

NUCLEAR POWER BUSINESS UNIT  
INSERVICE TESTS

IT 325  
MAJOR  
Revision 8  
March 21, 1997

CVCS VALVES (COLD SHUTDOWN)  
UNIT 2

Date \_\_\_\_\_  
DSS \_\_\_\_\_

RECORD

PROCEDURE VERIFIED CURRENT AND CHECKED FOR TEMPORARY CHANGES. IF FIELD COPIES REQUIRED, USE PBF-0026; IAW NP 1.2.4 AND DO NOT COMPLETE THIS BLOCK.

BY: \_\_\_\_\_ DATE: \_\_\_\_\_

1.0 PURPOSE

- 1.1 The purpose of this test is to perform a full stroke exercise test of the following valves as required by ASME Boiler and Pressure Vessel Code, Section XI, Inservice Inspection of Nuclear Power Plant Components.

2CV-371A	Letdown isolation valve
2CV-371	Letdown isolation valve
2CV-112B	RWST to charging pump suction MOV
2CV-112C	VCT to charging pump suction MOV
2CV-142	Normal charging line flow control valve
2CV-357	RWST to charging pump suction check valve
2CV-384B	Manual outlet isolation for 2CV-142

- 1.2 Testing of the Following Valves Satisfies Environmental Qualification Requirements:

2CV-371A	Letdown isolation valve
2CV-1296	Auxiliary charging valve

- 1.3 Testing of the following valves satisfies the biennial position indicator verification (PIT) required by ASME, Boiler and Pressure Vessel Code, Section XI, Inservice Inspection of Nuclear Power Plant Components.

2CV-371A	Letdown isolation valve
2CV-371	Letdown isolation valve
2CV-1296	Auxiliary charging valve
2CV-112B	RWST to charging pump suction MOV
2CV-112C	VCT to charging pump suction MOV
2CV-142	Normal charging line flow control valve

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2.0 PRECAUTIONS AND LIMITATIONS

- 2.1 Do not perform this inservice test while the reactor coolant system is in the solid condition.
- 2.2 For the purposes of valve stroke testing, stroke time is the time it takes the valve to go from full open to full shut or full shut to full open, by the control board indication. The stopwatch should be started at the moment the control switch is actuated.
- 2.3 A containment entry is required to verify local position indication on valves 2CV-371A and 2CV-1296. Verify RWP requirements are met.
- 2.4 Pressurizer level will slowly increase during this procedure due to CVCS letdown being secured with seal injection flow being maintained. Consider placing the excess letdown heat exchanger in service.
- 2.5 Auxiliary charging line may be in service at times during the outage. This procedure will require the use of normal charging.

3.0 INITIAL CONDITIONS

INITIALS

- 3.1 This test is being done to satisfy:

\_\_\_\_\_ The normally scheduled callup. Task sheet No. \_\_\_\_\_

\_\_\_\_\_ Post-maintenance operability test for \_\_\_\_\_ (equip. ID)  
MWR No.(s) \_\_\_\_\_  
Task sheet No.(s) \_\_\_\_\_

\_\_\_\_\_ Special test - no numbers  
Explain: \_\_\_\_\_

- 3.2 The reactor is not at a power condition.
- 3.3 The reactor coolant system is not in a solid condition.
- 3.4 The associated letdown gas stripper is off-line
- 3.5 A stopwatch is available to time the stroking of valves.  
ID No. \_\_\_\_\_

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- 3.6 RCS wide range pressure from 2PI-420C  
\_\_\_\_\_ psig

- 3.7 Only applicable sections/steps need be performed. Sections/steps not to be performed should be marked N/A by the DSS/DOS.

3.8 **Permission to Perform Test**

The conditions required by this test are consistent with required plant conditions including equipment operability. Permission is granted to perform this test.

DSS \_\_\_\_\_ TIME \_\_\_\_\_ DATE \_\_\_\_\_

4.0 PROCEDURE

- 4.1 Go off letdown by shutting or checking shut letdown orifice valves 2CV-200A, B and C, and RHR letdown valve, 2CV-369A, if on RHR.

**NOTE:** See *Precautions and Limitations Step 2.3 concerning containment entry requirements.*

- 4.2 Check shut 2CV-323A, auxiliary charging line manual isolation.

4.3 Shut 2CV-371A, Letdown Isolation Valve

- 4.3.1 Time to shut. \_\_\_\_\_ sec.

- 4.3.2 Check the local valve position indicator for shut indication.  
\_\_\_\_\_ % open

- 4.3.3 Check the status light BRIGHT for 2CV-371A on Unit 2 isolation Panel B.

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4.4 Open 2CV-371A, Letdown Isolation Valve

4.4.1 Time to open. \_\_\_\_\_ sec.

4.4.2 Check the local valve position indicator for open indication.  
\_\_\_\_\_ % open

4.4.3 Check the status light OFF for 2CV-371A on Unit 2 isolation  
Panel B. \_\_\_\_\_

4.5 Open 2CV-1296, Auxiliary Charging Valve While Timing Same

4.5.1 Time to open. \_\_\_\_\_ sec.

4.5.2 Check mechanical position indication for open indication.  
\_\_\_\_\_ % open

4.5.3 Check the status light OFF for 2CV-1296 on Unit 2 isolation  
Panel A. \_\_\_\_\_

4.6 Shut 2CV-1296, Auxiliary Charging Valve While Timing Same

4.6.1 Time to shut. \_\_\_\_\_ sec.

4.6.2 Check mechanical position indication for shut indication.  
\_\_\_\_\_ % open

4.6.3 Check the status light BRIGHT for 2CV-1296 on Unit 2  
isolation Panel A. \_\_\_\_\_

4.7 Shut 2CV-371, Letdown Isolation Valve

4.7.1 Time to shut. \_\_\_\_\_ sec.

4.7.2 Check the local valve position indicator for shut indication.  
\_\_\_\_\_ % open

4.7.3 Check the status light BRIGHT for 2CV-371 on Unit 2  
isolation Panel B. \_\_\_\_\_

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4.8 Open 2CV-371, Letdown Isolation Valve

4.8.1 Time to open. \_\_\_\_\_ sec.

4.8.2 Check the local valve position indicator for open indication.  
\_\_\_\_\_ % open

4.8.3 Check the status light OFF for 2CV-371 on Unit 2 isolation  
Panel B. \_\_\_\_\_

**NOTE:** *Steps 4.9 through 4.12 isolates flow to the normal charging line.  
Adjust charging pump speed as required to maintain seal injection  
flow to the RCP seals without lifting the charging pump relief valves.*

4.9 Shut 2CV-142 charging line flow control valve via 2HC-142 at 2C04. \_\_\_\_\_

4.10 Check for Shut Indication for 2CV-142

4.10.1 2CV-142 position indicating lights on 2C04 indicate SHUT. \_\_\_\_\_

4.10.2 2CV-142 Local valve indicator.  
\_\_\_\_\_ % open. \_\_\_\_\_

4.11 Shut 2CV-384B, manual outlet isolation for 2CV-142. \_\_\_\_\_

4.12 Open and Time Open 2CV-142 Via the Following Steps

4.12.1 Establish communications between Unit 2 control operator and  
the operator at 2CV-142. \_\_\_\_\_

4.12.2 Remove the plug on the vent line for IA-1664, 2CV-142  
operating air supply test valve. \_\_\_\_\_



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**NOTE:** *The time to open for 2CV-142 is the time required for the indicating lights on 2C04 to indicate valve 2CV-142 is open.*

4.12.3 Fail open and time 2CV-142 by placing IA-1664 to the vent position.

a. Time to open. \_\_\_\_\_ sec.

b. Local position indication.  
\_\_\_\_\_ % open.

c. Valve position indicating lights on 2C04 indicate 2CV-142 is open.

**\*CAUTION\*** **DO NOT REPOSITION IA-1664 TO THE NORMAL POSITION UNTIL AFTER THE CHARGING LINE FLOW CONTROLLER, 2HC-142, ON 2C04 IS PLACED IN OPEN.**

4.12.4 Place the charging line flow controller, 2HC-142, on 2C04 in OPEN.

4.12.5 Check 2CV-142 operating air pressure at or near 0 psig (gauge on right side). Then place IA-1664 in the normal position and red lock IA-1664 in NORMAL.

Red Lock # \_\_\_\_\_

4.12.6 Replace the plug on the vent line for IA-1664.

4.12.7 Shut 2CV-142 via 2HC-142 at 2C04.

4.13 Realign Charging

4.13.1 Open 2CV-384B, manual outlet isolation for 2CV-142.

4.13.2 Position 2CV-142 as required for plant conditions.

4.13.3 Open 2CV-323A, auxiliary charging line manual isolation if closed at Step 4.2.

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4.14 Establish the letdown lineup as directed by the DSS. \_\_\_\_\_

**NOTE:** Steps 4.15 through 4.24.2 perform a stroke test of valves 2CV-112B, 2CV-112C, and check valve 2CV-357.

4.15 Record charging line flow. \_\_\_\_\_

2FI-128 \_\_\_\_\_ gpm

4.16 Open 2CV-112B, RWST to Charging Pump Suction MOV

4.16.1 Time to open. \_\_\_\_\_ sec.

4.16.2 Check the local valve position indicator for open indication.  
\_\_\_\_\_ % open \_\_\_\_\_

4.17 Shut 2CV-112C, VCT to Charging Pump Suction MOV

4.17.1 Time to shut. \_\_\_\_\_ sec.

4.17.2 Check the local valve position indicator for shut indication.  
\_\_\_\_\_ % open \_\_\_\_\_

4.18 Place 2CV-112A, VCT divert valve, in the DIVERT position. \_\_\_\_\_

**\*CAUTION\*** WHEN ADJUSTING CHARGING PUMP SPEED, ADJUST 2CV-142 AS NECESSARY TO ENSURE PROPER SEAL INJECTION FLOW TO THE RCPS AND PREVENT LIFTING THE CHARGING PUMP DISCHARGE RELIEF VALVES(S).

4.19 Momentarily increase charging flow to  $\geq 61$  gpm by increasing charging pump speed and adjusting 2CV-142 as necessary. \_\_\_\_\_

4.20 Record charging line flow \_\_\_\_\_

2FI-128 \_\_\_\_\_ gpm \_\_\_\_\_

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4.21 Reduce charging flow to value recorded in Step 4.15 while adjusting 2CV-142 as necessary to ensure proper RCP seal injection flow.

4.22 Place 2CV-112A, VCT divert valve, in the AUTO position.

4.23 Open 2CV-112C, VCT to Charging Pump Suction MOV

4.23.1 Time to open. \_\_\_\_\_ sec.

4.23.2 Check the local valve position indicator for open indication.  
\_\_\_\_\_ % open

4.24 Shut 2CV-112B, RWST to Charging Pump Suction MOV

4.24.1 Time to shut. \_\_\_\_\_ sec.

4.24.2 Check the local valve position indicator for shut indication.  
\_\_\_\_\_ % open

4.25 Return the letdown gas stripper to service if required.

**NOTE:** *Step 4.26 does not apply to valves 2CV-112B and 2CV-112C. These valves will not be added to the standing order until adequate history is obtained.*

4.26 Check the valve operability by comparing the valve data with the limits in the IST Pump and Valve Acceptance Criteria Binder.



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INITIALS

5.0 ANALYSIS

**TO BE COMPLETED WITHIN 96 HOURS BY OPERATIONS  
MANAGER OR HIS REPRESENTATIVE.**

5.1 Comparisons with allowable ranges of test values and analysis of  
deviations complete. \_\_\_\_\_

5.2 Any requirements for corrective action? \_\_\_\_\_

Yes \_\_\_\_\_ No \_\_\_\_\_

(If yes, give details in the remarks section.)

5.3 Data analyzed by \_\_\_\_\_

Time and date \_\_\_\_\_

Remarks: