

RS-25-132

August 20, 2025

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket NO. 50-461

Subject: Supplement to Clinton Response to Request for Additional Information Related to Response Time Testing License Amendment Request

- References:
1. Letter from M. D. Humphrey (Constellation Energy Generation, LLC) to U.S. NRC, "License Amendment Request for Proposed Change to the USAR to Approve Alternate Method of Verifying MSIV Closure Reactor Protection System Response Time," dated June 26, 2025 (ADAMS Accession No. ML25177C292)
 2. Email from B. Wetzel (U.S. NRC) to N. Lien (Constellation Energy Generation, LLC, " Final RAI - Clinton Power Station, Unit 1 - A Proposed Change to the USAR to Approve Alternate Method of Verifying MSIV Closure RPS Response Time (EPID No. L-2025-LLA-0099), " dated August 6, 2025
 3. Letter from M.D. Humphrey (Constellation Energy Generation, LLC) to U.S. NRC, "Response to Request for Additional Information Related to License Amendment Request for Clinton Power Station to Approve a Methodology for Testing MSIV Closure RPS Response Time," dated August 13, 2025 (ADAMS Accession No. ML25225A226)

In Reference 1, in accordance with 10 CFR 50.90, "Application for amendment of license, construction permit," Constellation Energy Generation, LLC (CEG) requested an amendment to Facility Operating License No. NPF-62 for Clinton Power Station, Unit 1. The proposed amendment would permit a USAR change that will allow for an NRC-approved methodology for Main Steam Isolation Valve (MSIV) - Closure Reactor Protection System (RPS) response time testing.

In Reference 2, the NRC requested additional information that was needed to complete a review of that license amendment request. In Reference 3, CEG responded to that request for additional information.

On August 15, 2025, a phone call was held between the NRC and members of CEG. The NRC required additional detail on how the revision to procedure 9431.10 "Reactor Protection System (RPS) Main Steam Line Isolation Valve (MSIV) Channel Calibration," given in Reference 3 would ensure that MSIV limit switch degradation would be identified. The Attachment to this letter addresses that request with additional technical details and the newly revised procedure (9431.10). The specific change is on page 14 in that procedure. Procedures 9431.10 A through G are for the other seven channels but will be revised the same way.

CEG has reviewed the information supporting the finding of No Significant Hazards Consideration, and the Environmental Consideration, which were previously provided to the NRC in Reference 1. The additional information provided in this submittal does not affect the bases for concluding that the proposed license amendment does not involve a significant hazards consideration. In addition, the information provided in this submittal does not affect the bases for concluding that neither an environmental impact statement nor an environmental assessment needs to be prepared in connection with the proposed amendment.

There are no regulatory commitments contained in this letter. Should you have any questions concerning this letter, please contact Nick Lien at (779) 231-6283.

I declare under the penalty of perjury that the foregoing is true and correct. Executed on the 20th day of August 2025.

Respectfully,

Mark Humphrey
Sr. Manager Licensing
Constellation Energy Generation, LLC

Attachment: Supplement to Clinton Response to Request for Additional Information Related to Response Time Testing License Amendment Request

cc: Regional Administrator- NRC Region III
NRC Senior Resident Inspector – Clinton Power Station
Illinois Emergency Management Agency - Department of Nuclear Safety and Homeland Security

ATTACHMENT

**Clinton Power Station
Docket No. 50-461**

Facility Operating License No. NPF-62

**Supplement to Clinton Response to Request for Additional Information Related to
Response Time Testing License Amendment Request**

ATTACHMENT

Supplement to Clinton Response to Request for Additional Information Related to Response Time Testing License Amendment Request

1. Scope

The following Constellation Energy Generation, LLC (CEG) supplement response provides an enhancement to a procedure revision for Reactor Protection System (RPS) Main Steam Line Isolation Valve (MSIV) Channel Calibration (9431.10) that was provided as an attachment in the Clinton Power Station (CPS) Request for Additional Information response letter dated August 13, 2025 (ML25225A226). This enhancement is in support of discussion that occurred on August 15, 2025, between the NRC and CEG via teleconference. The NRC required additional detail on how the 9431.10 procedure revision would ensure that Main Steam Isolation Valve limit switch degradation would be identified.

2. NRC Request

The "Definitions" section 2.2 of 9431.10H Rev 2, provided the following definition: "Sluggish Response of snap-acting limit switch – Switch operates with an indication of delay in switch response or erratic electrical indications." Explain how this definition provides adequate instruction to identify limit switch degradation and the acceptance criteria.

3. CEG Response

As part of the discussion, CEG explained that this is a spring-actuated limit switch, and its operation is observable at the switch during performance of this procedure. However, the NRC requested this be further explained in the procedure. Additional technical details are provided in the following paragraphs.

The limit switch utilized for the MSIV position input to the RPS system is a snap acting NAMCO model EA740-50100. The switch contacts are normally closed with the MSIV in the full-open position. As the MSIV moves in the closed direction, the limit switch arm is repositioned to open the electrical contacts. The contacts are spring loaded to ensure reliable, positive response of the switch during actuation. The most common degradation mechanism is hardening of the lubrication inside the switch resulting in a delay in actuation of the switch. This is readily observed while stroking the MSIV and observing the switch for proper operation. Any delay in switch response would result in the replacement of the limit switch.

In addition, the calibration procedure requires coordination between the Main Control Room (MCR) operator controlling the valve, an Instrumentation Technician in the MCR monitoring electrical response (observation of voltage change from nominal 125 VDC to 0 VDC), and an Instrumentation Technician locally at the MSIV observing operation of the valve and limit switch and marking valve position when the limit switch electrically changes state. Instrumentation Technicians that have experience performing this test report that switch actuation is normally rapid as soon as the setpoint is reached due to the spring-loaded operation of the switch. The

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Instrumentation Technician in the MCR can audibly hear the switch actuation over the headphones while observing the position indicating lights and digital voltmeter. In this way, any erratic electrical response can be observed.

Because the limit switches are bolted in place and the actuator arms are splined to the shaft, other than delayed response, there is no mechanism for drifting of the limit switch setpoint. Any delay in the response of the limit switch would be manifested as further valve travel when being monitored electrically. Changes in measured as-found limit switch setting can be trended to determine if any delay is occurring.

The attached revision of 9431.10H addresses this request. Key changes made are to step 8.1.15, which now states, "Verify there is no sluggish or delayed response of the snap-acting limit switch." The "or delayed" was added in the new revision. Step 9.2.4 continues to provide the acceptance criteria to notify supervision if any step was unacceptable.

**RPS MAIN STEAMLINER ISOLATION VALVE B21-F028D CHANNEL
CALIBRATION**

SCOPE OF REVISION:

- Revise to add step 8.1.15 Bullet 1 to look for sluggish response during MSIV stroke. PCRA# 4878399-02 [Jim LoPresto]

Level 1 - CONTINUOUS USE

1.0 **PURPOSE**

- 1.1 To provide instructions for performance of a channel calibration of the Reactor Protection System (RPS) Main Steamline Isolation Valve (MSIV) Outboard B21-F028D as specified in CPS ITS SR 3.3.1.1.13 T6.
- 1.2 Performance of this procedure satisfies the functional test requirements of ITS SR 3.3.1.1.9 T6
- 1.3 This procedure also partially satisfies the Logic System Functional requirements of SR 3.3.1.1.15 T6 and SR 3.3.1.1.17 T6 for these MSIV channels.
- 1.4 ISI Program - Partial Exercise of MSIV's

2.0 **DISCUSSION/DEFINITIONS**2.1 **Discussion**

- 2.1.1 Frequency: *«LBD-1, LBD-2»*
1. Normal Frequency in accordance with the Surveillance Frequency Control Program (SFCP).
 2. Other Triggers - Any maintenance that may disturb limit switch setpoint.
- 2.1.2 This procedure includes steps necessary to perform the Channel Calibration of the instrument channel up to the point where this channel converges with other channels.
- 2.1.3 This procedure also checks the logic associated with the Main Steam Line (MSL) D BYPASS switch operation. This procedure is only performed during Operational Condition 4 or 5 due to the prerequisite that the REACTOR SYSTEM MODE switch is NOT in RUN position. This channel provides trip signals to the Reactor Protection System logic.
- 2.1.4 This procedure also includes steps necessary to perform the individual instrument calibrations needed to restore the channel to the loop specifications. The components in the loop are as follows:

Loop D	Limit Switch		
	on Valves	B21-F028D	V-112-781
	Annunciator	Window 3-C	H13-P680-05A (5004)
	Computer Point	B21NC050	

2.1.5 Performance of this procedure satisfies the requirements of CPS 9031.10, RPS Main Steam Line Isolation Valve Channel Functional

2.2 **Definitions**

Sluggish Response of snap-acting limit switch - switch operates with an indication of delay in switch response or erratic electrical indications.

3.0 **RESPONSIBILITY**

The Manager - Instrument Maintenance Department (IMD) shall be responsible for the implementation and review of this procedure.

4.0 **PRECAUTIONS**

4.1 Close proximity to the moving parts on the MSIV is necessary to perform this procedure. Extreme care should be exercised to avoid personnel injury during valve movement.

4.2 Improper implementation of this procedure could result in a scram initiation signal to occur. Ensure that performance of this channel calibration does not satisfy any 2/4 logic functions which would cause unwanted responses (refer to step 5.11).

4.3 Do not reuse pipe plug. When removing or installing a pipe plug, care shall be taken to restrain the assembled operating lever so the applied torque is not transmitted to the switch shaft.

5.0 **PREREQUISITES**

- 5.1 Verify calibration due-date of test equipment to be used to ensure calibrations up-to-date. _____
- 5.2 Establish Communications between the Main Control Room (MCR) and the Turbine Building Main Steam Tunnel V-110-762 (jack G17) for performance of Sections 8.1, 8.2, 8.3 and 8.4.
- 5.3 In conjunction with Shift Management, review the following impact statements and referenced Operability Impacts to determine required plant status to perform this test:

OPERABILITY IMPACTS

CPS ITS LCO 3.3.1.1, Reactor Protection System (RPS) Instrumentation, Table 3.3.1.1-1, item:

6. Main Steam Line Isolation Valve - Closure

CPS ITS LCO 3.3.6.1, Primary Containment and Drywell Isolation Instrumentation, Table 3.3.6.1-1, item:

1. Main Steam Line Isolation

d) Condenser Vacuum - Low

OTHER SYSTEMS AFFECTED - IF Condenser Vacuum NOT being simulated, THEN Condenser Low Vacuum Bypass Switches for all divisions will be placed in BYPASS to override Low Condenser Vacuum Trip Signal.

Annunciators:

DIV 1 OR 4 MSIV CL TRIP [5004-3C]
 DIV 2 OR 3 MSIV CL TRIP [5005-3C]
 MAIN CONDENSER LOW VACUUM BYPASS (5067-4E)
 MAIN CONDENSER LOW VACUUM BYPASS (5066-4E)

Computer Points:

B21NC050

RPS TRIP - Yes, Reactor Scram

CRVICS ISOLATION - No Impact

5.3 (cont'd)

LOGIC TYPE - 2/4, One Inboard MSIV Switch or One Outboard MSIV Switch on the same steam line constitutes one input to the 2 out of 4 logic. Any 2 inputs to the 2 out of 4 logic will cause a SCRAM.

COINCIDENT CHANNELS TO PREVENT ACTUATION

None: MSIV closure scram is bypassed with the mode switch in SHUTDOWN position.

PLANT/SYSTEM CONDITIONS ASSUMED FOR TEST:

This procedure is only performed during operational condition 4 or 5.

Able to Open MSIVs

_____/_____
SMngt Performer

- 5.4 Obtain Shift Management permission (Initials, Date and Time) prior to performing this test.

_____/_____
DATE TIME SMngt

- 5.5 **Operations:** IF Condenser Vacuum NOT being simulated, **THEN** Verify MSL D BYPASS switch is in NORM [5067B].

IV _____/
OPS IMD

- 5.6 **Operations:** Verify Reactor System Mode switch is NOT in RUN [H13-P680-11E2].

IV _____/
OPS IMD

5.7 **Operations:** Verify occurrence of the following:

- | | |
|---|---|
| 1. Annunciator DIV 1 MSL A CL SCRAM BYP/NOT IN RUN is alarming [5004-1G]. | IV <u> </u> / <u> </u>
OPS IMD |
| 2. Annunciator DIV 2 MSL B CL SCRAM BYP/NOT IN RUN is alarming [5005-1G]. | IV <u> </u> / <u> </u>
OPS IMD |
| 3. Annunciator DIV 3 MSL C CL SCRAM BYP/NOT IN RUN is alarming [5005-2G]. | IV <u> </u> / <u> </u>
OPS IMD |
| 4. Annunciator DIV 4 MSL D CL SCRAM BYP/NOT IN RUN is alarming [5004-2G]. | IV <u> </u> / <u> </u>
OPS IMD |

5.8 **IF** the following annunciators are in alarm OR Condenser Vacuum is being simulated, **THEN** proceed to step 5.14 and N/A steps not required.

If annunciators not in alarm, **THEN** proceed to step 5.9.

1. MAIN CONDENSER LOW VACUUM BYPASS (5067-4E)
2. MAIN CONDENSER LOW VACUUM BYPASS (5066-4E)

NOTE

Valves out of service for maintenance may be N/A'd.

5.9 **Operations:** Place/verify the following switches in CLOSE:

5067C

- | | | |
|----|---|--|
| 1. | B21H-F028A MAIN STEAM LINE A OUTBD MSIV | IV <u> </u> / <u> </u>
OPS IMD |
| 2. | B21H-F028B MAIN STEAM LINE B OUTBD MSIV | IV <u> </u> / <u> </u>
OPS IMD |
| 3. | B21H-F028C MAIN STEAM LINE C OUTBD MSIV | IV <u> </u> / <u> </u>
OPS IMD |
| 4. | B21H-F028D MAIN STEAM LINE D OUTBD MSIV | IV <u> </u> / <u> </u>
OPS IMD |

5066C

- | | | |
|----|--|--|
| 1. | B21H-F022A MAIN STEAM LINE A INBD MSIV | IV <u> </u> / <u> </u>
OPS IMD |
| 2. | B21H-F022B MAIN STEAM LINE B INBD MSIV | IV <u> </u> / <u> </u>
OPS IMD |
| 3. | B21H-F022C MAIN STEAM LINE C INBD MSIV | IV <u> </u> / <u> </u>
OPS IMD |
| 4. | B21H-F022D MAIN STEAM LINE D INBD MSIV | IV <u> </u> / <u> </u>
OPS IMD |

5.10 Notify CRS/RO the following annunciators will alarm in step 5.11:

- | | | |
|----|--|-------|
| 1. | MAIN CONDENSER LOW VACUUM BYPASS (5067-4E) | _____ |
| 2. | MAIN CONDENSER LOW VACUUM BYPASS (5066-4E) | |

5.11 **Operations:** Momentarily place following switches in BYPASS, then return switches to AUTO.

5067B

- | | |
|---|--|
| 1. Div 1 CONDENSER LOW VACUUM (B21H-S24A) | IV <u> </u> / <u> </u>
OPS IMD |
| 2. Div 4 CONDENSER LOW VACUUM (B21H-S24D) | IV <u> </u> / <u> </u>
OPS IMD |

5066B

- | | |
|---|--|
| 3. Div 2 CONDENSER LOW VACUUM (B21H-S24B) | IV <u> </u> / <u> </u>
OPS IMD |
| 4. Div 3 CONDENSER LOW VACUUM (B21H-S24C) | IV <u> </u> / <u> </u>
OPS IMD |

5.12 **Operations:** Momentarily depress INBOARD ISOLATION SEAL IN RESET (5066B).

OPS

5.13 **Operations:** Momentarily depress OUTBOARD ISOLATION SEAL IN RESET (5067B).

OPS

5.14 **IF** plant conditions do not allow all MSIV's to be open, **THEN** jumpers may be installed below to provide a signal to logic by simulating the appropriate MSIV is open. **IF** a jumper(s) is not required, **THEN** this step may be N/A'd.

1B21F022A	1H13P706A	TM015 Terminals 9 & 10	CV <u> </u> / <u> </u>
1B21F022B	1H13P707B	TM008 Terminals 9 & 10	CV <u> </u> / <u> </u>
1B21F022C	1H13P708B	TM004 Terminals 7 & 8	CV <u> </u> / <u> </u>
1B21F022D	1H13P709B	TM004 Terminals 7 & 8	CV <u> </u> / <u> </u>
1B21F028A	1H13P706A	TM015 Terminals 7 & 8	CV <u> </u> / <u> </u>
1B21F028B	1H13P707B	TM008 Terminals 7 & 8	CV <u> </u> / <u> </u>
1B21F028C	1H13P708B	TM004 Terminals 5 & 6	CV <u> </u> / <u> </u>
1B21F028D	1H13P709B	TM004 Terminals 5 & 6	CV <u> </u> / <u> </u>

5.15 **Operations:** OPEN, verify OPEN or verify jumper installed per step 5.14 for OPEN inboard MSIV's 1B21-F022A, B, C, D at 5066C and outboard MSIV's 1B21-F028A, B, C, D at 5067C, per 3101.01.

IV /
OPS IMD

5.16 **Operations:** Verify none of the following alarms/trips are present; if any are present, refer to step 6.2.

1. DIV 1 OR 4 MSIV CL TRIP annunciator on panel 5004 window 3-C.

IV /
OPS IMD

2. DIV 2 OR 3 MSIV CL TRIP annunciator on panel 5005 window 3-C.

IV /
OPS IMD

6.0 LIMITATIONS

6.1 If during the performance of this Procedure a SCRAM signal occurs, performance of this procedure shall be halted. Contact Operations for directions prior to restoring channel or recommencing test.

6.2 If any of the alarms/trips listed in step 5.16 are present, performance of this procedure will cause a scram initiation signal to occur. Notify IMD Supervision and obtain Shift Management permission prior to continuing.

7.0 **MATERIALS/TEST EQUIPMENT**

7.1 The following is a list of the test equipment that is required for the performance of this procedure. Equivalent test equipment may be used.

7.1.1 Multimeter (DMM) to monitor contact/relay operation

Type: Fluke 45
Range: 0 - 125 VDC
Accuracy: N/A

7.1.2 12 inch metal rule or tape measure (capable of measuring 64ths of an inch).

7.1.3 Scribe

7.1.4 Pipe Plug - SZ4005 (set screw)

7.1.5 3/16" Hex Key (allen wrench)

7.1.6 Portable lighting «CM-1»

8.0 PROCEDURE8.1 Loop Calibration of RPS MSIV Limit SwitchNOTE

Refer to Figure 1 for MSIV component layout.

8.1.1 Verify or scribe a mark, on limit switch bracket at lower surface of bottom spring seat assembly of valve B21-F028D.

8.1.2 **Operations:** Place MAIN STEAMLINE D OUTBD MSIV switch to CLOSE TEST [5067C].

IV /
OPS IMD

NOTE

The following step will stroke the MSIV, be ready to measure the stroke distance from full open to full shut.

The MSIV test switch is a momentary pushbutton type and is required to be held in until the desired valve travel is achieved. Releasing the switch will return the MSIV to OPEN.

WARNING

Performance of the following step will cause valve movement.

8.1.3 **Operations:** Depress MAIN STEAMLINE D OUTBD MSIV TEST switch [5067C].

OPS

8.1.4 Verify or scribe a mark, on limit switch bracket at lower surface of bottom spring seat assembly of valve B21-F028D.

8.1.5 **Operations:** Release MAIN STEAMLINE D OUTBD MSIV test switch.

OPS

8.1.6 Measure stroke distance from full open to full close. Record stroke distance below.

Stroke Distance = inches

8.1.7 Verify the following:

- All Inbd (B21-F022A,B,C,D) and Outbd (B21-F028A,B,C,D) MSIV's are OPEN, or jumper installed per step 5.14. _____
- Annunciator DIV 1 or 4 MSIV CL TRIP is reset [5004-3C]. _____
- Computer Point B21NC050 is reset. _____

8.1.8 Calculate the acceptable and allowable values and tolerances in the following table.

An example is given in Appendix A.

	Stroke Distance (8.1.6) (inches)	Multiply	Multiply	Round to nearest whole #	Calculated value (inches)	
Maximum AFT (13% closed)	_____	x 64=_____	x .13=_____	round=_____ down	_____/64	(A)
Minimum AFT (1% closed)	_____	x 64=_____	x .01=_____	round=_____ up	_____/64	(B)
Maximum ALT (9% closed)	_____	x 64=_____	x .09=_____	round=_____ down	_____/64	(C)
Minimum ALT (5% closed)	_____	x 64=_____	x .05=_____	round=_____ up	_____/64	(D)
Acceptable Limit TRIP SETPOINT (7% closed)	_____	x 64=_____	x .07=_____	round=_____ down	_____/64	(E)
Allowable Limit Trip (≤ 13% closed)	_____	x 64=_____	x .13=_____	round=_____ down	_____/64	(F)

8.1.9 **Independent Verifier:** Verify calculations in step 8.1.8 are correct.

Ind Ver

8.1.10 Enter the values from step 8.1.8 into the data table in step 8.1.14 AND 8.2.8.

8.1.16 **Operations:** Verify correct BYPASS switch to be placed in BYPASS, then position the MSL D BYPASS switch to BYPASS [5067B].

OPS

8.1.17 Verify the following:

- Annunciator DIV 1 OR 4 MSIV CL TRIP is reset [5004 window 3-C].
- Computer Point B21NC050 is reset.

8.1.18 **Operations:** Verify correct BYPASS switch to be placed in NORM, then position the MSL D BYPASS switch to NORM.

OPS

8.1.19 Verify the following:

- Annunciator DIV 1 OR 4 MSIV CL TRIP is alarming [5004 window 3-C].
- Computer Point B21NC050 is tripped.

8.1.20 **Operations:** Release MAIN STEAMLINE D OUTBD MSIV TEST switch.

OPS

8.1.21 **WHEN** limit switch LS-5 closes, as indicated by DMM, **THEN** note position of lower surface of bottom spring seat assembly on limit switch bracket.

8.1.22 Record valve travel in the AS FOUND column of the data table.

Desired Value (inches)	Minimum Acceptable (inches)	B21-F028D Valve Travel Close As Found (inches)	Maximum Acceptable (inches)
Record	N/A	_____	N/A

8.1.23 Verify occurrence of the following:

- Annunciator DIV 1 OR 4 MSIV CL TRIP is reset [5004 window 3-C]. _____
- Computer Point B21NC050 is reset. _____
- Red light ON and green light OFF for valve under test B21-F028D. _____

8.1.24 **IF** all AS FOUND data is acceptable, **THEN**;

1. Acknowledge the AS FOUND data equals the AS LEFT data. «LBD-1» _____
2. Mark section 8.2 as not applicable.
3. proceed to step 8.3.

8.1.25 **IF** any AS FOUND data is not acceptable, **THEN** notify Shift Management and IMD Supervision.

8.2 Adjustment of RPS MSIV Limit Switch

NOTE

The limit switch actuation point is changed by moving the actuation arm of the limit switch.

8.2.1 At limit switch LS-5, perform following:

1. Remove limit switch actuation arm pipe plug from spline shaft and properly discard.
2. Remove actuation arm, noting number of splines moved and replace actuating arm.

NOTE

There should be no relative motion between the limit switch shaft and operating lever.

8.2.2 Install a new pipe plug and lightly tighten, (do NOT torque to snug tight). _____

WARNING
Performance of the following step will cause valve movement.

- 8.2.3 **Operations:** Depress MAIN STEAMLINE D OUTBD MSIV TEST switch. IV /
OPS IMD
- 8.2.4 **WHEN** limit switch LS-5 opens, as indicated by DMM, **THEN** note position of lower surface of bottom spring seat assembly on limit switch bracket.
- 8.2.5 **Operations:** Release MAIN STEAMLINE D OUTBD MSIV TEST switch. IV /
OPS IMD
- 8.2.6 **WHEN** limit switch LS-5 closes, as indicated by DMM, **THEN** note position of lower surface of bottom spring seat assembly on limit switch bracket.
- 8.2.7 Repeat steps 8.2.1 through 8.2.6 until the values are within the acceptable limits. Torque pipe plug(s) snug tight. _____
- 8.2.8 Record final valve travel in the AS LEFT column of data table. «LBD-1» _____

Desired Value (inches)	Tech Spec Allowable Limit (inches)	Minimum Acceptable (inches)	B21-F028D Valve Travel OPEN As Left (inches)	Maximum Acceptable (inches)
<u> </u> /64 (E)	≤ <u> </u> /64 (F) ≤ 13% closed	<u> </u> /64 (D)	_____	<u> </u> /64 (C)

Desired Value (inches)	Minimum Acceptable (inches)	B21-F028D Valve Travel CLOSE As Left (inches)	Maximum Acceptable (inches)
Record	N/A	_____	N/A

- 8.2.9 **IF** any AS LEFT readings are not acceptable, **THEN** notify IMD Supervision.

8.3 **System Restoration**

8.3.1 Remove the DMM. _____

8.3.2 **Operations:** Verify correct MSIV switch to be placed in AUTO then, place MAIN STEAMLINE D OUTBD MSIV switch to AUTO.**IV** / _____
OPS IMD**NOTE***If there are remaining valves to be tested, the MSIVs may be left OPEN and step 8.3.3 should be N/A'd.*8.3.3 **Operations:** Verify correct MSIV to be closed then, CLOSE all Inbd (B21-F022A,B,C,D) and Outbd (B21-F028A,B,C,D) MSIVs (if plant conditions permit).**IV** / _____
OPS IMD8.3.4 **IF** a jumper was installed in step 5.14 **THEN** remove jumper: N/A if not installed.

1B21F022A	1H13P706A	TM015 Terminals 9 & 10	IV / _____
1B21F022B	1H13P707B	TM008 Terminals 9 & 10	IV / _____
1B21F022C	1H13P708B	TM004 Terminals 7 & 8	IV / _____
1B21F022D	1H13P709B	TM004 Terminals 7 & 8	IV / _____
1B21F028A	1H13P706A	TM015 Terminals 7 & 8	IV / _____
1B21F028B	1H13P707B	TM008 Terminals 7 & 8	IV / _____
1B21F028C	1H13P708B	TM004 Terminals 5 & 6	IV / _____
1B21F028D	1H13P709B	TM004 Terminals 5 & 6	IV / _____

8.3.5 RPS MSIV Channel D is restored to service and operating properly. _____

9.0 ACCEPTANCE CRITERIA**9.1 OPERABILITY Requirements**

Failure to meet the Acceptance Criteria given below shall constitute a failure to comply with the applicable LCO. Refer to Supplemental Review Sheet for applicable LCOs.

9.1.1 The AS LEFT Valve Travel values are within the Allowable Limits specified on the data table.

9.1.2 The annunciator for the valve being tested actuated to satisfy the MSIV Functional Test.

9.2 OTHER DATA Requirements

9.2.1 The AS LEFT data taken for the Loop Specifications, are within the Acceptable Limits specified on the data table.

9.2.2 The alarms/trip actuations occur as specified.

9.2.3 All other alarms and indications responded correctly.

9.2.4 If any step was unacceptable notify IMD Supervision.

10.0 FINAL CONDITIONS

All Inbd (B21-F022A,B,C,D) and Outbd (B21-F028A,B,C,D) MSIVs are operating properly.

11.0 REFERENCES**11.1 Licensing Basis Documents**

11.1.1 LBD-1 CPS ITS SR 3.3.1.1.13 T6

11.1.2 LBD-2 CPS ITS SR 3.3.1.1.15 T6, SR 3.3.1.1.17 T6

11.1.3 CPS ITS LCO 3.3.6.1, 3.3.1.1

11.1.4 USAR - 3.1.2.3.10.1, 5.4.5, 7.2.1.1.4.2(item 6), 7.2.1.1.4.8, 7.2.2.1.2.3.1

11.1.5 ORM Attachment 2-3 (Table 1)

11.2 **Procedures**

11.2.1 CPS 9031.10, RPS Main Steamline Isolation Valve Channel Functional

11.2.2 CPS 8492.02, Electric Conductor Seal Assembly

11.2.3 CPS 1887.00, Administration Of ISI Program Activities

11.3 **Design/Vendor/Print/Other**

11.3.1 E02-1RP99, Sh. 6, 7, 9, 25, 26, 27, 28, 30,

11.3.2 G.E. Design Specification Data Sheet 22A4622AV, Sh. 11

11.3.3 K2801-0002, ATWOOD AND MORRILL VENDOR MANUAL

11.3.4 MAINTENANCE OF EQUIPMENT QUALIFICATION PROGRAM MANUAL, MS-02.00, EQ-CL013B-02

11.3.5 IP-C-0075, Rev. 1, "Setpoint Calculation for Main Steam Isolation Valve Position for RPS MSIV Closure Trip".

11.4 **Commitments**

CM-1 OSHA Reportable Injury 2/1/94, CCT 061412 (7.1.6)

12.0 **APPENDICES**

A. Example data sheet

13.0 **DOCUMENTS**

13.1 Surveillance Frequency Control Program (SFCP)

APPENDIX A

Example Data Sheet

STEP

8.1.6 Stroke distance = 11.125 inches.

8.1.8

STROKE DISTANCE	MULTIPLY	MULTIPLY	MULTIPLY	ROUND TO NEAREST WHOLE NUMBER	CALCULATED VALUE (INCHES)	DESIGNATOR
MAXIMUM AFT (13% CLOSED)	<u>11.125</u>	X64	= <u>712.0</u>	X 0.13 = <u>92.56</u>	ROUND DOWN = <u>92</u>	(A)
MINIMUM AFT (1% CLOSED)	<u>11.125</u>	X64	= <u>712.0</u>	X 0.01 = <u>7.12</u>	ROUND UP = <u>8</u>	(B)
MAXIMUM ALT (9% CLOSED)	<u>11.125</u>	X64	= <u>712.0</u>	X 0.09 = <u>64.08</u>	ROUND DOWN = <u>64</u>	(C)
MINIMUM ALT (5% CLOSED)	<u>11.125</u>	X64	= <u>712.0</u>	X 0.05 = <u>35.60</u>	ROUND UP = <u>36</u>	(D)
TRIP SETPOINT (7% CLOSED)	<u>11.125</u>	X64	= <u>712.0</u>	X 0.07 = <u>49.84</u>	ROUND DOWN = <u>49</u>	(E)
ALLOWABLE LIMIT (≤ 13% CLOSED)	<u>11.125</u>	X64	= <u>712.0</u>	X 0.13 = <u>92.56</u>	ROUND DOWN = <u>92</u>	(F)

CALIBRATION SPECIFICATIONS (EXAMPLE)

<u>DESIRED</u>	<u>AS FOUND TOLERANCES</u>
Trip (open) Designator Reset (closed)	92/64 to 7/64 inches (13% to 1% closed) (A) (B) N/A
<u>DESIRED</u>	<u>AS LEFT TOLERANCES</u>
49/64 inches (7% closed) (E) N/A	64/64 to 35/64 inches (9% to 5% closed) (C) (D) N/A
<u>DESIRED</u>	<u>ALLOWABLE LIMIT</u>
49/64 inches (7% closed) (E) Reset (closed)	<92/64 inches (<13% closed) (F) N/A

