold leg.	C	Frequency relief req'd for forward flow exer- cise and time.	Open only for LHSI.
2SIS*134  SC-1	OM Figure 6-3 (C-8) RM-87B (H-4)	SC-1/SC-2 boundary check valve; N.C., High Head SI to RCS loop C. Cold leg.	C	Frequency relief req'd for forward flow exer- cise and time.	Open only for HHSI.
2SIS*137  SC-1	OM Figure 6-3 (D-8) RM-87B (H-4)	SC-1/SC-2 boundary check valve; N.C., High Head SI to RCS loop C. Cold leg.	C	Frequency relief req'd for forward flow exer- cise and time.	Open only for HHSI.



## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*548  SC-1	OM Figure 6-3 (B-2) RM-87B (B-2)	Low Head/High Head SI to RCS loop A; Cold leg; N.C.	A/C	Frequency relief req'd for forward flow exer- cise and time. Leak test using water in reverse flow direction.	Open only for S.I.
2SIS*550  SC-1	OM Figure 6-3 (C-2) RM-87B (B-3)	Low Head/High Head SI to RCS loop B; Cold leg; N.C.	A/C	Frequency relief req'd for forward flow exer- cise and time. Leak test using water in reverse flow direction.	Open only for S.I.
2SIS*552  SC-1	OM Figure 6-3 (C-2) RM-87B (B-3)	Low Head/High Head SI to RCS loop C; Cold leg; N.C.	A/C	Frequency relief req'd for forward flow exer- cise and time. Leak test using water in reverse flow direction.	Open only for S.I.
2SIS*67  SC-2	OM Figure 11-2 (D-4) RM-87B (H-4)	Passive throttle valve. S.I. to RCS loop C. Cold leg.	B	Position verification only.	None.
2SIS*68  SC-2	OM Figure 11-2 (D-4) RM-87B (H-4)	Passive throttle valve. S.I. to RCS loop B. Cold leg.	B	Position verification only.	None.

## BVPS-2 RCS PRESSURE ISOLATION VALVES

Valve Number/ Safety Class	P&ID Coordinates	Description	ASME XI Category	Test Requirements	Comments
2SIS*69  SC-2	OM Figure 11-2 (D-4) RM-87B (H-5)	Passive throttle valve. S.I. to RCS loop A. Cold leg.	B	Position verification only.	None.
2SIS*97  SC-2	OM Figure 11-2 (C-4) RM-87B (H-4)	Passive throttle valve. S.I. to RCS loop A. Cold leg.	B	Position verification only.	None.
2SIS*98  SC-2	OM Figure 11-2 (C-4) RM-87B (H-4)	Passive throttle valve. S.I. to RCS loop B. Cold leg.	B	Position verification only.	None.
2SIS*99  SC-2	OM Figure 11-2 (C-4) RM-87B (H-4)	Passive throttle valve. S.I. to RCS loop C. Cold leg.	B	Position verification only.	None.

Note 1: All Relief Requests are listed for frequencies other than during normal operation and are requested for Cold Shutdown or Refueling Outage Periods. Formal Relief Requests will be included with ISI Program Submittal.

Note 2: The following is to be applied when leakage measurements are specified on valves requiring leak testing by water: Leakage rates less than or equal to 1.0 gpm are considered acceptable. Subsequent measured leakage rates in excess of 1 gpm will be considered acceptable provided the latest measured leakage rate does not exceed the rate measured during the previous test by an amount that reduces the margin between the previously measured leakage rate and the maximum permissible rate of 5 gpm by 50% or greater.