

DAVIS-BESSE NUCLEAR POWER STATION  
**Test Cover Sheet**

12 RFD

TEST NUMBER - PF- 03010	TEST TITLE RCS Leakage + RCS Hydrostatic Test	RC001N(F)
<input type="checkbox"/> PERFORMED TO MEET SCHEDULE <input type="checkbox"/> PERFORMED TO ENSURE OPERABILITY <input type="checkbox"/> PARTIAL TEST <input type="checkbox"/> COMPLETION OF SUSPENDED TEST <input type="checkbox"/> MAINTENANCE/POST-MODIFICATION TEST MWO NUMBER(S) _____	TEST SECTION 4.1	EQUIPMENT NUMBER RC002(F) RC004H(F)
	TEST INITIATED 5/16/00	0200
	TEST COMPLETED 6/2/00	11:32
	TEST LEADER PETER SENEUR // MIKE BEZOR	

**COMPLETED TEST**

**SUSPENDED TEST**

**SUPERVISOR**

PROCEDURE DEFICIENCY FORM ATTACHED AND RESOLVED  
 (TEST DEFICIENCIES AFFECTING ACCEPTANCE CRITERIA RESOLVED WITH REQUIRED SIGNATURES)

TEST, TEST DATA AND CALCULATIONS REVIEWED

ACCEPTANCE CRITERIA MET

FAILED TEST PCAQR # \_\_\_\_\_

TSPS NOTIFIED / TEST LOG UPDATE

ASME XI ACCEPTANCE CRITERIA MAY BE AFFECTED

SUPERVISOR\*: [Signature] 6/5/00 0715

\* FORWARD TO TSPS DATE TIME

**SHIFT SUPERVISOR**

REASON FOR SUSPENSION \_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

TEST DEFICIENCY ATTACHED

SHIFT SUPERVISOR\* \_\_\_\_\_ DATE/TIME \_\_\_\_\_

\* RETURN TO TSPS \_\_\_\_\_

**TECHNICAL SPECIFICATION PLANNER/SCHEDULER (TSPS)**

TECH SPEC  COMPL  OPERABLE  MAINT  FAILED  PARTIAL

P CS: RC001H + RC002J  
 RC001L

[Signature] 6/6/00

TSPS\* \_\_\_\_\_ DATE \_\_\_\_\_

\* FORWARD TO RECORDS MANAGEMENT UNLESS REVIEW IS REQUIRED FOR:

1ST TEST ENGINEER: [Signature]

REVIEW ENGINEER: [Signature]

**TECHNICAL SPECIFICATION PLANNER/SCHEDULER**

DELAY NOTED ON TEST SCHEDULE

125% LATE DATE: \_\_\_\_\_

DESIGNATED REVIEWER \_\_\_\_\_

\_\_\_\_\_ TSPS \_\_\_\_\_ DATE \_\_\_\_\_

**TEST ENGINEERING (ASME PUMP OR VALVE ONLY)**

TEST FREQUENCY CHANGE NECESSARY  YES

TRENDED

TSPS NOTIFIED OF FREQUENCY CHANGE

REMARKS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

IST DATA REVIEWED BY\* \_\_\_\_\_ DATE \_\_\_\_\_

\* FORWARD TO TSPS WITHIN 10 WORKING DAYS.

**PERFORMING ORGANIZATION**

DELAY WILL EXCEED THE TECH SPEC LATE DATE DOCUMENTED ON PCAQR# \_\_\_\_\_

REASON FOR SUSPENSION RESOLVED, TEST MAY BE COMPLETED OR REPERFORMED

OTHER: \_\_\_\_\_

RESPONSIBLE SUPERVISOR \_\_\_\_\_ DATE \_\_\_\_\_

**REVIEW INDIVIDUAL**

REMARKS: This test also meets RC001L(F),  
 RC001N.

[Signature] 6/7/00

REVIEWED BY\* \_\_\_\_\_ DATE \_\_\_\_\_

\* FORWARD TO TSPS WITHIN 10 WORKING DAYS.

EARLY DATE \_\_\_\_/\_\_\_\_/\_\_\_\_

DESIRED DATE \_\_\_\_/\_\_\_\_/\_\_\_\_

LATE DATE \_\_\_\_/\_\_\_\_/\_\_\_\_



SAFETY REVIEW  
ED7818-7

P A	PARER tallard	EXTENSION 7161	MAIL STOP 2103	DEPARTMENT OPS	DATE 05/14/00
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D DB-PF-03010	MENT NO. 03010	TITLE RCS Leakage and RCS Hydrostatic Test
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Change to Technical specifications or BASES?

- Yes: Specifications or BASES affected \_\_\_\_\_  
 No: Provide justification and list Technical Specifications reviewed:

The T/A to this procedure do not affect the implementation of Technical Specifications. The T/A corrects the reference to HP27. HP26 was referenced in error. TS 3.4.9.1 and 3.5.2 were reviewed.

continued

Change in the Facility as Described in the USAR?

- Yes: USAR Sections affected \_\_\_\_\_  
 No: Provide justification and list the USAR sections reviewed:

This procedure T/A does not change the configuration of systems, structures, or components. This T/A corrects the direction for operating HP27. HP26 was incorrectly referenced. USAR section 6.3 was reviewed. This is not a change to the facility as described in the USAR.

continued

Change to Procedures as Described in the USAR?

- Yes: USAR Sections affected \_\_\_\_\_  
 No: Provide justification and list the USAR sections reviewed:

This T/A corrects the direction for operating HP27. HP 26 was directed in error. The activities in this procedure are not described in the USAR. USAR section 6.3 was reviewed. This is not a change to procedures as described in the USAR.

continued

Test or Experiment not described in the USAR?

- Yes:  
 No: Provide justification and list the USAR sections reviewed:

This T/A corrects the reference to a valve. Nothing else is affected, therefore this T/A is not a test or experiment described in the USAR. USAR review noted above. All Systems are operated within design limits.  continued

If any answer is YES, prepare or reference applicable Safety Evaluation, SE.

Write Docketed Letter (DL) or Safety Evaluation (SE) number here: N/A

Parer <i>[Signature]</i>	Date 5/16/00	Qualified Reviewer <i>[Signature]</i>	Date 5/16/00
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- 2.2.3 Applied test pressure (including static head) on any specific component in the test boundary shall not exceed 106% of the specified RCS Hydrostatic test pressure for the system. RCS hydrostatic test pressure is 2199 psig, (not adjusted for RCS head elevation), hence maximum RCS pressure is 2330 psig. Reactor Protection System high trip set point is 2355 psig.
- 2.2.4 For a component hydrostatic test not being performed per Code Case N-416-1, the pressure gage shall be calibrated before each test or series of tests. A series of tests is a group of tests that use the same pressure test gage or gages, and that are conducted within a period not exceeding 2 weeks.
- 2.2.5 For a component hydrostatic test not being performed per Code Case N-416-1, the test pressure gage shall be accurate to within 0.5% of full scale and shall have a range of at least 1.5 times but not more than 4.0 times the maximum test pressure.
- 2.2.6 Plant Installed (PI) pressure gages or equipment may be used for the System Leakage Test or RCS Hydrostatic Test when performed per Code Case N-498-1.
- 2.2.7 Code Case N-498-1 pressure test boundaries extend to all Class 1 pressure retaining components as described in the ISI Pressure Test Program for RCS Hydrostatic test boundaries. Code Case N-498-1 pressure test is performed at nominal operating pressure.
- 2.2.8 Precautions should be taken to carefully open any flexible wedge gate valve that may have been pressure locked during the test.
- 2.2.9 Ten-foot extension ladder or equivalent capable of being lowered into refueling canal for viewing the CRD flanges via the RCS Service Structure lexicon view ports. Rope will be required to lower and raise ladder into and out of the refueling canal. Two safety harnesses will be required to enter the refueling canal via side wall ladder.

NOTE 3.0

- The Designated Test Leader or Shift Supervisor may perform any prerequisites steps out of sequence.
- Prerequisites can occur prior to Mode 3. Preliminary walk downs are desired to familiarize the VT-2 examiners with their respective test boundaries. Two redundant sets of examiners, one for days, other for nights, may be required due to an unknown examination time.
- Preliminary prerequisites, which are administrative or non-intrusive, may be signed off prior to test briefing. Prerequisite steps may be signed off in any order.
- The Designated Test Leader is responsible for all test personnel assignments. All major communications, questions and concerns should be routed through him.

3.0 PREREQUISITESINITIALS3.1 Preliminary PrerequisitesCM

- 3.1.1 Verify an individual is assigned as the Designated Test Leader. Record this name below. When continuous coverage is required, one or more Designated Test Leaders may be assigned.

Shift	Name
<u>NIGHTS</u>	<u>PETER J. SENIUM</u>
<u>DAYS</u>	<u>MING BEIER</u>

INITIALS

NOTE 3.1.2

VT-2 Examination should reflect the RCS Test Zones as identified in Attachment 5A to 5G. Included within this test are three stand alone DB-PF-03065 Pressure and Augmented Leakage Test. These are performed and controlled with in this procedure.

mm

3.1.2 Obtain the following from the ISI Pressure Test Engineer.

- VT-2, Examination Report sheets. These sheets shall reflect the test Zones as defined in Attachment 5A to 5G for Class 1 Components.
- Drawings or sketches identifying the pressurization boundary, the examination boundary and any other pertinent details which are used for the RCS Mode 3 walk down, e.g., post maintenance examination list, potential components for leakage, known hot spots.

3.1.3 IF a specific component will require a hydrostatic or leakage test for post maintenance testing, THEN perform the following:

PA

- Obtain from the Pressure Test Engineer, a list of the specific components requiring a RCS Hydrostatic test or leakage AND annotate in Step 4.4.1. Additional pages may be required.
- Verify a VT-2 Examination sheet is prepared in accordance with DB-PF-00204, ASME Section XI Pressure Testing. These may be found in the individual component's Work Order.
- To reduce hold times, evaluate the need to remove insulation and when deemed so, then annotate this requirement on Attachment 4, Control of Temporary Test Items for insulation removal.  
*NONE REMOVED*
- IF a component hydrostatic test is required AND it does NOT meet Code Case N416-1 requirements, THEN obtain a test gauge AND annotate on Attachment 4, Control of Temporary Test Items.

PN

PM

MA PM

INITIALSNOTE 3.1.4

The pressure test boundary is controlled per the Pressure Test Program.

PAJ

3.1.4 Verify the VT-2 examination report(s) reflects mark up sketches and satisfy the pressure testing requirements of DB-PF-00204, ASME Section XI Pressure Testing, for all Class 1 components as identified in the ISI Pressure Test Program.

PA

3.1.5 Start and establish a chronological log. Record all significant events.

3.1.6 IF performing a RCS Hydrostatic test,  
THEN perform the following:

PA

a. Verify the additional DB-PF-03065, ASME Section XI Pressure and Augmented Leakage Tests packages are approved. These are:

- DB-PF-03065, Pressure Test package for Zone CF009, CFT 1 - CF31, CF29, & DH77, Discharge Piping.
- DB-PF-03065, Pressure Test package for Zone CF010, CFT 2 - CF30, CF28, & DH76, Discharge Piping.
- DB-PF-03065, Pressure Test package for Zone DH016, Auxiliary Spray Line

(Continued)

INITIALS

3.1.6 (Continued)

NOTE 3.1.6.b

- The pressure test boundary is controlled per the Pressure Test Program.
- Currently Toledo Edison has requested relief from opening the inner RCS boundary valve for vents and drains. As of this writing relief has not been approved.
- Prior to performance of Attachment 2, Inner Class 1 Boundary Valves Required To Be Open, a secondary vent path to the RCS vent or drain header must be made available by performance of Attachment 1, Secondary Vent Path For RCS Outer Valve Boundary. This will prevent over pressurization of the vent or drain lines due to single isolation failure.
- Attachment 1 and Attachment 2 valve lineups can be performed concurrently with other RCS lineups provided the Shift Supervisor is aware of the sequencing requirements and the RCS vent and drain lines are available. Valves should be fully open, but not back seated.

MAPB

- b. IF NRC has NOT granted relief from one inch or less boundary requirements,  
THEN inform Operations that Attachment 1, Secondary Vent Path For RCS Outer Valve Boundary, and Attachment 2, Inner Class 1 Boundary Valves Required To Be Open, will be required for this test.
- c. IF NRC has granted relief from one inch or less boundary requirements,  
THEN remove or N/A:

- Step 4.1.3, First AND Second bullet.
- Step 4.2.17
- Attachment 1, Secondary Vent Path for RCS Outer Valve Boundary
- Attachment 2, Inner Class 1 Boundary Valves Required To Be Open

PA

PA

PA

PV

(Continued)

## INITIALS

RM N/A mm3

PA

## 3.1.6.c (Continued)

- Attachment 3, Restoration from RCS Hydrostatic Test Valve Lineup
- d. Inform Operation that the Decay Heat Valve Pit Inspection Cover will need to be removed in accordance with DB-OP-06012, Decay Heat and Low Pressure Injection System. The Decay Heat Valve Pit Inspection Cover is removed and verified closed during startup.

## NOTE 3.1.6.e

- Administrative or non-intrusive section as defined in DB-PF-03065, Pressure and Augmented Leakage Test, may be performed prior to the test briefing or permission to start. Such items are staging test equipment, obtaining test gauges, or obtaining water samples are examples of administrative or non-intrusive steps. All actions still required shift supervisor concurrence.
- For Zone DH015, DH 11/DH 12, Relief Request (RR-A16) has been submitted to the NRC to perform a leakage test in Mode 3 and an examination for evidence of boric leakage in Mode 5 in lieu of the 10 year hydrostatic test.

PA

- e. Request Shift Supervisor permission to perform administrative or non-intrusive section to this procedure and the following stand alone procedure as determined by the Test Leader.
- DB-PF-03065, Pressure Test package for Zone CF009, CFT 1 – CF 31, CF 29, & DH 77, Discharge Piping.
  - DB-PF-03065, Pressure Test package for Zone CF010, CFT 2 – CF 30, CF 28, & DH 76, Discharge Piping.
  - DB-PF-03065, Pressure Test package for Zone DH016, Auxiliary Spray Line.

(Continued)

INITIALS

3.1.6 (Continued)

MMB

- f. IF a work order is required to support this test, THEN verify it is written to support installation of test equipment and temporary removal of insulation AND record WO number below:

Work Order Number:

All test equipment will be installed  
Per this procedure & DB-PF-03969.

MMB

W/O 99-007015-00 (for insulation)

Per Andy  
Stemaszko

- g. Verify the limits for Transient cycles under Rapid RCS Depressurization (AOTC #9) will not be exceeded in accordance with NA-QC-00355, Determination of Allowable Operating Transients Cycles. This is for low temperature transients on the high-pressure injection nozzles to the RCS hot leg piping.

clude  
Abnormal

PM

- h. Verify the requirements of NG-DB-00201, Conduct of Infrequently Performed Tests and Evolutions are being followed.

3.1.7 Contact Radiation Protection and verify the following:

RD

- a. A radiation work permit is available to support test performance AND record RWP numbers below:

RWP number(s) for Mode 3 Exam

2000-5800  
~~2000-5800~~ in 5/10/00

RWP number(s) for Locked High Radiation (RCS Service Structure Lexicon View Ports, Below Reactor Vessel, and East-West tunnel)

2000-5802 (Vessel)  
(Special RWP Brief Req)

ALARA BRIEF  
5/12/00 - 7:30

RD

MMB

RD

- b. Radiation Protection is available to support this test in Mode 3.
- c. ALARA Briefing is scheduled to support this testing.

3.1.8 Contact Safety for Heat Stress Analysis and additional safety concerns and annotate below:

Contacted: Dennis Gordon  
Chief  
SRM

Comments: Stag Times, ice vest, Safety Climber  
ladder extension, Heat Stress

PM

RD

3.1.9 Notify the site ANI/ANII of the pending performance of this test.

3.1.10 Notify Quality Control of the pending performance of this test and request three or more VT-2 Examiners to assist in the test performance.

Notify QC 4hr prior start of Test

INITIALS

**NOTE 3.1.11**

More than one test zone may be assign to examiners.  
The Designated Test Leader shall assign examination zones.

PM

①

3.1.11 Assign the Test Zones as defined to the VT-2 Examiners. Refer to Attachment 5A through 5G. Record below the assignments or annotate in the Chronological Log. N/A section not requiring testing at this time.

Zone Name/Test	Subsection Number	Shift One Assignment	Shift Two Assignment
East D-Ring (Attachment 5A)	4.2.5		
East Side (Attachment 5B)	4.2.5		
Inservice Inspection 25% Weld Exam (Refueling Canal, Attachment 5G)	4.2.5		
Vessel and Lower Components (Attachment 5E)	4.2.5		
West D-Ring (Attachment 5D)	4.2.5		
Zone CF009 (DB-PF-03065, CFT 1 - CF 31, CF29, & DH 77, Attachment 5F)	4.2.6		
RC1H2C (RCS Back to Back Check Valves from HP 2C.)	4.2.7		
RC1H2D (RCS Back to Back Check Valves from HP 2D.)	4.2.8		
Zone DH016 (DB-PF-03065, Auxiliary Spray Line)	4.2.9		
RC1H2A (RCS Back to Back Check Valves from HP 2A.)	4.2.10		
RC1H2B (RCS Back to Back Check Valves from HP 2B.)	4.2.11		
Zone CF010 (CFT 2 - CF30, CF28, & DH76, DB-PF-03065, Attachment 5F)	4.2.12		
Zone DH015 (DH 11 to DH 12, Attachment 5C)	4.2.13		

DH 15 is on 11/27  
DH 14 is on 11/27

① See attach sheets

INITIALSP/V

3.1.12 Direct the VT-2 Examiners and/or Test Leaks to perform the following for their assigned Zones. Signoffs for this subsection are not required, however significant items identified should be entered in the Chronological Log. Based upon work discipline, certain subsection of this step may not be assigned to Quality Control Personnel.

- Review the related Attachments (Attachment 5A through 5G) for RCS component locations and the desired inspection passageway.
- Review this test and any associated test packages as defined per Step 3.1.11.
- Review the VT-2 Examination Report form and any associated sketches/drawings.
- Verify the examination boundary including identification of any specific welds, line numbers or locations requiring examination for post maintenance. The work order test requirement section shall identify any leakage or hydrostatic tests. See Subsection 4.4.
- Locate the pressurization source pathways, if applicable.
- Review the need to remove insulation or hold pressure for four hours or longer for the specific subsystem test (For RCS Hydrostatic test only).
- Perform a pretest walk down and identify any potential leakage or previous boric acid residue.
- Review results of the pretest walk down and when required write material deficiency tags, inform the Shift Supervisor and System Engineer of any boric acid leakage in accordance with the NG-EN-00324, Boric Acid Corrosion Control program.
- Review previous Chronological Log(s) associated with RCS pressure testing.
- Review previous VT-2 examination sheets associated with RCS pressure testing to identify components with previous leakage history.
- Review Jumper Lifted Wire Log, Locked Valve Log, Blue Cap Log and Safety Tagging Log for systems associated with RCS pressure testing.

(Continued)

INITIALS

## 3.1.12 (Continued)

- Review RCS High Pressure Injection Back to Back Reverse Flow Check Valve Test and investigate performing these concurrently with the specific subsystem test (For RCS Hydrostatic test only)
- Review DB-SP-03300, RCS Isolation Check Valve Test, for reverse flow testing of CF30, CF31, DH76 and DH77 and investigate performing these concurrently with the specific subsystem test (For RCS Hydrostatic test only)

NOTE 3.1.13

- T.S. 3.5.2 requires two operable ECCS trains. The action statement is require entry whenever the inservice ECCS subsystem integrity is compromised. This procedure may compromise the system integrity when aligning the non-essential makeup injection to provide the pressure source for the essential high pressure injection line to pressurize the RCS Back to Back check valves.
- T.S. 3.1.2.2 requires a flow path from the concentrated boric acid storage system via a boric acid pump and makeup or decay heat removal (DHR) pump to the Reactor Coolant System. This is because the makeup flow path used for boric acid injection is not aligned per the USAR design. Both makeup injection paths are required.
- T.S. 3.1.2.4 requires that two makeup pumps be operable. The action statement is required to be entered when the normal Makeup Pump discharge flow is diverted via a abnormal lineup to the high-pressure injection system. This may be considered because the makeup flow path is not aligned per the USAR design.
- T.S. 4.4.9.1.1 states the Reactor Coolant System temperature and pressure shall be determined to be within the limits at least once per 30 minutes during system heatup, cooldown, and inservice leak and RCS hydrostatic testing operations.
- Review test synopsis to understand differences between the hydrostatic versus the leakage test. The leakage test scope is less than the hydrostatic test scope.

PM

- 3.1.13 Notify the Shift Supervisor of any special test conditions, instructions, Technical Specification Action Statement entries, or potential component damages which may occur during this test. Request the Shift Supervisor to evaluate operability concerns and determine which Technical Specification action statements will be entered. T.S. 3.5.2, T.S. 3.1.2.2, and T.S. 3.1.2.4 action statements shall be entered. These action statements are train dependent. All other test as listed in RCS hydrostatic test synopsis and Step 3.1.11 should be discussed. Significant items for the test briefing shall be listed below.

(Continued)

INITIALS

## 3.1.13 (Continued)

*SS discussed entering T.S. 3.5.1 (CP7), but after discussion with upper management, did not. T.S. as listed was entered.*

## 3.1.14 Perform a pretest briefing per the applicable step(s):

- Verify all test personnel are present.
- Pretest briefing checklist items of DB-OP-00000, Conduct of Operations.
- Review radiological conditions and precautions during this test.
- Discuss Safety issues. Refer to Step 3.1.8.

NOTE 3.1.14 5<sup>th</sup> bullet

Each test subsection that tests a component will verify the redundant train as operable. The Shift Supervisor shall be informed when subsystem component tests are field complete so that the train action statements can be reviewed for exiting.

- Review and enter the applicable Action Statements whenever the Makeup pump is required to pressurize the respective ECCS trains for the RCS Back to Back check valves or other stand alone Pressure Tests. Refer to hydrostatic test synopsis and Step 4.2.14
- Review sequence of testing for this test, including stand alone DB-PF-03065, Pressure and Augmented Leakage Tests. Include within this discussion the performance of DB-PF-03969, HPI System Pressure Isolation Valve Back to Back Check Valve and Reverse Flow, or equivalent, and DB-SP-03300, RCS Isolation Check Valve Test.

INITIALS

NOTE 3.1.14 7<sup>th</sup> bullet

The applicable subsections and restoration actions apply only for hydrostatic testing. Leakage testing consists of normal RCS system configuration.

Refer to Step 3.1.13 for specific T.S. action statements for individual hydrostatic tests.

PM

- Review the applicable subsections and restoration actions.

Train 1 Inoperable			
Step Number	Restoration	Actions and Applicability	Comments
4.2.6 (CFT 1 - CF31, CF29, & DH77) Zone CF009	Review DB-PF-03065 for specific restoration steps.	3.5.2, With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours. Modes 1, 2, 3, and 4.	ECCS injection line integrity may be compromised during the pressurization.
4.2.7 (RCS Back to Back Check Valves from HP 2C)	4.2.7 (k) <span style="margin-left: 20px;">✖</span>	3.1.2.2, With the flow path from the concentrated boric acid storage system inoperable, restore the inoperable flow path to OPERABLE status within 72 hours. Modes 1, 2, 3, and 4.	Whenever Makeup Pump injection flow path is inoperable or the normal Makeup flow will be diverted via non-essential lines. This will occur when opening MU 208 and HP 26 to pressurize the RCS Back to Back check valves.
4.2.8 (RCS Back to Back Check Valves from HP 2D)	4.2.8 (k)	3.1.2.4, With only one makeup pump operable, restore the inoperable pump to operable status within 72 hours. MODES 1, 2, 3 and 4.	

~~MU6409 check~~ m

T.S. 3.5.1 C.F. - Did not enter PM

(Continued)

INITIALS

3.1.14 (Continued)

Train 2 Inoperable			
Step Number	Restoration	Actions and Applicability	Comments
4.2.9 (Aux. Spray Line) Zone DH016	Review DB-PF-03065 for specific restoration steps (Aux. Spray Line)	3.5.2, With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours. Modes 1, 2, 3, and 4.	ECCS injection line integrity may be compromised during the pressurization.
4.2.10 (RCS Back to Back Check Valves from HP 2A)	4.2.10 (k)	3.1.2.2, With the flow path from the concentrated boric acid storage system inoperable, restore the inoperable flow path to OPERABLE status within 72 hours. Modes 1, 2, 3, and 4.	Whenever Makeup Pump injection flow path is inoperable or the normal Makeup flow will be diverted via non-essential lines. This will occur when opening MU 208 and HP 27 to pressurize the RCS Back to Back check valves.
4.2.11 (RCS Back to Back Check Valves from HP 2B)	4.2.11 (h)	3.1.2.4, With only one makeup pump operable, restore the inoperable pump to operable status within 72 hours. MODES 1, 2, 3 and 4.	Auxiliary Spray line from Decay Heat Train 2 integrity may be compromised.
4.2.12 (CFT 2 - CF30, CF28, & DH76) Zone CF010	Review DB-PF-03065 for specific restoration steps.		

- IF performing a RCS Hydrostatic test, THEN perform the respective test briefing for the associated DB-PF-03065 test packages as listed below at this time and request Shift Supervisor's permission to perform these tests concurrently within the respective safety train.

EM

DB-PF-03065, Pressure Test package for Zone CF009, CFT 1 - CF31, CF29, &amp; DH77, Discharge Piping.

EM

DB-PF-03065, Pressure Test package for Zone CF010, CFT 2 - CF30, CF28, &amp; DH76, Discharge Piping.

EM

DB-PF-03065, Pressure Test package for Zone DH016, Auxiliary Spray Line.

EM

3.1.15 Request Shift Supervisor's permission to perform this test.

Shift Supervisor: Tony Meyer Time 0501 Date 5/16/00

INITIALSPM

3.1.16 IF performing a RCS Hydrostatic test,  
THEN, Request Shift Supervisor's permission to remove the following blue caps and enter in the Cap Valve Log in accordance with DB-OP-00009, Operations and Control of Capped Valves.

- HP 77A, HPI LINE 1-1 VENT
- HP 75A, HPI LINE 1-2 VENT
- HP 55A, HPI LINE 2-1 ISOLATION VALVE LEAK TEST CONNECTION
- HP 81A, HPI LINE 2-2 VENT

NOTE 3.1.17 and NOTE 3.1.18

The Leakage Test is performed every refueling. The RCS Hydrostatic test is performed every ten years and satisfies the Leakage Test requirement.

PM

3.1.17 IF only performing a RCS Hydrostatic and not a Leakage Test,  
THEN N/A or remove Subsection 4.3, Leakage Test.

MA PA

3.1.18 IF only performing a Leakage Test and not a Hydrostatic Test,  
THEN N/A or remove Subsection 4.2, RCS Hydrostatic Test.

PA N/A

3.1.19 IF NO components are identified which require a component hydrostatic/leakage test,  
THEN N/A or remove Subsection 4.4, Component Hydrostatic/Leakage Test.

3.2 Equipment Prerequisites

PM

3.2.1 IF performing a RCS Hydrostatic test,  
THEN perform the following:

PM

- a. Verify installation of pressure gauges as listed on Attachment 4, Control of Temporary Test Items for Test Equipment (These are installed on the high-pressure injection lines).

(Continued)

INITIALS

3.2.1 (Continued)

NOTE 3.2.1.b and 3.2.1.c

- Code Case N-498-1 requires a hold time of ten minutes for non-insulated or four hours for insulated components. Certain length of component inspection may have excessive insulation, hence a four-hour hold time may be more appropriate. Review each DB-PF-03065 test package and determine if insulation shall be removed.
- Insulation removal for a specific component hydrostatic test is desirable to limit RCS Hydrostatic test pressure to approximately 10 minutes.

PM

b. Verify removal of insulation as listed on Attachment 4, Control of Temporary Test Items for Insulation Segments. This will allow visual inspection with a 10-minute hold time. If insulation is already removed or none is identified, N/A the Removal and Restoration and annotate column as such.

NONE PM

c. Verify removal of insulation as determined per the respective DB-PF-03065, test packages.

N/A PM

3.2.2 **IF** performing a specific component hydrostatic test and Code Case N-416-1 has not been followed, **THEN** attach a pressure gauge to RC 28, HLLMS/RC LEVEL LOW SIDE REFERENCE LEG DRAIN. The gauge must have a range of 0 to (3300 to 8800) psig with .05% accuracy (Refer to Step 2.2.5) **AND** enter M&TE information in Step 4.4.2.

PM

3.2.3 Verify the following indicators are functional and are within the current PM calibration window.

Instrument Number	Name	PM Number	Due Date
PRS RC2A	Loop 2 Hot Leg Press. Indicator (narrow range)	3494 (2)	5/20/02
PRS RC2B F	Loop 1 Hot Leg Pressure Indicator (narrow range)	2655 (1)	5/14/02

PM  
2/9/02

99-3520

58A-15P RC 282  
 (1) DB-M2-3051 } See Irc Cal Procedure  
 (2) DB-M2-3052

INITIALS

PM 3.2.4 Verify the following computer points can be trended and updated every 10 minutes.

- P729 RC Loop 2 Hlg NR Press, RPS CH2
- P721 RC Loop 1 Hlg NR Press, RPS CH1
- T709 RC Avg NR Temp

*use T821 TD#3*

Prerequisites completed by *PM* Date: *5/16/00*

*Monitoring every ten min  
& Recording every 30 min.*

NOTE 4.0

- Certain steps of this procedure may not be applicable. Steps may be N/A by the test leader. Reason should be annotated next to the N/A.
- DB-PF-03065, Pressure and Augmented Leakage Test for Core Flood Tank 1 outlet manifold, Core Flood Tank 2 outlet manifold, and Auxiliary Spray Line for Test Zones CF009, CF010 and DH016, respectively, shall be directed and controlled by guidance within this procedure.

4.0 PROCEDURE

## 4.1 Test Procedure - Mode 5 through Plant Heatup

## 4.1.1 Verify the following valve lineups/checklists are complete.

RRRRPAPFPLRRRRm

- DB-OP-06012, Decay Heat and Low Pressure Injection System Operating Procedure, Attachment 19, Decay Heat Valve Pit Valve Checklist.
- DB-OP-06006, Makeup and Purification System, Attachment 2, Letdown System Valve Lineup Checklist.
- DB-OP-06000, Filling and Venting the Reactor Coolant System, Attachment 1, Valve Checklist, Filling and Venting the RCS.
- DB-OP-06900, Plant Heat-Up, Attachment 1, Normal RCS Valve Lineup.
- DB-OP-06900, Plant Heat-Up, Attachment 6, Essential Transmitter Valve Lineup.
- DB-OP-06011, High Pressure Injection System, Attachment 1, Train 1 Valve Checklist.
- DB-OP-06011, High Pressure Injection System, Attachment 2, Train 2 Valve Checklist.

## 4.1.2 Verify the Makeup System is inservice. Refer to DB-OP-06006, Makeup and Purification System.

NOTE 4.1.3

- Attachment 1, Secondary Vent Path for RCS Outer Valve Boundary and Attachment 2, Additional Boundary Valves for the Hydrostatic Valve Lineup, can occur in Mode 5 or during plant heatup.
- Prior to performance of Attachment 2, Inner Class 1 Boundary Valves Required To Be Open, a secondary vent path to the RCS vent or drain header must be made available by performance of Attachment 1, Secondary Vent Path For RCS Outer Valve Boundary. This will prevent over pressurization of the vent or drain lines due to single isolation leakage.
- Attachment 1 and Attachment 2 valve lineups may be performed concurrently with other RCS, DH, Makeup and RCS fill and vent procedures lineups, provided the Shift Supervisor is aware of the sequencing requirements and the RCS vent and drain lines are available. Valves should be fully open, but not back seated.

4.1.3 IF performing a RCS Hydrostatic test,  
THEN perform the following:

- Verify Attachment 1, Secondary Vent Path for RCS Outer Valve Boundary is complete.
- Verify Attachment 2, Additional Boundary Valves for the Hydrostatic Valve Lineup is complete.

M/APM  
M/APD

(Continued)

INITIALS

4.1.3 (Continued)

NOTE 4.1.3 3<sup>rd</sup> bullet

Removal of insulation segments listed on Attachment 4 will allow visual inspection during the test.

Attachment 4, Insulation Segments section contains blank spaces which are to capture any additional insulation that may have to be removed to perform an adequate VT-2 Examination.

PN

PN

- Verify Attachment 4, Control of Temporary Test Items, for removal of insulation segments is complete.
- Verify Attachment 4, Control of Temporary Test Items, for test gauges is complete.
- Verify prerequisites of the associated DB-PF-03065 packages as listed below are complete.

- DB-PF-03065, Pressure Test package for Zone CF009, CFT 1 - CF 31 to CF 29, & DH 71, Discharge Piping.
- DB-PF-03065, Pressure Test package for Zone CF010, CFT 2 - CF30 to CF 28, & DH 78, Discharge Piping.
- DB-PF-03065, Pressure Test package for Zone DH016, Auxiliary Spray Line, DH 2735 to RC 51.

TOP 1 /

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PN

4.1.4 Inform primary reactor operator to monitor the following item for indication of intersystem and external leakage during heat up.

- Quench Tank Level
- Reactor Coolant Drain Tank Level (L708)
- Core Flood Tanks 1 & 2
- CCW Surge Tank
- Containment Normal Sump

1

TOP 2 /

PN

4.1.5 Direct maintenance to isolate PI2883B, HPI INJECTION LINE INDICATOR to prevent over ranging indicator.

5:25  
7/1/06

INITIALSNOTE 4.1.6 and 4.1.7

- The Test Leader will determine the time and pressure of system boundary walkdown. Recommended pressures for walk downs are approximately 700 psig and approximately 1700 psig since these are plateaus in DB-PF-06900, Plant Heatup procedure.
- Step 4.1.6 and 4.1.7 should identify any leakage or unacceptable condition prior too the official visual examination. Correction of these unacceptable conditions are not a requirement for continuation of plant heat-up, however, these conditions may require a return Mode 5 for correction.

NA<sup>PK</sup>

4.1.6 IF directed by the Test Leader, THEN perform a system walkdown when RCS pressure is approximately 700 psig. Inspect for leakage and/or for boric acid residue. Record inspection results in Test Chronological Log.

MA<sup>PK</sup>

4.1.7 IF directed by the Test Leader, THEN perform a system walkdown when RCS pressure is approximately 1700 psig. Inspect for leakage and/or for boric acid residue. Record inspection results in Test Chronological Log.

PA

4.1.8 Record time that RCS temperature is >500 °F and RCS pressure is at approximately 2155.

2156 psig RCS Pressure Indicator P732 Time: 4:31 5/16/00

500 °F RCS Temperature Indicator T821 Time: 4:31 5/16/00

Subsection 4.1 completed by Peter J. Lu Date: 5/16/00

NOTE 4.2

- The test pressure hold time is a minimum of four hours for insulated systems and 10 minutes for non-insulated systems.
- Per Shift Supervisor and Test Leader direction, multiple individual tests may be performed in parallel within this subsection. This test is written to ensure essential safety train separation.

4.2 RCS Hydrostatic TestINITIALSPA

4.2.1 Verify RCS temperature >500 °F and RCS pressure at approximately 2155 for the predetermined duration time. Refer to Step 4.1.8.

PA

4.2.2 IF a component hydrostatic or leakage test is required, THEN perform Subsection 4.4, Component Hydrostatic/Leakage Test concurrently with this subsection.

PPJ

4.2.3 Verify the reactor operator is recording the following data every thirty minutes in the unit log.

P729 RC Loop 2 Hlg NR Press, RPS CH2

P721 RC Loop 1 Hlg NR Press, RPS CH1

T 821 ~~T 709~~ RC Avg NR Temp T 821

/TD#3

PPJ

4.2.4 Verify the following computer points are trending and updating every 10 minutes.

P729 RC Loop 2 Hlg NR Press, RPS CH2

P721 RC Loop 1 Hlg NR Press, RPS CH1

T 821 ~~T 709~~ RC Avg NR Temp T 821

/TD#3

INITIALSNOTE 4.2.5

Subsection 4.2.5 for non-train dependent components and Subsection 4.2.13 for the Decay Heat Pit visual examination may be formed in parallel with any subsection.

- mm*
- 4.2.5 AFTER the required test pressure hold time, as listed on the VT-2 Examination Report, THEN begin the VT-2 visual examination report in accordance with the requirements of DB-PF-00204, ASME Section XI Pressure Testing. Refer to Attachment 5A through 5G. *RCS Dump Pits @ 0430 windows started @ 10*

NOTE 4.2.6 to 4.2.12

- ECCS Train 1 dependent subsections/tests are:
 

Section Number	Name
4.2.6	Zone CF009, CFT 1 – CF 31, CF 29, & DH 77.
4.2.7	RCS Back to Back Check Valves from HP 2C.
4.2.8	RCS Back to Back Check Valves from HP 2D.
- ECCS Train 2 dependent subsections/tests are:
 

Section Number	Name
4.2.9	Zone DH016, RC 51 to DH 2735.
4.2.10	RCS Back to Back Check Valves from HP 2A.
4.2.11	RCS Back to Back Check Valves from HP 2B.
4.2.12	Zone CF010, CFT 2 CF 30, CF 28, & DH 76.
- Because the hydrostatic test requires removal of essential trains, the redundant train must be operable. Subsection 4.2.6, 4.2.7, and 4.2.8 may be performed concurrently. Subsection 4.2.9, 4.2.10, 4.2.11 and 4.2.12 may be performed concurrently. Field complete implies the subsystem is restored and capable of performing its intended safety function.

INITIALS

PM  
mm  
M

4.2.6 Performance of DB-PF-03065, Pressure Test for Zone CF009, CFT 1, CF 29, CF 31, & DH 77

- a. Verify ECCS Train 2 is operable.
- b. Perform DB-PF-03065, Pressure Test for Zone CF009, CFT 1, CF 29, CF 31, & DH 77.
- c. AFTER DB-PF-03065, Pressure Test for Zone CF009, CFT 1, CF 31, CF 29, & DH 77 is field completed, THEN inform Shift Supervisor AND request Technical Action Statements be reviewed for exiting. Refer to Steps 3.1.13 and 4.2.14.

NOTE 4.2.6.d

CF 31 may have moved from the fully closed position. Valve is assumed to be on its seat if 100 psid or greater was maintained. DB-SP-03300, RCS Isolation Check Valve Test, may still be required.

M

5/16/00  
12:00

- d. IF DB-SP-03300, RCS Isolation Check Valve Test, is required to perform, OR less than 100 psid was observed between DH31 and the RCS, THEN inform Shift supervisor to perform DB-SP-03300, RCS Isolation Check Valve Test for Train 1 side.

Subsection 4.2.6 completed by PMJ. Sch Date: 5/17/00 Time: 01:05

\* Pressure to OT 2255 @ 06:05  
at 06:15 pressure is ~ 2345  
06:18 ~ 2120  
06:19 2200

## INITIALS

NOTE 4.2.7

This section will use the running Makeup Pump to pressurize the injection line to normal RCS pressure.

4.2.7 Performance of HP 48, HPI LINE 1-1 STOP CHECK to HP 50, HPI LINE 1-1 CHECK INJECTION LINE from HP 2C HPI LINE 1-1 ISO VLV.

PA  
PA

- a. Verify ECCS Train 2 is operable.
- b. Notify the Shift Supervisor that valves HP 77 and HP 77A will be open and that test personnel are expecting makeup injection flow via HP 2C, HPI LINE 2-1 ISO VLV  
AND verify the applicable T.S. Action Statements are entered. Refer to Section 4.2.14.

PA

- c. Verify test gauge with a range of 0 to 3000 psig or equivalent is installed on HP 77A  
AND record M&TE information. Refer to Step 2.2.5 and 2.2.6.

Range 0-5000 Calibration Due Date : 9-15-00

M&TE number: PGA 0230

PA

- d. Place test gauge inservice by slowly opening.

1. Open HP 77A, HPI LINE 1-1 VENT

2. Open HP 77, HPI LINE 1-1 VENT

PA

- e. Verify MU 208, HIGH PRESSURE LINE FLOW TEST ISOLATION is throttled to two turns open, e.g., two turns off its seat.

PA

- f. Verify HP 26, HPI PUMP 1 FLOW TEST ISOLATION is throttled to two turns open, e.g., two turns off its seat.

(Continued)

INITIALS

4.2.7 (Continued)

NOTE 4.2.7.g

- Throttle HP 2C open or closed to limit flow and to maintain pressure on the injection line. This action should limit thermal cycling. The attempt is to pressurize the line while not inducing a flow e.g., maintain RCS pressure with no flow.
- Step may be repeated if valve is closed and pressure is observed dropping.

PA

- g. Throttle open and close HP 2C, HPI LINE 1-1 ISO VLV, using HIS HP 2C on C5716 as required to maintain RCS pressure as read on HP 77 test gauge. *W*

PA

- h. Record system pressure and time on HP 77 test gauge.

2200 HP 77, HPI LINE 1-1 VENT test gauge

06:45 Time

MM

- i. After the required test pressure hold time, as listed on the VT-2 Examination Report, begin the VT-2 visual examination report in accordance with the requirement of DB-PF-00204, ASME Section XI Pressure Testing.

PA

- j. Ensure the visual examiners have completed their examination AND documented the area examined, identifying any leakage.

NOTE 4.2.7.k

Restoration steps can be performed in any order.

MM

- k. Restore HPI LINE 1-1 by performance of the following

- Close HP 2C, HPI LINE 1-1 ISO VLV.
- IF Subsection 4.2.8 is complete, THEN close MU 208, HIGH PRESSURE LINE FLOW TEST ISOLATION.

(Continued)

INITIALS

## 4.2.7.k (Continued)

M

- IF Subsection 4.2.8 is complete,  
THEN close HP 26, HPI PUMP 1 FLOW TEST ISOLATION.

M

- Close HP 77, HPI LINE 1-1 VENT.

M

- Close HP 77A, HPI LINE 1-1 VENT.

M

- AFTER HP 77 and HP 77A are closed  
THEN restore the blue cap on HP 77A per DB-OP-00009, Operation and Control of Capped Valves.

N/A

- Inform maintenance that insulation can be re-installed on HP 48 and HP 50.

M

- IF Subsection 4.2.8 is complete,  
THEN reduce pressure on Train 1 injection line. Refer to DB-OP-06011, High Pressure Injection System, HPI Train 1 Discharge Line Bleed off or equivalent section.

M

1. AFTER the inspection for HP 48 to HP 50 is field complete and valves associated with this line are restored to their normal position,  
THEN inform Shift Supervisor  
AND request Technical Action Statements be reviewed for exiting. Refer to Steps 3.1.13 and 4.2.14.

5/16/00  
12:00

Subsection 4.2.7 completed by

PPH

Date:

5/17/00

Time:

02:00

NOTE 4.2.8

This section will use the running Makeup Pump to pressurize the injection line to normal RCS pressure.

4.2.8 Performance of HP 49, HPI LINE 1-2 STOP CHECK to HP 51, HPI LINE 1-2 CHECK Injection Line from HP 2D

TARPAPAPAR

- a. Verify ECCS Train 2 is operable.
- b. Notify the Shift Supervisor that valves HP 75 and HP 75A will be open and that test personnel are expecting Makeup Injection flow via HP 2D, HPI LINE 1-2 ISOLATION VALVE AND verify the applicable T.S. Action Statements are entered. Refer to Section 4.2.14.
- c. Verify test gauge with a range of 0 to 3000 psig or equivalent is installed on HP 75A AND record M&TE information. Refer to Step 2.2.5 and 2.2.6.
- Range 0 - 5000 Calibration Due Date: 8-17-00
- M&TE number: PGA 0317
- d. Place test gauge inservice by slowly opening
1. Open HP 75A, HPI LINE 1-2 VENT.
  2. Open HP 75, HPI LINE 1-2 VENT.
- e. Verify MU 208, HIGH PRESSURE LINE FLOW TEST ISOLATION is throttled two times open, e.g., two turns off its seat.
- f. Verify HP 26, HPI PUMP 1 FLOW TEST ISOLATION is throttled two turns open, e.g., two turns off its seat.

(Continued)

INITIALS

4.2.8 (Continued)

NOTE 4.2.8.g

- Throttle HP 2D open or closed to limit flow and to maintain pressure on the injection line. This action should limit thermal cycling. The attempt is to pressurize the line while not inducing a flow e.g., maintain RCS pressure with no flow.
- Step may be repeated if valve is closed and pressure is observed dropping.

PA

g. Throttle open and close HP 2D, HPI LINE 1-2 ISO VLV, using HIS HP 2D on C5716 as required to maintain RCS pressure as read on HP 75 test gauge. *Did not throttle.*

PA

h. Record system pressure and time on HP 75 test gauge.

2220 HP 75 test gauge

06:47 Time

PA

i. After the required test pressure hold time, as listed on the VT-2 Examination Report, begin the VT-2 visual examination report in accordance with the requirement of DB-PF-00204, ASME Section XI Pressure Testing.

PA

j. Ensure the visual examiners have completed their examination AND documented the area examined, identifying any leakage.

*- Reverse Flow  
LK TEST  
PF 00204 11/10*

NOTE 4.2.8.k

Restoration steps can be performed in any order.

PA

k. Restore HPI LINE 1-2 by performance of the following

- Close HP 2D, HPI LINE 1-2 ISO VLV.
- IF Subsection 4.2.7 is complete, THEN close MU 208, HIGH PRESSURE LINE FLOW TEST ISOLATION.

PA

(Continued)

INITIALS

4.2.8.k (Continued)

M

- IF Subsection 4.2.7 is complete, THEN close HP 26, HPI PUMP 1 FLOW TEST ISOLATION.

M

- Close HP 75, HPI LINE 1-2 VENT.

M

- Close HP 75A, HPI LINE 1-2 VENT.

M

- After HP 75 and HP 75A are closed, restore Blue Cap on HP 75A per DB-OP-00009, Operation and Control of Capped Valves.

M

- Inform maintenance that insulation can be re-installed on HP 49 and HP 51.

M

- IF Subsection 4.2.7 is complete, THEN reduce pressure on Train 1 injection line. Refer to DB-OP-06011, High Pressure Injection System, HPI Train 1 Discharge Line Bleed off or equivalent.

M

1. AFTER the inspection for HP 49 to HP 51 is field complete and valves associated with this line are restored to their normal position, THEN inform Shift Supervisor AND request Technical Action Statements be reviewed for exiting. Refer to Steps 3.1.13 and 4.2.14.

5/16/00  
1200

Subsection 4.2.8 completed by P. J. [Signature] Date: 5/12/00 Time: 02:09<sup>PM</sup>  
02:09

4.2.9 Performance of DB-PF-03065, Pressure Test for Zone DH016, Auxiliary Spray Line, RC51 to DH2735.INITIALSmmmmpd

- a. Verify ECCS Train 1 is operable.
- b. Perform DB-PF-03065, Pressure Test for Zone DH016, Auxiliary Spray Line, RC51 to DH2735.
- c. AFTER DB-PF-03065, Pressure Test for DH016, Auxiliary Spray Line, RC51 to DH2735 is field completed, THEN inform Shift Supervisor AND request Technical Action Statements be reviewed for exiting. Refer to Steps 3.1.13 and 4.2.14.

Subsection 4.2.9 completed by Peter J. Seal Date: 5/17/07 Time: 04:00



NOTE 4.2.10

This section will use the running Makeup Pump to pressurize the injection line to normal RCS pressure.

- 4.2.10 Performance of HP 59, HPI LINE 2-1 STOP CHECK to HP 57, HPI LINE 2-1 CHECK Injection Line from HP 2A, HPI LINE 2-1 ISO VLV.

INITIALSmmmmmm

- a. Verify ECCS Train 1 is operable.
- b. Notify the Shift Supervisor that valves HP 55 and HP 55A will be open and that test personnel are expecting Makeup Injection flow via HP 2A, HPI LINE 2-1 ISO VLV  
AND verify the applicable T.S. Action Statements are entered. Refer to Subsection 4.2.14.
- c. Verify test gauge with a range of 0 to 3000 psig or equivalent is installed on HP 55A  
AND record M&TE information. Refer to Step 2.2.5 and 2.2.6.

Range 0-3000 Calibration Due Date : 7-15-00

M&TE number: PEA 002

mm

- d. Place test gauge inservice by slowly opening
1. Open HP 55A, HPI LINE 2-1 ISOLATION VALVE LEAKA TEST CONNECTION.
  2. Open HP 55, HPI LINE 2-1 ISOLATION VALVE LEAKA TEST CONNECTION.

mm

- e. Verify MU 208, HIGH PRESSURE LINE FLOW TEST ISOLATION is throttled two times open, e.g., two turns off its seat.

mm

- f. Verify HP <sup>27</sup>26, HPI PUMP <sup>2</sup>/FLOW TEST ISOLATION is throttled two times open, e.g., two turns off its seat.

(Continued)



INITIALS

4.2.10 (Continued)

NOTE 4.2.10.g

- Throttle HP 2A open or closed to limit flow and to maintain pressure on the injection line. This action should limit thermal cycling. The attempt is to pressurize the line while not inducing a flow e.g., maintain RCS pressure with no flow.
- Step may be repeated if valve is closed and pressure is observed dropping.

PM

g. Throttle open and close HP 2A, HPI LINE 2-1 ISO VLV, using HIS HP 2A on C5716 as required to maintain RCS pressure as read on HP 55 test gauge.

PM

h. Record system pressure and time on HP 55 test gauge.

224.0 HP 55 test gauge

1435 Time

PM

i. After the required test pressure hold time, as listed on the VT-2 Examination Report, begin the VT-2 visual examination report in accordance with the requirement of DB-PF-00204, ASME Section XI Pressure Testing.

PM

j. Ensure the visual examiners have completed their examination AND documented the area examined, identifying any leakage.

NOTE 4.2.10.k

Restoration steps can be performed in any order.

PM

k. Restore HPI LINE 1-2 by performance of the following

PM

- Close HP 2A, HPI LINE 2-1 ISO VLV.
- Close MU 208, HIGH PRESSURE LINE FLOW TEST ISOLATION.
- Close HP 27, HPI PUMP 2 FLOW TEST ISOLATION.

PM

(Continued)

## INITIALS

4.2.10.k

(Continued)

BJ

- Close HP 55, HPI LINE 2-1 ISOLATION VALVE LEAKA TEST CONNECTION.

PA

- Close HP 55A, HPI LINE 2-1 ISOLATION VALVE LEAK TEST CONNECTION.

SD

- After HP 55 and HP 55A are closed restore Blue Cap on HP 81A per DB-OP-00009, Operations and Control of Capped Valves.

VIA PV

- Inform maintenance that insulation can be re-installed on HP 59 and HP 57.

PS

- Reduce pressure on Train 2 injection line. Refer to DB-OP-06011, High Pressure Injection System, HPI Train 2 Discharge Line Bleed Off or equivalent.

PM

1. AFTER the inspection for HP 57 to HP 59 is field complete and valves associated with this line are restored to their normal position, THEN inform Shift Supervisor AND request Technical Action Statements be reviewed for exiting. Refer to Steps 3.1.13 and 4.2.14.

Subsection 4.2.10 completed by Paul Sack Date: 5/17/00 Time: 04:00

4.2.11 Performance of HP 56, HPI LINE 2-2 STOP CHECK to HP 58, HPI LINE 2-2 CHECK Injection Line from HP2B, HPI LINE 2-2 ISOLATION VALVE.

AMM

AMM

PN

- a. Verify ECCS Train 1 is operable.
- b. Notify the Shift Supervisor that valves HP 81 and HP 81A will be open and that normal makeup flow is aligned via the makeup system via HP 2B, HPI LINE 2-2 ISO VLV.
- c. Verify test gauge with a range of 0 to 3000 psig or equivalent is installed on HP 81A  
AND record M&TE information. Refer to Step 2.2.5 and 2.2.6.

Range 0-5000 Calibration Due Date : 9-18-00

M&TE number: PGA 0224

AMM

- d. Place test gauge inservice by slowly opening
  - 1. Open HP 81A, HPI LINE 2-2 VENT.
  - 2. Open HP 81, HPI LINE 2-2 VENT.

AMM

- e. Record system pressure and time on HP 81 test gauge.  
2240 HP 81, HPI LINE 2-2 VENT, test gauge  
1435 Time

PM

- f. After the required test pressure hold time, as listed on the VT-2 Examination Report, begin the VT-2 visual examination report in accordance with the requirement of DB-PF-00204, ASME Section XI Pressure Testing.

*Note: Normal MW has been in service > 0430 on 5/16/00 however, test gauge put in service @ 14:35*

PZ

- g. Ensure the visual examiners have completed their examination AND documented the area examined, identifying any leakage.

(Continued)

INITIALS

4.2.11 (Continued)

NOTE 4.2.11h

Restoration steps can be performed in any order as determined by the Test Leader.

SB

SA

PV

M/R

PM

- h. Restore HPI LINE 2-2 by performance of the following
  - 1. Close HP 81, HPI LINE 2-2 VENT.
  - 2. Close HP 81A, HPI LINE 2-2 VENT.
  - 3. After HP 81 and HP 81A are closed restore Blue Cap on HP 81A per DB-OP-00009, Operation and Control of Capped Valves.
  - 4. Inform maintenance that insulation can be re-installed on HP 56 and HP 58.
  
- i. AFTER the inspection for HP 56 to HP 58 is field complete and valves associated with this line are restored to their normal position, THEN inform Shift Supervisor AND request Technical Action Statements be reviewed for exiting. Refer to Steps 3.1.13 and 4.2.14.

Subsection 4.2.11 completed by Peter J. Senechal Date: 5/17/00 Time: 04:00

4.2.12 Performance of DB-PF-03065, Pressure Test for Zone CF010, CFT-2  
CF 30, CF 28, and DH 76INITIALSmm  
mm  
SA

- a. Verify ECCS Train 1 is operable.
- b. Perform DB-PF-03065, Pressure Test for Zone CF010, CFT-2.
- c. AFTER DB-PF-03065, Pressure Test for Zone CF010, CFT-2 is field completed,  
THEN inform Shift Supervisor  
AND request Technical Action Statement be reviewed for exiting.  
Refer to Steps 3.1.13 and 4.2.14.

NOTE 4.2.12.d

CF 30 may have moved from the fully closed position.  
Valve is assumed to be on its seat if 100 psid or greater was maintained. DB-SP-03300, RCS Isolation Check Valve,  
Test may still be required.

SA

- d. IF DB-SP-03300, RCS Isolation Check Valve Test is required to perform,  
OR less than 100 psid was observed between DH30 and the RCS,  
THEN inform Shift Supervisor to perform DB-SP-03300 for Train 2 side.

Subsection 4.2.12 completed by P. J. R Date: 5/17/00 Time: 01:05

NOTE 4.2.13

This VT-2 via remote camera meets Relief Request RR-A16 requirements not to perform the Hydrostatic Test because of the DH 11 and DH 12 modification for pressure locking. In addition to this leakage examination, evidence of leakage, should have occurred during Mode 5.

INITIALS

## 4.2.13 Performance of VT-2 Examination for Decay Heat Valve Pit

- DM
- DM
- DM
- DM
- mm
- a. Remove the Decay Heat Valve Pit Inspection Cover. Refer to DB-OP-06012, Decay Heat and Low Pressure Injection System.
  - b. After the required test pressure hold time, as listed on the VT-2 Examination Report, begin the VT-2 visual examination report in accordance with the requirement of DB-PF-00204, ASME Section XI Pressure Testing.
  - c. Ensure the visual examiners have completed their examination AND documented the area examined, identifying any leakage.
  - d. Restore the Decay Heat Valve Pit Inspection Cover. Refer to DB-OP-06012, Decay Heat and Low Pressure Injection System.
  - e. AFTER the Decay Heat Pit VT-2 is field completed, THEN inform Shift Supervisor AND request Technical Action Statement be review for exiting. Refer to Steps 3.1.13 and 4.2.14.

Subsection 4.2.13 completed by Pedro S Date: 5/17/00 Time: 01:05

NOTE 4.2.14

This subsection is to assist the Shift Supervisor in tracking action statements and if required emergency restoration. This step does not need to be completed or signed off. This information should be documented in the unit log.

PM

4.2.14 Review Action Statements and verify all VT-2 examinations are field completed.

Zone/Test	Subsection Number	Potential T.S. Action Statement Reviewed	Comments:
East D-Ring (Attachment 5A)	4.2.5	None	
East Side (Attachment 5B)	4.2.5	None	
West D-Ring (Attachment 5D)	4.2.5	None	
Vessel and Below (Attachment 5E)	4.2.5	None	
CFT 1- CF31, CF29, & DH77, Zone CF 009 DB-PF-03065	4.2.6	(1) Train 1	
Auxiliary Spray Line, Zone DH 16 (DB-PF-03065)	4.2.7	(1) Train 1	
Zone RC1H2C from HP 2C	4.2.8	(1) Train 1	
Zone RC1H2D from HP 2D	4.2.9	(1) Train 1	
RC1H2A from HP 2A	4.2.10	(1) Train 2	
RC1H2B from HP 2B	4.2.11	(1) Train 2	
CFT 2- CF30, CF28, & DH76, Zone CF 010 DB-PF-03065	4.2.12	(1) Train 2	
Decay Heat Pit, Zone DH 015 Area (Attachment 5C)	4.2.13	None	

(1) T.S. 3.5.2, 3.1.2.2, and 3.1.2.4

PM

4.2.15 Verify all RCS component hydrostatic/leakage tests are complete. Refer to Section 4.4.

NOTE 4.2.16 to 4.2.18

Shift Supervisor or Test Leader may perform restoration steps in any order.

PN

- 4.2.16 Stop the current trend and printout of RCS temperature and pressure AND attach printout to procedure.

NOTE 4.2.17

NRC relief request may have been obtained not to open inner boundary valves for double isolation, hence Attachment 3, Restoration from RCS Hydrostatic Test Valve Lineup, may not be required.

MIA PM

- 4.2.17 Perform Attachment 3, Restoration from RCS Hydrostatic Test Valve Lineup.

- 4.2.18 Perform the following for final System Restoration

PN

- a. Inform Shift Supervisor to perform independent verification on the following cap valves in accordance with DB-OP-00009, Control of Capped Valves.

HP 77A, HPI LINE 1-1 VENT.

HP 75A, HPI LINE 1-2 VENT.

HP 55A, HPI LINE 2-1 ISOLATION VALVE LEAKA TEST CONNECTION.

HP 81A, HPI LINE 2-2 VENT.

PN

- b. Verify pressure on Train 1 injection line is reduced. Refer to DB-OP-06011, High Pressure Injection System, HPI Train 1 Discharge Line Bleed Off or equivalent section.

PN

- c. Verify pressure on Train 2 injection line is reduced. Refer to DB-OP-06011, High Pressure Injection System, HPI Train 2 Discharge Line Bleed Off or equivalent sections.

INITIALS

4.2.18 (Continued)

DSW

- d. Verify PI 2883B, HPI INJECTION LINE<sup>1</sup> INDICATOR is in service  
AND record PI 2883B pressure and current time.

TD# 2

0 PSIG 0220 Hours : Minutes

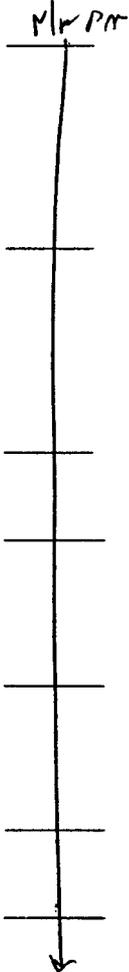
MAPM

- e. Direct maintenance to re-install insulation on RCS piping. Refer to Attachment 4, Control of Temporary Test Items and each respective DB-PF-03065 Pressure Test procedure.

Subsection 4.2 completed by P. J. [Signature] Date : 5/17/00

**NOTE 4.3**

There is no hold time for a Leakage test, however if specific component hydrostatic test is to occur simultaneously, then there is a minimum of four hours for insulated systems and 10 minutes for non-insulated systems.

**4.3 Leakage Test**

- 4.3.1 Verify the reactor operator is recording the following data every thirty minutes in the unit log.
- P729 RC Loop 2 Hlg NR Press, RPS CH2  
P721 RC Loop 1 Hlg NR Press, RPS CH1  
T709 RC Avg NR Temp
- 4.3.2 Verify the following computer points are trending and updating every 10 minutes.
- P729 RC Loop 2 Hlg NR Press, RPS CH2  
P721 RC Loop 1 Hlg NR Press, RPS CH1  
T709 RC Avg NR Temp
- 4.3.3 Verify RCS system is at in Mode 3 with RCS temperature >500 °F and RCS pressure at approximately 2155 for the predetermined duration time.
- 4.3.4 **IF** a Component Hydrostatic/Leakage test is being performed concurrently with this test,  
**THEN** perform Subsection 4.4, Component Hydrostatic/Leakage Test concurrently with this subsection.
- 4.3.5 After the required test pressure hold time, as listed on the VT-2 Examination Report, begin the VT-2 visual examination report in accordance with the requirements of DB-PF-00204, ASME Section XI Pressure Testing. Refer to Attachment 5A through 5G.
- 4.3.6 Ensure the visual examiners have completed their examination **AND** documented the area examined, identifying any leakage.
- 4.3.7 Verify all RCS leakage and Component Hydrostatic/Leakage tests are complete.

INITIALS

K/A P2  
↓  
          

4.3.8 Stop the current trend and printout of RCS temperature and pressure  
AND attach printout to procedure.

4.3.9 Inform Shift Supervisor that RCS leakage test is field complete.

Subsection 4.3 completed by \_\_\_\_\_ Date \_\_\_\_\_

4.4 Component Hydrostatic/Leakage Test.NOTE 4.4

- The temporary test pressure gauge installed at RC 28, HLLMS/RC LEVEL LOW SIDE REFERENCE LEG DRAIN is the official test gauge for the component hydrostatic test when Code Case N- 416-1 has not been followed. This test gauge shall indicate a minimum pressure of 2235 psig to assure that the entire Reactor Coolant system is pressurized to the minimum test pressure of 2200 psig. In accordance with table IWB-5222-1, test pressure is 1.02 times normal operating pressure, which is 2155 psig.
- The designated Test Leader shall ensure the minimum elevation corrected test pressure of 2235 psig is maintained. The Test leader and Control Room should compare the pressure readings at P769 so that pressure at RC 28, HLLMS/RC LEVEL LOW SIDE REFERENCE LEG DRAIN is maintained at or above the defined pressure of 2235. Expect P769 to indicate approximately 2225 psig when corrected for RCS elevation.
- This section is written for both component hydrostatic testing and leakage testing. N/A the applicable steps when no components are being hydrostatic tested.
- If a component hydrostatic test is being performed, then a four-hour hold for insulated components is required, however if this is a leakage test, then no hold time is required. It is desired that all component testing be defined as a leakage test unless Code Case N-416-1 requirements were not followed.

- PM
- 4.4.1 Review the Mode 3, Class 1, Work Order list of post maintenance examination which will require a component hydrostatic or leakage post maintenance test. These will be performed concurrently with the Hydrostatic (Section 4.2) or Leakage (Section 4.3) test. List these components below with location and elevation. If required attached additional sheets.

(Continued)

INITIALS

4.4.1 (Continued)

①

Component	Hydrostatic or Leakage	Elevation & Location	Hold Time (Insulation)	WO Number
<del>DA 4842</del>	<del>Hydro</del>	<del>CTMT9 565</del>	<del>*</del>	<del>98-715</del>
Primary E 24-1 M2A	↓	CTMT9 565	↓	98-327-00
P36-1		CTMT9 565		00-1656-00
P36-3		CTMT9 565		99-3666-00
RC 13B		CTMT9 2M218 633'		99-3329-00
RC 13A				99-3398-00

CLASS 2  
DONS

W.O.C

NOTE 4.4.2

Test gauge used to meet hydrostatic test requirement must comply with Subsection 2.2.4 and 2.2.5 if Code Case N-416-1 was not followed.

\* 10 min uninsulat.  
4 hrs. insulated

MA

4.4.2 IF a component hydrostatic test is required and Code Case N-416-1 for any of the above components has not been followed, THEN place component hydrostatic test gauge inservice by opening RC 28, HLLMS/RC LEVEL LOW SIDE REFERENCE LEG DRAIN

Range \_\_\_\_\_ Calibration Due Date : \_\_\_\_\_

M&TE number : \_\_\_\_\_

MA PA

4.4.3 Check to ensure component insulation is removed or not present as required for the specific component. Refer to Attachment 4.

MA

4.4.4 IF the component insulation can not be removed and Code Case N-498-1 is being used for the performance of a hydrostatic test, THEN inform Shift Supervisor that a four-hour hold at elevated pressures will be required.

MA

4.4.5 Inform Reactor Operator of the estimated pressure and time duration to achieve component hydrostatic examination condition.

WO 98-0329 - work at low pressure  
no RRM

HP57 WO 99-1791-01 Rylan Met UT-2

① See attached page

INITIALS

NOTE 4.4.6 and 4.4.7

If Code Case 416-1 has been followed for all individual components requiring a hydrostatic test then normal RCS pressure is acceptable. However, if this is not so then, the Reactor Operators will increase or decrease RCS pressure using Pressurizer heater controls. Test leader will communicate the official pressure as read from the installed test gauge at RC 28. Reactor operator should expect P769, Pressurizer Pressure to read approximately 2225 psig. Local test pressure is 2235 psig when adjusted for maximum RCS elevation.

WARNING 4.4.6 and 4.4.7

Reactor Protection System high trip set point is 2355 psig. The maximum RCS pressure for a hydrostatic test is 2330 psig.

MR

4.4.6 IF a component hydrostatic test is required, THEN monitor pressure on the installed test gauge at RC 28, HLLMS/RC LEVEL LOW SIDE REFERENCE LEG DRAIN AND request reactor operator to increase RCS pressure to approximately 2235 as indicated on RC 28 test gauge.

MR

4.4.7 Record time that RCS temperature and pressure is at the RCS requirements of greater than or equal to 500°F and RCS pressure is greater than or equal to 2235 psig.

\_\_\_\_\_psig Pressure gauge at RC 28 \_\_\_\_\_ Time: \_\_\_\_\_

\_\_\_\_\_°F RCS temperature indicator \_\_\_\_\_ Time: \_\_\_\_\_

PM

4.4.8 After the required test pressure hold time, as listed on the VT-2 Examination Report, begin the VT-2 visual examination report in accordance with the requirement of DB-PF-00204, ASME Section XI Pressure Testing.

PM

4.4.9 Ensure the visual examiners have completed their examination AND documented the area examined, identifying any leakage.

INITIALS

4.4.1 (Continued)

Component	Hydrostatic or Leakage	Elevation & Location	Hold Time (Insulation)	WO Number

## NOTE 4.4.2

Test gauge used to meet hydrostatic test requirement must comply with Subsection 2.2.4 and 2.2.5 if Code Case N-416-1 was not followed.

- \_\_\_\_\_ 4.4.2 IF a component hydrostatic test is required and Code Case N-416-1 for any of the above components has not been followed, THEN place component hydrostatic test gauge inservice by opening RC 28, HLLMS/RC LEVEL LOW SIDE REFERENCE LEG DRAIN

Range \_\_\_\_\_ Calibration Due Date : \_\_\_\_\_

M&TE number : \_\_\_\_\_

- \_\_\_\_\_ 4.4.3 Check to ensure component insulation is removed or not present as required for the specific component. Refer to Attachment 4.
- \_\_\_\_\_ 4.4.4 IF the component insulation can not be removed and Code Case N-498-1 is being used for the performance of a hydrostatic test, THEN inform Shift Supervisor that a four-hour hold at elevated pressures will be required.
- \_\_\_\_\_ 4.4.5 Inform Reactor Operator of the estimated pressure and time duration to achieve component hydrostatic examination condition.

DH4849 VT-2 CTMT9 565 98-000718-000  
 E24-1 VT-2 CTMT9 216 565 98-000327-000  
 P36-1 VT-2 CTMT9 216 565 00-001656-001  
 P36-3 VT-2 CTMT9 288 565 99-003666-000  
 13B VT-2 CTMT9 218 565 99-003399-000  
 RC13A VT-2 CTMT9 218 633 99-003398-000



INITIALS

W/A

4.4.10 IF RCS pressure was increased,  
THEN request the Reactor Operator to return RCS pressure to normal RCS pressure and if desired automatic control.

W/A

4.4.11 IF test gage at RC 28 is installed,  
THEN perform the following to remove the test gage.

- a. Close RC 28, HLLMS/RC LEVEL LOW SIDE REFERENCE LEG DRAIN.
- b. Verify pressure gauge at RC28 is removed.
- c. Verify RC 28, HLLMS/RC LEVEL LOW SIDE REFERENCE LEG DRAIN is capped.

4.4.12 Direct maintenance to install insulation. Refer to Attachment 4, Control of Temporary Test Items.



Subsection 4.4 completed by W.A. [Signature] Date 5/17/02

INITIALSPK<sup>SM</sup>

- 4.5 IF the test performed was an ASME XI test used to meet a component hydrostatic test and a test gauge was use,  
THEN perform a post-test check of the test gage against a similar gage at the required test pressure.

Similar gage number \_\_\_\_\_ Cal. Due Date: \_\_\_\_\_

Readings \_\_\_\_\_

PM

- 4.6 IF Boric Acid accumulation and/or corrosion is identified,  
THEN notify the Shifty Supervisor and System Engineer in accordance with NG-EN-00324, Boric Acid Corrosion Control  
AND annotate the VT-2 Examination Report.

PM  
sh/oa

- 4.7 Verify the Allowable Operating Transients Cycles log is updated. Refer to Allowable Transient cycles under Rapid RCS Depressurization (AOTC # 9) in accordance with NA-QC-00355, Determination of Allowable Operating Transients Cycles.

NOTE 4.8 and 4.9

These steps may be signed off after completion of Supervisor and ANII review. The test cover sheet should reflect actual start and stop times for test performance, excluding these steps.

PM  
sh/oa

- 4.8 Verify the VT-2 Examination Reports are completed, including all required signatures, and attached.

NOTE 4.9

The designated ISI Pressure Test Engineer maintains the Corrective Measures Evaluation/Action Report tracking number. Request a CMEAR tracking number from him or forward test package to the ISI Pressure Test Engineer.

PM  
sh/oa

- 4.9 IF any leakage or boric acid accumulations and corrosion residues is identified on the VT-2 Examination Report,  
THEN complete the Corrective Measures Evaluation/Action Report in accordance with the requirements of DB-PF-00204, ASME Section XI Pressure Testing  
OR forward test package to the ISI Pressure Test Engineer.

Section 4.0 completed by Peter J. Seal Date 5/2/00

5.0 ACCEPTANCE CRITERIA

- 5.1 Visual Examination has met the acceptance standards as defined per DB-PF-00204, ASME Section XI Pressure Testing. (T.S. 4.0.5).

Verified *Pete J. Smith* Date 5/25/00

6.0 RECORDS

Follow the requirements of DB-DP-00013, Surveillance and Periodic Test Program, for records capture and processing.

7.0 REFERENCES7.1 Developmental

- 7.1.1 ASME Boiler and Pressure Vessel Code Section XI, 1986 Edition, Rules for Inservice Inspection of Nuclear Power Plant Components.
- 7.1.2 Power Piping, ANSI/ASME B31.1, 1989 Edition, Ohio Basic Building Code.
- 7.1.3 Code Cases of ASME Boiler and Pressure Vessel Code, as approved per Regulatory Guide 1.147, Inservice Inspection Code Case Acceptability, ASME Section XI Division 1.
- 7.1.4 Davis-Besse Technical Specifications Unit No. 1, Surveillance Requirement.
- 7.1.5 T.S. 4.0.5, Inservice Inspection and Testing.
- 7.1.6 T.S. 3.9.1, Reactor Coolant System Pressure/Temperature Limits.
- 7.1.7 T.S. 3.5.2, ECCS Systems.
- 7.1.8 T.S. 3.1.2.2, Boron Injection Flow Paths.
- 7.1.9 T.S. 3.1.2.4, Makeup Pumps.
- 7.1.10 Specification M-200, Design Specification for Nuclear Piping Systems.
- 7.1.11 ISI Program, Volume II, Pressure Test Program.
- 7.1.12 NG-EN-00311, ASME Section XI Repair, Replacement, and Modification Program.
- 7.1.13 DB-MN-00001, Conduct of Maintenance.
- 7.1.14 DB-PF-00104, Inservice Inspection Program.

## 7.2 Implementation

- 7.2.1 DB-CH-01662, Plant Systems Cleanliness Inspection.
- 7.2.2 DB-DP-00013, Surveillance and Periodic Test Program.
- 7.2.3 DB-OP-00008, Operation and Control of Locked Valves.
- 7.2.4 DB-OP-00009, Operation and Control of Capped Valves.
- 7.2.5 DB-OP-00010, Operational Information Tags.
- 7.2.6 DB-OP-00015, Safety Tagging.
- 7.2.7 DB-OP-00016, Removal and Restoration of Station Equipment.
- 7.2.8 DB-OP-06000, Filling and Venting the Reactor Coolant System.
- 7.2.9 DB-OP-06006, Makeup and Purification System.
- 7.2.10 DB-OP-06012, Decay Heat and Low Pressure Injection Operation System.
- 7.2.11 DB-OP-06011, High Pressure Injection System.
- 7.2.12 DB-OP-06900, Plant Heat-Up.
- 7.2.13 DB-OP-06901, Plant Start-Up.
- 7.2.14 DB-PF-00204, ASME Section XI Pressure Testing.
- 7.2.15 DB-PF-00255, Test Leader Certification.
- 7.2.16 DB-PF-03065, Pressure and Augmented Leakage Test.
- 7.2.17 DB-PF-03969, HPI System Pressure Isolation Valve Back to Back Check Valve.
- 7.2.18 DB-SP-03300, RCS Isolation Check Valve Test.
- 7.2.19 NA-QC-00355, Determination of Allowable Operating Transients Cycles.
- 7.2.20 NG-DB-00201, Conduct of Infrequently Performed Tests and Evolutions.
- 7.2.21 NG-EN-00204, Boric Acid Corrosion Control.

ATTACHMENT 4: CONTROL OF TEMPORARY TEST ITEMSInsulation Segments

	Item	Location	Removal By Note 1	Insulation segments restoration by	Restoration is Independently verified by
1.	HP 49/HP 51	West D-Ring	N/A <sup>PM</sup>		
2.	HP 48/HP 50	West D-Ring			
3.	HP 56/HP 58	East D-Ring			
4.	HP 57/HP 59	East D-Ring	↓		
5.					
6.					
7.					
8.					
9.					
10.					

Note 1 The requirement is to remove the insulation to reduce hold time from four hours to 10 minutes during a hydrostatic test. Dependent on Test Leader Direction insulation removal and restoration can be N/A if a leakage test or four-hour hold duration will be performed. This decision is based on the hold time duration versus the work involved in insulation removal.

Test Gauges

	Gauge Location	M&TE #	Cal Due Date	Range	Location	Installed by	Gauge removed by	Independent verified removed by
1.	HP 77A	PGA 0230	9/15/00	0-5000	West D-Ring	PA	PA	APB
2.	HP 75A	PGA 0317	8/14/00	0-5000	West D-Ring	PM	PM	APB
3.	HP 55A	PGA 0002	7/15/00	0-5000	East D-Ring	PN	PN	APB
4.	HP 81A	PGA 0229	9/15/00	0-5000	East D-Ring	PN	PN	APB
5.	RC 28 *	N/A <sup>PM</sup>	N/A <sup>PM</sup>		Outside West D-ring	N/A <sup>PM</sup>	N/A <sup>PM</sup>	
6.								
7.								
8.								

\* Installed only if Code Case N-416-1 for component hydrostatic test has not been followed.

ATTACHMENT 5A: EAST D-RING COMPONENT LOCATION LIST BY ELEVATION

Component	Discription/Location	Ele.Room\Comment
RC 2A2	Loop 2 Hot Leg Pressure Transmitter Source Valve	1-CNT-643- 218_CTMT Top of S/G 2
RC 2A2A	Loop 2 Hot Leg Pressure Transmitter Source Valves	1-CNT-643- 218_CTMT Top of S/G 2
RC 2A1	Loop 2 Hot Leg Pressure Transmitter Source	1-CNT-643- 218_CTMT Top of S/G 2
RC 1AA	Loop 2 Hot Leg Flow Transmitter Source	1-CNT-643- 218_CTMT Top of S/G 2
RC 1ABA	FP RC01A and FTT RC 1A1 Thru FT RC 1A4 Low Pressure	1-CNT-643- 218_CTMT Top of S/G 2
RC 1AB	Loop 2 Hot Leg Flow Transmitter Source	1-CNT-643- 218_CTMT Top of S/G 2
RC 2A1A	PT RC 2A1 And PTRC 2A3 Second Isolation Valve	1-CNT-643- 218_CTMT Top of S/G 2
RC 13B Bolting 2	RC13B Inlet Flange Bolting	Ele. 640 North Wall
RC 13A Bolting1	RC13A Inlet Flange Bolting	Ele. 640 North Wall
RC 13B	Pressurizer Code Safety Relief Valve	1-CNT-635- 218_CTMT Top of Przr
RC 13A	Pressurizer Code Safety Relief Valve	1-CNT-635- 218_CTMT Top of Przr
RC 201	Loop 2 Hot Leg Pressure Test Isolation	1-CNT-635- 218_CTMT Top of S/G 2
RC 201A	Loop 2 Hot Leg Pressure Test Isolation	1-CNT-635- 218_CTMT Top of S/G 2
RC 44	Loop 2 Hot Leg Vent Isolation Valve	1-CNT-635- 218_CTMT Top of S/G 2 (LOCKED VALVE)
RC 5000	RC Loop 2 Hot Leg N2 Supply Valve	1-CNT-635- 218_CTMT Top of S/G 2
NN 68	N2 To Steam Generator Primary 2 Inlet Isolation	1-CNT-643- 218_CTMT Top of S/G 2
RC 774	LI 5448A High Side Reference Leg Iso Vlv	1-CNT-635- 218_CTMT Top of S/G 2
RC 4610A	Loop 2 Hot Leg Vent (A) To Atmosphere	1-CNT-635- 218_CTMT Top of S/G 2
SG 2 Upper Handhole	Same As Head Veni Line Flange 5	Ele. 633 High Point Vent Connection,Top of SG 1

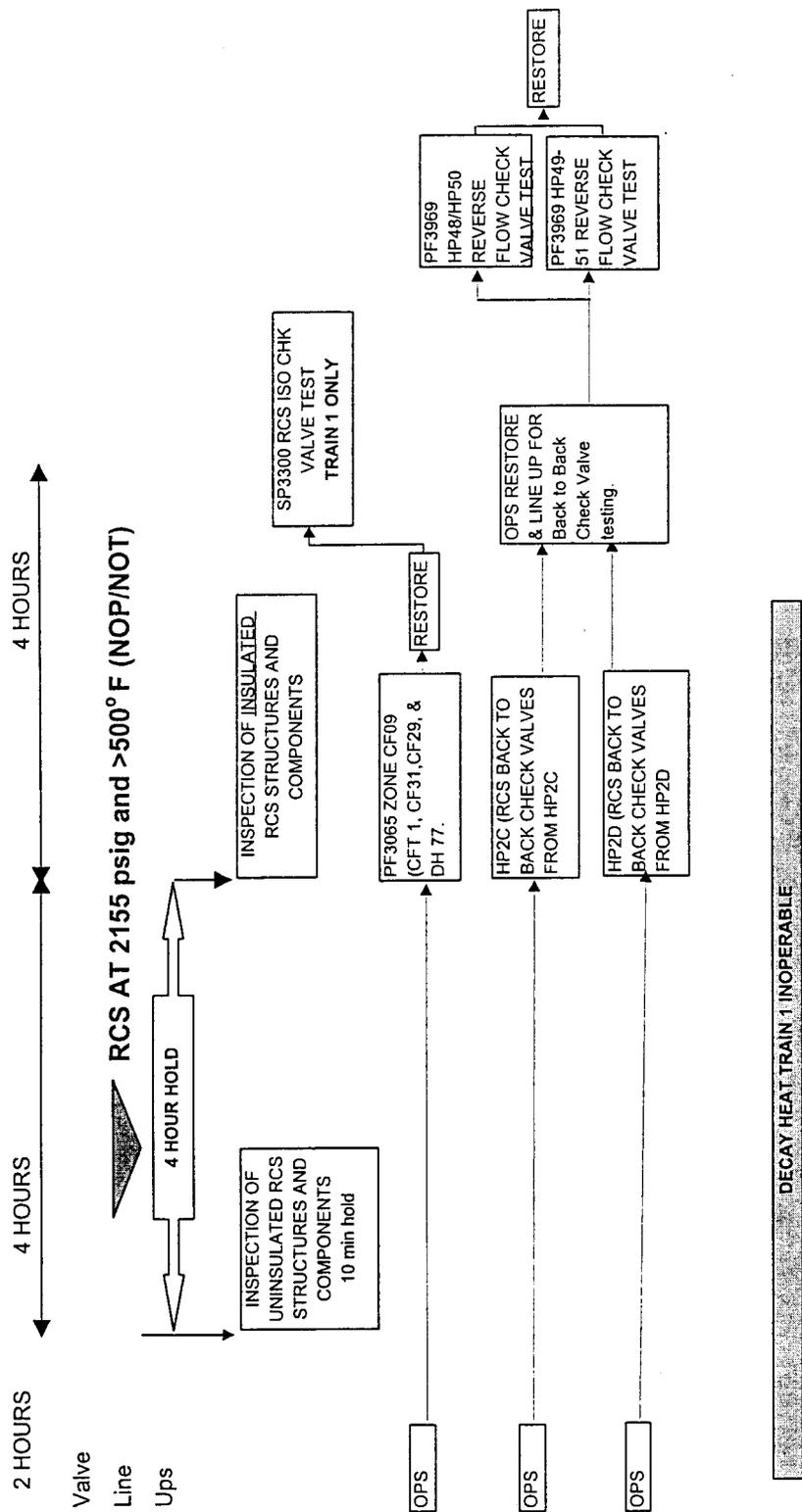
### 12 RFO Tester Signature and Initial List

Name	Home	VT-2 Cert.	Signature	Initials
Beier, Mike		Y	<i>Mike Beier</i>	MMB
Black, Jamie	PETP	Y	<i>Jamie Black</i>	JB
Bless, A.	Res Affairs Design Eng.		<i>Aaron V. Bless</i>	AWB
Brinkman, Scott	Nuc. Eng.	N	<i>Scott Brinkman</i>	SAB
Burton, Chris	Perry Eng.	YN	<i>Chris Burton</i>	CB
Clare, John	Contractor	Y	<i>John Clare</i>	JC
Gibson, Gary	Contractor	N	<i>Gary Gibson</i>	GG
Lynch, Norm	Contractor	Y	<i>Norman Lynch</i>	NL
Marenchin, Tom	Student		<i>Tom Marenchin</i>	TM
Matranga, Gene	PETP		<i>Gene Matranga</i>	GM
Morrison, Robert	PETP	Y	<i>Robert Morrison</i>	RM
Murray, Ken	Contractor	Y	<i>Ken Murray</i>	KWM
Owens, John	Contractor	Y	<i>John Owens</i>	JO
Rishel, Bob	PETP		<i>Bob Rishel</i>	BR
Scorziello, Dino	Nuc. Eng.	N	<i>D. Scorziello</i>	D.S.
Seniuk, Peter	PEPT	Y	<i>Pete Seniuk</i>	PS
Shutt, Dan	Contractor	Y	<i>Daniel C. Shutt</i>	DCS
Thompson, Tim	PETP	Y	<i>Tim Thompson</i>	TXT
Timmerman, Paul	<del>Training</del> EMER PEOP	N	<i>Paul F. Timmerman</i>	PFT



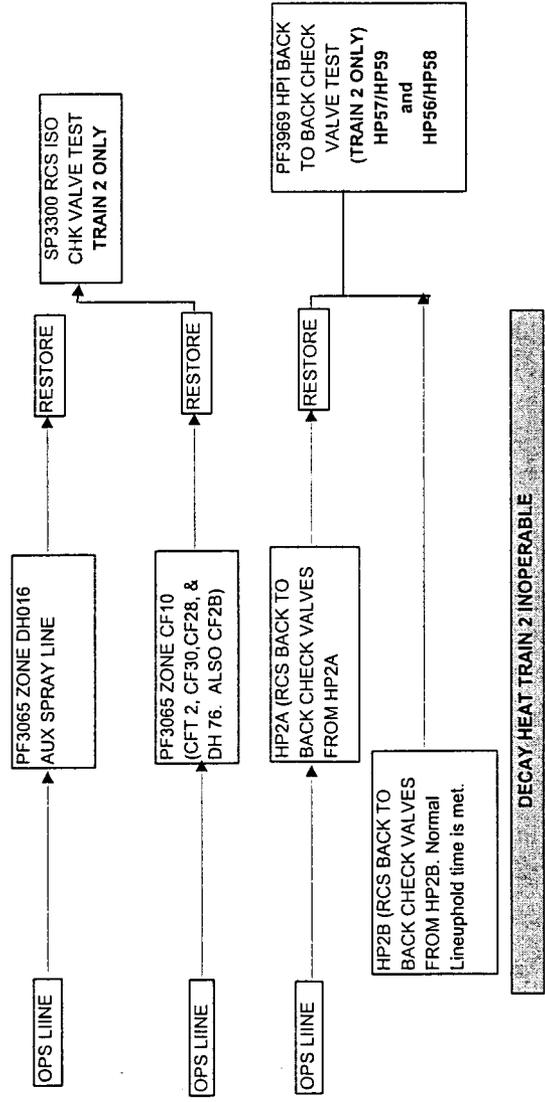
# DB-PF-03010 RCS LEAKAGE AND HYDROSTATIC TEST

(INTEGRATES DB-PF-03010, SP3300, AND PF3969)





4 HOURS      4 HOURS





\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\*

\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\*  
\*\*\*\*\*

*Pressure + Temperature  
Data Printout for  
Res Hydrostatals Test  
Start: 5/16/00 09:00  
End: 5/17/00 09:00*

\*\*\*\*\* P729 \*\*\*\*\* RC LOOP 2 HLG 1 RESS,RPS CH 2 \*\*\*\*\*  
\*\*\*\*\* P721 \*\*\*\*\* RC LOOP 1 HLG NR PRESS,RPS CH 1 \*\*\*\*\*  
\*\*\*\*\* T821 \*\*\*\*\* RCP 2-1 DISCH CLG WR TEMP,RC4A2 \*\*\*\*\*  
\*\*\*\*\* T781 \*\*\*\*\* RCP 1-1 DISCH CLG WR TEMP,RC4B2 \*\*\*\*\*

YR	MO	DA	HR	MI	SE	P729	P721	T821	T781
0-May	16	3:30	0	2179.	477.4	657.2	T821	T781	
0-May	16	3:40	0	2160.	480.1	657.2	477.4	657.2	
0-May	16	3:50	0	2154.	483.9	657.2	480.1	657.2	
0-May	16	4:00	0	2142.	488.3	657.2	483.9	657.2	
0-May	16	4:10	0	2133.	492.4	657.2	488.3	657.2	
0-May	16	4:20	0	2143.	496.3	657.2	492.4	657.2	
0-May	16	4:30	0	2142.	499.9	657.2	496.3	657.2	
0-May	16	4:40	0	2143.	503.9	657.2	499.9	657.2	
0-May	16	4:50	0	2144.	507.7	657.2	503.9	657.2	
0-May	16	5:00	0	2135.	511.5	657.2	507.7	657.2	
0-May	16	5:10	0	2145.	515.3	657.2	511.5	657.2	
0-May	16	5:20	0	2135.	518.9	657.2	515.3	657.2	
0-May	16	5:30	0	2135.	521.8	657.2	518.9	657.2	
0-May	16	5:40	0	2148.	523.9	657.2	521.8	657.2	
0-May	16	5:50	0	2151.	527.9	657.2	523.9	657.2	
0-May	16	6:00	0	2144.	531.6	657.2	527.9	657.2	
0-May	16	6:10	0	2141.	532.8	657.2	531.6	657.2	
0-May	16	6:20	0	2145.	533.7	657.2	532.8	657.2	
0-May	16	6:30	0	2147.	533.9	657.2	533.7	657.2	
0-May	16	6:40	0	2144.	533.6	657.2	533.9	657.2	
0-May	16	6:50	0	2136.	533.8	657.2	533.6	657.2	
0-May	16	7:00	0	2148.	533.7	657.2	533.8	657.2	
0-May	16	7:10	0	2136.	533.9	657.2	533.7	657.2	
0-May	16	7:20	0	2151.	533.8	657.2	533.9	657.2	
0-May	16	7:30	0	2153.	533.9	657.2	533.8	657.2	
0-May	16	7:40	0	2134.	533.9	657.2	533.9	657.2	
0-May	16	7:50	0	2164.	533.0	657.2	533.9	657.2	
0-May	16	8:00	0	2147.	533.0	533.3	533.0	533.3	
0-May	16	8:10	0	2136.	533.6	534.2	533.0	534.2	
0-May	16	8:20	0	2159.	533.3	534.0	533.6	534.0	
0-May	16	8:30	0	2152.	657.2	534.3	533.3	534.3	
0-May	16	8:40	0	2164.	657.2	533.2	534.0	533.2	
0-May	16	8:50	0	2154.	657.2	533.0	534.3	533.0	
0-May	16	9:00	0	2146.	657.2	534.3	534.3	534.3	
0-May	16	9:10	0	2133.	657.2	534.6	534.3	534.6	
0-May	16	9:20	0	2167.	657.2	534.2	534.6	534.2	
0-May	16	9:30	0	2146.	657.2	534.3	534.2	534.3	
0-May	16	9:40	0	2152.	657.2	533.2	534.3	533.2	
0-May	16	9:50	0	2160.	657.2	533.0	533.2	533.0	

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0-May	10: 0: 0	2150.	2145.	534.5
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0-May-16	10:20: 0	2162.	2158.	534.1
0-May-16	10:30: 0	2153.	2149.	534.5
0-May-16	10:40: 0	2135.	2130.	534.5
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0-May-16	16:40: 0	2152.	2147.	534.2
0-May-16	16:50: 0	2144.	2139.	534.3
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0-May-16 17:30: 0	2160.	2155.	534.0
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## Test Summary Report

Purpose of this report is to add insight and overview to the completed DB-PF-03010, RCS Hydrostatic and RCS Leakage test for future guidance. This test was performed on May 16 and May 17, 2000 to meet the Hydrostatic Test requirements per the ASME Section XI Code for Class 1 components. The third RCS Hydrostatic test is scheduled for May 13, 2010.

### Test Objectives

To VT-2 examine the RCS Class 1 components at normal operating pressure and temperature. Within this included the all Class 1 check valves boundaries require need pressurization by an upstream source. Pressure was held for 10 minutes for non-insulated components or 4 hours for insulated components.

All test objectives where met. No welding modification on any pressure boundary component occurred during 12RFO, hence, no actual hydrostatic test pressure/temperature conditions were required. The use of Code Case 416-1 was not used. The RCS boundary was examined in accordance to 1986, ASME, Section XI Code. Other approved Code Cases, inquiries and written exceptions where used.

These are:

Documentation of Exception	Approval Authority	Comment
Code Case 498-1	Regulatory Guide 1.147, May 1999 and Relief Request RR-A15	This allows to limit pressure and temperature limit to normal operating conditions.
Inquiry 1-XI-92-10	ASME	States that the Hydrostatic test equipment calibrations and indicator ranges are not required if Code Case 498-1 is used.
Second inner boundary valves where not require to be open. Submitted relief.	Currently being reviewed by NRC. Performed at risk. See attached RR-A18 relief request and File G.1.5.1 for Telephone Call Documentation.	ALARA concerns. Interim approval via telephone documentation from NRC to proceed. If rejected then RCS hydrostatic test again in 13RFO.

## Summary of Test Results

No relevant conditions where identified. See package CMEARS 2000-09 and CMEAR 2000-10. Significant items were:

- Incore connectors, 5 and 11 flower pots leakage was addressed in accordance with IWB-3142.4
- Debris under vessel, BA build up. This has been identified in the past.
- Numerous valve packing and plug leakage was identified. These were corrected or follow up work documents generated. Refer to package CMEARS Number 2000-009 and 2000-010.

## Lessons learned:

PI2883B was not isolated within a timely manner and was damaged. Refer to CR 2000-1447. Apparent causes were: Wrong indicator name in procedure which reference train 2, when actually train 1 was required to be isolated. Step verbiage in procedure "direct isolation" verse "verify isolated", time pressures, and test personnel fatigue. These items all lead to multiply human factor errors causing PI 2883B to be damaged. In addition the PI range is 0-2000 range, however system is to measure back pressure failure of 2155 psig or design to 2700 psig. This indicator has been damaged in the past.

Inspection if CRD via top of service structure. RC did not want us to enter canal for inspection via the plastic Lexan covers. After discussion, it was identified that the CRDs could be inspected from the top of the Service structure housing. Each CRD flange can be observed from the grading on top of the service



structure. This is not an insulated structure. The CRD nozzle welds are located within the upper head insulation and can not be seen from the top of the service structure or via the Lexan view ports.

Flow diagram/logic plot assisted in test performance. Ensure DB-SP-03300 and DB-PF-03969 are scheduled within the RCS hydrostatic test train windows. This was help full with scheduling individual subsections or other operation's tests.

Assignment of responsibility for test personnel was good practice. Each player new their roles before test began. Hence, this limited overall confusion and cross efforts. See attached "Estimate of Pressure Test Personnel Responsibility List."

Procedure Step 3.1.6.h state to verify the requirements of DB-PF-00201, Conduct of Infrequently Performed Test and Evolutions are being followed. Management determined that this test did not meet the requirements for an infrequent performed test and elected not to follow it.

## Test Deficiencies

### Test Deficiencies 1

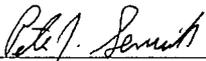
Unable to perform prerequisites for reference DB-PF-03065 procedure on both Train1 and Train 2 components. These could not be signed off because only one ECCS train could be tested at a time, yet step requires that the prerequisites for both trains be sign off. Test deficiency did not effect acceptance criteria. Individual procedure steps in DB-PF-03065 controlled prerequisites. PCR 00-1133 written to change this.

### Test Deficiencies 2

Change PI2883B name to reflect correct train. This did not effect acceptance criteria. Name was change and correct, however indicator was not isolated within a timely fashion. See lessons learned. PCR 00-1133 written to change procedure. CR 2000-1447 written to address oversight.

### Test Deficiencies 3

Computer point T709 was not indicating correct temperature. Per ASME inquiry 1-XI-92-10, temperature indication is not required when testing per Code Case 498-1. The plant be at normal pressure and temperature, other temperature indicators where acceptable for this parameter. PCR 00-1133 written to address this issue.

  
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Submitted by Peter J. Seniuk

June 2, 2000



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\*\*\*\*\* P729 \*\*\*\*\* RC LOOP 2 HLG 1 RESS,RPS CH 2  
\*\*\*\*\* P721 \*\*\*\*\* RC LOOP 1 HLG NK PRESS,RPS CH 1  
\*\*\*\*\* T821 \*\*\*\*\* RCP 2-1 DISCH CLG WR TEMP,RC4A2

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YR	MO	DA	HR	MI	SE	P729	P721	T821
0	May	-17	0	:	0:12	2178.	2173.	531.7
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0	May	-17	0	:	30:12	2177.	2173.	531.1
0	May	-17	0	:	40:12	2165.	2161.	530.5
0	May	-17	0	:	50:12	2186.	2182.	531.1
0	May	-17	1	:	0:12	2202.	2196.	532.9
0	May	-17	1	:	10:12	2179.	2174.	532.9
0	May	-17	1	:	20:12	2179.	2174.	533.5
0	May	-17	1	:	30:12	2164.	2160.	533.3
0	May	-17	1	:	40:12	2190.	2185.	532.9
0	May	-17	1	:	50:12	2197.	2191.	533.6
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0	May	-17	3	:	10:12	2171.	2167.	533.3
0	May	-17	3	:	20:12	2188.	2183.	532.9
0	May	-17	3	:	30:12	2175.	2170.	533.5
0	May	-17	3	:	40:12	2174.	2170.	533.3
0	May	-17	3	:	50:12	2158.	2151.	533.0
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THE TOLEDO EDISON COMPANY  
 TELEPHONE CALL DOCUMENTATION  
 ED 6650-e

FILE  
 G.1.6.1

ORIGINATOR DV Pickett	COMPANY/ORGANIZATION NRC/NRR/D-B Project Manager	ROUTE TO: 1.
CONTACT L /uokko	COMPANY/ORGANIZATION FENOC/D-B Licensing Supervisor	2.
CONFERENCE CALL PARTIES		3.
		4.
STATION/UNIT Davis-Besse 1	DATE Nov. 29 1999	TIME 0931 a.m. p.m.
		5.

SUBJECT:  
 ASME B&PV Code Relief Requests RR-A18, RR-A19, and RR-A20 (Reference: Serial Letter 2622, dated 11/13/99)

DV Pickett called DR Wuokko and said he had received the subject Relief Requests and met and discussed them with the NRC/NRR technical review branch. The branch agreed that these had been previously approved in the past for other plants and that there would not be any problem with approving them based on technical merit. However, this letter requested that the NRC approve these requests by January 31, 2000, so that Davis-Besse would have the approvals in hand prior to the April 2000 outage. The NRC staff understood that Davis-Besse would like to have the approvals in hand prior to the outage, however, the staff had about a hundred relief requests in the que before these and would probably not have them approved before the outage. The NRC staff told DV Pickett it would not be a problem for Davis-Besse to perform the inspections following the planned Relief Requests, with the NRC issuing the approved Relief Requests post-outage. DV Pickett said the NRC staff wanted to know if the Davis-Besse staff had a hard time with the NRC plans.

DR Wuokko noted that this would still constitute risk on the part of Davis-Besse to proceed as if the Relief Requests were approved and in hand. DR Wuokko asked DV Pickett if the NRC staff clearly understood that if the plant staff performed these inspections per the requested relief during the outage that this would not be a Restart Issue. DV Pickett said the NRC staff said this would not be a Restart Issue. DR Wuokko agreed to discuss this with the Davis-Besse Compliance and ISI engineering staff and get back to DV Pickett.

COPIES TO: SP Moffitt, JLF, MKL, NRM, LAJ, DRW, DE Eshelman, A McAllister, CT Daft, GMW, DHL	
PREPARED BY DR Wuokko	DATE November 29, 1999



Document Number 50-346  
License Number NPF-3  
Serial Number 2622  
Attachment 1  
Page 1

**RELIEF REQUEST  
RR-A18**

Component Description:

Reactor Coolant System small diameter ( $\leq 1$  inch) vent, drain, and instrument piping

ASME Code Class:

ASME Section XI, Class 1 Piping

ASME Examination Requirements

Subsection IWB-2500, Table IWB-2500-1, Examination Category B-P, Item Nos. B15.51 and B15.71 of the 1986 Edition, No Addenda, of ASME Section XI requires a system hydrostatic test at or near the end of each inspection interval. The pressure-retaining boundary during the hydrostatic test shall include all Class 1 components within the system boundary.

Relief is requested from performing the hydrostatic test of the Class 1 piping and valves downstream of the first isolation valve of small diameter vent, drain and instrument piping.

Basis for Relief:

Vent, drain, and instrument piping segments consist of two manually operated isolation valves separated by a short pipe nipple which is connected to the Reactor Coolant System by another short pipe nipple. Manually operated isolation valves provide double isolation of the Reactor Coolant System and are closed during normal operating conditions.

The system hydrostatic test is performed in Mode 3 with the Reactor Coolant System at full temperature and pressure. Performance of the system hydrostatic test requires the first isolation valve be opened to pressurize the piping between the first and second isolation valves. Following completion of the test, the first isolation valve must then be closed to restore the double isolation of the Reactor Coolant System. FENOC proposes to perform the system hydrostatic test of the Reactor Coolant System with the first isolation valve in its normal closed position. This will still provide an acceptable level of quality and safety based on the following:

1. ASME Section XI paragraph IWA-4400 provides the requirements for the hydrostatic pressure testing of piping and components after repairs by welding to the pressure boundary. IWA-4400(b)(5) exempts component connections, piping, and associated valves that are nominal pipe size (NPS) 1 inch and smaller from system hydrostatic tests following repairs by welding. The requirements of IWA-4400 also apply to replacements.



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Page 2

2. The non-isolable portion of the Reactor Coolant System drain and vent connections will be pressurized and visually examined as required. Only the isolated portion of the small diameter drain, vent, and instrument connections will not be pressurized.
3. The vent and drain piping and valves are nominally heavy wall (Schedule 160 pipe and 1500# valves) installed to the requirements of Subsection NB of ASME Section III.

The Davis-Besse Nuclear Power Station Operating License Technical Specifications (TS 3.4.6.1 and 3.4.6.2) require Reactor Coolant System leakage monitoring during normal plant operation (Modes 1, 2, 3, and 4). Should any Technical Specification limits be exceeded, corrective actions, including plant shutdown, are required to identify the source of leakage and restore the Reactor Coolant System boundary integrity.

Personnel safety and ALARA issues are also associated with pressurizing these connections. These issues are as follows:

1. Pressure testing these connections to the outboard isolation valve requires the inboard isolation valve be opened to subject the isolable portion of the piping to Reactor Coolant System nominal operating pressure and temperature. Opening this inboard isolation valve under Reactor Coolant System full temperature and temperature conditions is contradictory to the 10 CFR 50.55a(c)(2)(ii) requirement for double isolation of the Reactor Coolant System and thus creates the possibility for safety concerns for personnel performing the visual examination of the connections.
2. Performing the system hydrostatic test with the inboard isolation valves open requires several man-hours to position the valves for the test and then to restore them after the test is complete. It is estimated that the dose associated with this valve alignment and realignment is approximately 0.4 man-rem.

The system hydrostatic test is performed near the end of the outage at full temperature and pressure following completion of all Reactor Coolant System work. The system hydrostatic test is a critical path activity. To minimize the time the Reactor Coolant System does not have double isolation, the alignment and realignment of the isolation valves is performed immediately preceding and following the test. This activity directly adds to the time necessary to perform the system hydrostatic test and the duration of the outage.

FENOC considers the requirement to pressurize the downstream portions of small diameter vent, drain, and instrument piping a hardship that is not compensated by a significant increase in quality and safety. Therefore, relief from this requirement is requested in accordance with 10 CFR 50.55a(a)(3)(ii).

It should be noted that the NRC approved a similar relief request for the Edwin I. Hatch Nuclear Plant, Units 1 and 2 (TAC Nos. MA2118 and MA2119) on September 3, 1998.



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Alternative Examination:

The system hydrostatic test will be performed with all small diameter vent, drain, and instrument valves in their normal closed position. The VT-2 examination will extend to and include the outboard closed valve in the Reactor Coolant System boundary.



## MODE 3 WALKDOWN HEAT STRESS PLAN 12 RFO

Past history has shown that during Start-up (Mode 3 Walkdowns) a stay time of 55 minutes for D-Ring walkdowns is the upper limit (door to door) with a maximum of 10 minutes at the 653' elevation. Job specific stay times will vary depending on the elevation and nature of the work (i.e. inspections on the 585' elevation have a stay time of 90 minutes and inspections on the 565' elevation have a stay time 120 minutes). Inspections are considered to be low metabolism work activities when minimum climbing activities are involved. No one is allowed to exceed their posted stay times unless properly evaluated by the job supervisor according to the Heat Stress Program - Symptoms of Heat Stress and exhibit no signs of heat related illness. The supervisor, following this evaluation, may extend a single stay time for no longer than 10 minutes. All individuals entering to perform work activities with a stay time of 30 minutes or less shall do so with an ice vest on and will utilize a buddy system for added safety. For work activities with a stay time greater than 30 minutes, the ice vests are highly recommended and the buddy system should be utilized. **Note: The above stay times are for single PC's only, any additional clothing will reduce the stay times.** An employee who exhibits any heat related disorder as shown in the "Symptoms of Heat Stress", shall immediately notify their coworker(s), place their activity in a safe condition and proceed to the personnel hatch and exit containment. If conditions warrant, the First Aid Team shall be notified via Gaitronics Line 5.

A stop watch or wrist watch should be used by workers or supervisor (at personnel hatch with radio) to keep workers abreast of the time remaining - keeping in mind the travel time needed to exit containment. Recuperation from the heat exposure should take place in a cool area with good air movement. The recuperation time for each heat stress exposure is 1 hour. The least burdensome contamination clothing should be used following Radiation Protection guidance (ex: skull caps instead of full hood) additional hand protection (i.e. work gloves) should be worn if climbing ladders. The proper use of multiple teams to perform the task at hand should ensure a quality job with no heat illnesses. Anyone not feeling well, taking medications which increases their risk of heat illness or anyone who feels they are at an increased risk of illness due to the heat should contact the supervisor as soon as possible. In preparation, the following guidance should be utilized:

### General Guidance for Work in High Temperature Environments

- ☞ Drink plenty of water to prevent dehydration. Drink water frequently rather than consuming large quantities all at once.
- ☞ Avoid excessive salt, alcohol and caffeine; all can cause dehydration.
- ☞ Consume citrus fruits, raisins and bananas to help keep the body's minerals in the correct balance.
- ☞ Take your breaks in a cooler area. Take advantage of these opportunities to drink water - instead of slipping out for a smoke!

5/15/00

Rev 1

1



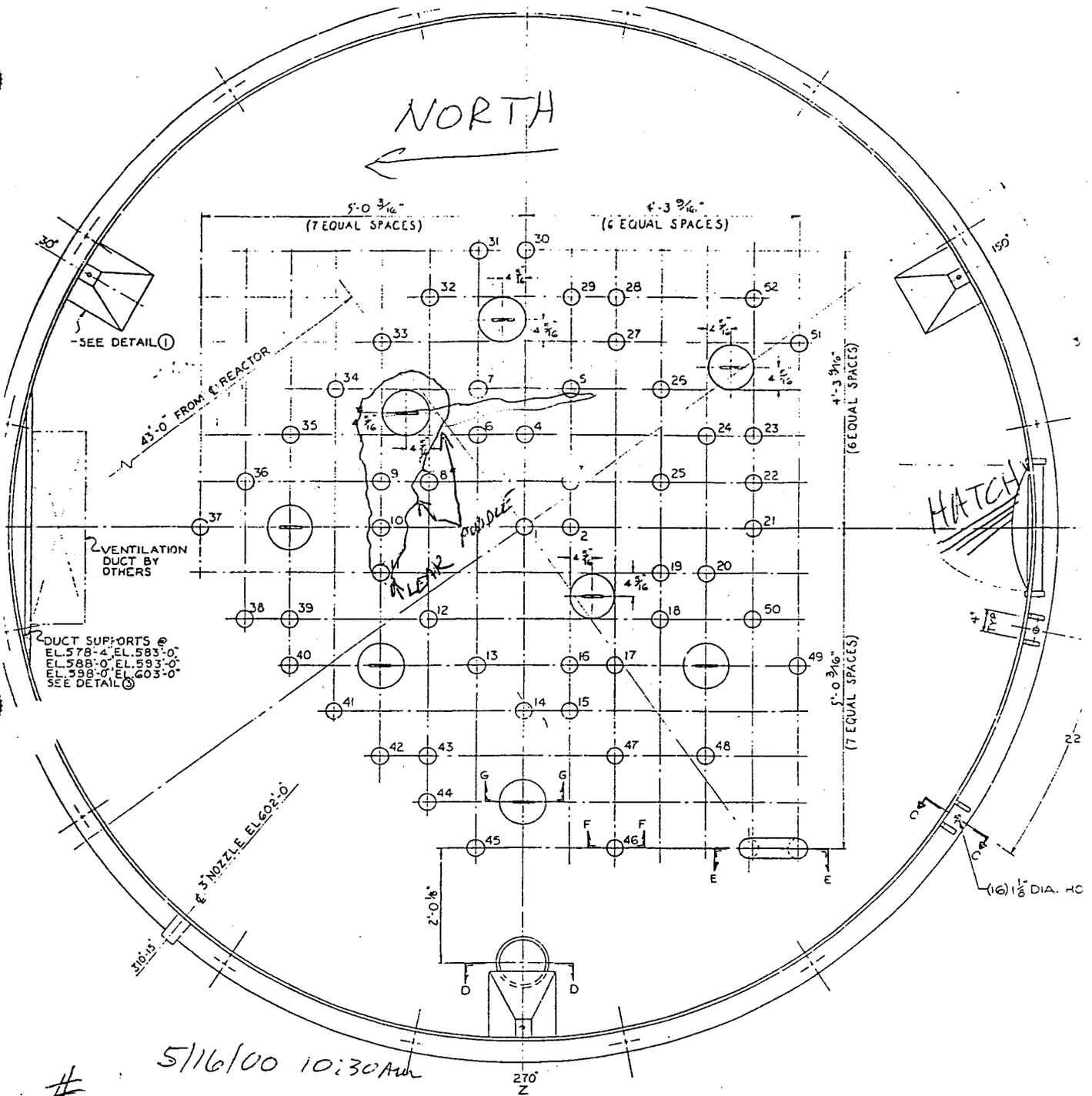
## MODE 3 WALKDOWN HEAT STRESS PLAN 12 RFO

- Dress in clothing designed to keep you cool. Wear light modesty garments under PC's.
- Notify your Supervisor if you have any of the following heat stress risk factors: poor physical conditioning, ill health, obesity, heart or lung disease or taking medications which might affect your ability to handle a high heat environment.

### Heat Stress Program - Symptoms of Heat Stress

- **Heat Fatigue.** It is marked by a decrease in efficiency, coordination and alertness, as well as mood swings. To treat, remove to a cool area and drink water as a replacement beverage.
- **Heat Cramps.** It occurs when the body's mineral balance is disturbed because of dehydration. Heat cramps can occur while the person is working in the hot environment, or later after work. The symptoms include painful spasms of the muscles (arms, legs, etc.). To treat, rest in a cool place and drink water as a replacement beverage. Massage the affected muscles.
- **Heat Exhaustion.** It occurs when the body is exposed to long periods of heavy sweating. Symptoms include fatigue, nausea, headache, clammy moist skin, profuse sweating with a pale or flushed complexion, fainting, low blood pressure and weak pulse. To treat, remove to a cooler environment, give cool fluids (if conscious), obtain medical attention immediately (Gaitronics Line 5).
- **Heat Stroke.** It occurs when the body's core temperature soars to 40.5 Celsius (105 Fahrenheit) or higher. This condition can quickly progress to a coma, convulsions or brain damage. The symptoms include hot dry skin, sweating stops and a high and rising temperature. Heat stroke is potentially fatal unless treated promptly and adequately. Contact the First Aid Team immediately via Gaitronics Line 5.

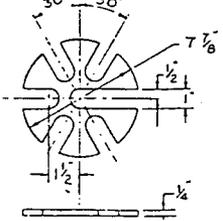




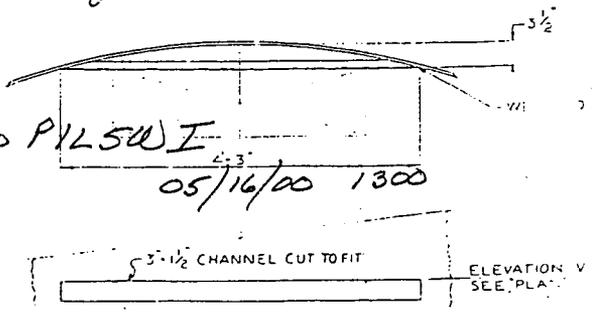
5/16/00 10:30 AM

# INCORE FLOWER POT PLAN SCALE: 1\"/>

MDT U-0699



TEIMORE (#5) TO PILSWI  
05/16/00 1300



ELEVATION V  
SEE PLAN



Procedure Deficiency Form

Deficiency # 1

PROCEDURE NUMBER DB-PF-0300 PAGE(S) 30 STEP(S) 4.1.3 DATE 5/16/00

DEFICIENCY TYPE (CHECK ONE OR MORE)

- Procedure cannot be performed as written (Procedure Error)   
  Deviation from Sequence   
  Test Deficiency  
 Typographical Error   
  Equipment Malfunction   
  Procedure Step Does Not Apply (N/A)  
 Existing Maintenance Condition   
  OTHER (EXPLAIN) \_\_\_\_\_

DESCRIPTION OF DEFICIENCY / PROPOSED RESOLUTION

*Unable to perform prerequisites of Train 1 + Train 2 component for stand alone DB-PF-07005. Each Prerequisite need to be performed within there respective train action statement.*

INITIATOR Pat J. Lee DATE 5/16/00

ACCEPTANCE CRITERIA AFFECTED  YES  NO  N/A

RESOLUTION OF DEFICIENCY

- Complete Procedure as Written   
  Alter Procedure   
  N/A Affected Steps\*  
 Allow Deviation from Sequence\*   
  Suspend Procedure   
  Complete with Pen/Ink Changes\*  
 OTHER (EXPLAIN) \_\_\_\_\_

\* REQUIRES RESOLUTION BY QUALIFIED REVIEWER AND APPROVAL BY SENIOR REACTOR OPERATOR. THE QR AND SRO WILL VERIFY THE PROPOSED RESOLUTION IS NOT A CHANGE TO PROCEDURES DESCRIBED IN THE USAR.

*This does not affect acceptance criteria. Prerequisites are verified in stand alone procedure. Will remove this sign off from next system. See attached PCR.*

RESOLVING / SUPPORTING DOCUMENTS: PCR 00-1133

RESOLVED BY: Pat J. Lee DATE: 5/16/00  
 APPROVED BY: Michael Shepley For A. Mr. DATE: 5-25-00  
 SRO APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_



Procedure Deficiency Form 4.2.18 Deficiency # 2

PROCEDURE NUMBER DB-PF-03010 PAGE(S) 51 STEP(S) 4.1.5 DATE 5/16/01

DEFICIENCY TYPE (CHECK ONE OR MORE)

Procedure cannot be performed as written (Procedure Error)   
 Deviation from Sequence   
 Test Deficiency  
 Typographical Error   
 Equipment Malfunction   
 Procedure Step Does Not Apply (N/A)  
 Existing Maintenance Condition   
 OTHER (EXPLAIN) \_\_\_\_\_

DESCRIPTION OF DEFICIENCY / PROPOSED RESOLUTION

~~Step 4.1.5 has~~

Step 4.1.5 has reference to wrong train number correct train # 1.

Should read

"Isolate P1283D HPI Injection Line 1 Indicator" to prevent over ranging

INITIATOR Pete J. Lee DATE 5/16/00

ACCEPTANCE CRITERIA AFFECTED     YES     NO     N/A

RESOLUTION OF DEFICIENCY

Complete Procedure as Written   
 Alter Procedure   
 N/A Affected Steps\*  
 Allow Deviation from Sequence\*   
 Suspend Procedure   
 Complete with Pen/Ink Changes\*  
 OTHER (EXPLAIN) \_\_\_\_\_

\* REQUIRES RESOLUTION BY QUALIFIED REVIEWER AND APPROVAL BY SENIOR REACTOR OPERATOR. THE QR AND SRO WILL VERIFY THE PROPOSED RESOLUTION IS NOT A CHANGE TO PROCEDURES DESCRIBED IN THE USAR.

PCR will be written to correct train # 1 correct reference.

RESOLVING / SUPPORTING DOCUMENTS: PCR 00 - 1133

RESOLVED BY: Pete J. Lee DATE: 5/16/00

APPROVED BY: Mike Nader DATE: 5/16/00

SRO APPROVAL: [Signature] DATE: 5/16/00



Procedure Deficiency Form

Deficiency # 3

PROCEDURE NUMBER DB-PF-03010 PAGE(S) MANY STEP(S) MANY DATE 5/16/00

DEFICIENCY TYPE (CHECK ONE OR MORE)

- Procedure cannot be performed as written (Procedure Error)   
  Deviation from Sequence   
  Test Deficiency  
 Typographical Error   
  Equipment Malfunction   
  Procedure Step Does Not Apply (N/A)  
 Existing Maintenance Condition   
  OTHER (EXPLAIN) \_\_\_\_\_

DESCRIPTION OF DEFICIENCY / PROPOSED RESOLUTION

*Computer point T709 is not functional.*

INITIATOR Pete J. Sente DATE 5/16/00

ACCEPTANCE CRITERIA AFFECTED     YES     NO     N/A

RESOLUTION OF DEFICIENCY

- Complete Procedure as Written   
  Alter Procedure   
  N/A Affected Steps\*  
 Allow Deviation from Sequence\*   
  Suspend Procedure   
  Complete with Pen/Ink Changes\*  
 OTHER (EXPLAIN) \_\_\_\_\_

\* REQUIRES RESOLUTION BY QUALIFIED REVIEWER AND APPROVAL BY SENIOR REACTOR OPERATOR. THE QR AND SRO WILL VERIFY THE PROPOSED RESOLUTION IS NOT A CHANGE TO PROCEDURES DESCRIBED IN THE USAR.

*Use computer point T821. This temperature is regarded to ensure we don't violate min temperature requirements. Operator is monitoring the for other temperature indicators. This is still acceptable - does not affect acceptance criteria. PCR written to address this situation. Any temperature indicator (PCI) is acceptable per code.*

RESOLVING / SUPPORTING DOCUMENTS: IN XH-92-10 / PCRH 00-1133

RESOLVED BY: Pete J. Sente DATE: 5/16/00

APPROVED BY: Much of Shepherd for R.M.C. DATE: 5-25-00

SRO APPROVAL: \_\_\_\_\_ DATE: \_\_\_\_\_



**SECTION I**

TO (PROCEDURE SPONSOR) Plant Engineering, Allen McAllister and Peter J. Seniuk		MAIL STOP 1056
FROM (REQUESTER) Peter J. Seniuk		MAIL STOP 1056
PROCEDURE NO. DB-PF-03010	TITLE RCS Leakage and RCS Hydrostatic Test	CURRENT REVISION 00

DESCRIPTION OF REQUEST (ATTACH ADDITIONAL SHEETS IF NECESSARY)

During actual performance certain procedure steps could not be performed or needed modification:

- Step 4.1.3, 5<sup>th</sup> bullet, delete this step, unable to perform as written.
- Step 4.1.5 and 4.2.18.d change to read "Verify PI2883B, HPI Injection Line 1 is isolated." and "Verify PI2883B, HPI Injection Line 1 is restored."
- Step 4.2.1 and other steps which reference temperature should be change to reflect code verbiage for temperature.
- Step 4.2.3 and other steps which reference temperature and pressure indicators should allow use of alternative computer points for these measurements.
- Place astricks on HP27 and HP 26 to indicate as locked valve as applicable and DB-OP-00008, Locked Valve Procedure should be referenced below.
- Step 4.2.14 should reflect correct subsection numbers in table. Also evaluate removal of step table since SS did not desire to us it.

CONTINUED

JUSTIFICATION (ATTACH ADDITIONAL SHEETS IF NECESSARY)	REQUIRED FOR CONCURRENT EFFECTIVITY: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO ACTIVITY NO.:	DATE NEEDED 13 RFO
---	---	-----------------------

- Prerequisites could not be performed for the redundant train, hence step as written could not be signed off. Test Deficiency #1 was written.
- This is in response to Test Deficiency #2, I&C was unable to isolate indicator because it was labeled as Line 2. In addition, this misrepresented that ECCS line 1 would not be tested right away, hence actual performance of this step could be delayed. Later this was found unacceptable causing PI2883B damaged.
- Test could of started earlier, current 500 degree starting time was only a best estimate for starting window. During testing some computer points were not functional, alternative points where used. Test Deficiency #3 written to address this. Note: there is no current requirement for calibrated temperature or pressure indicators, instrumentation need only meet code requirements. Refer to ASME Inquiry XI-1-92-10.
- HP27 and HP26 are locked closed valves.
- Lesson learned from procedure use.

CONTINUED

REQUESTER (SIGNATURE) Peter J. Seniuk <i>Peter J. Seniuk</i>	DATE 5/24/00	EXTENSION 8377	REQUESTER'S SUPERVISOR (SIGNATURE) <i>[Signature]</i>	DATE 5/24/00
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**SECTION II**

DISPOSITION OF REQUEST (CHECK ONE FROM EACH COLUMN)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> APPROVED AS REQUESTED          | <input type="checkbox"/> CATEGORY 1            |
| <input type="checkbox"/> APPROVED AS MODIFIED (ATTACH EXPLANATION) | <input type="checkbox"/> CATEGORY 2            |
| <input type="checkbox"/> REJECTED (ATTACH EXPLANATION)             | <input checked="" type="checkbox"/> CATEGORY 3 |
|  | <input type="checkbox"/> CATEGORY 4            |

PROCEDURE SPONSOR (SIGNATURE) <i>[Signature]</i>	DATE 5/24/00	DUE DATE (REQUIRED FOR CATEGORY 1)
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**SECTION III**

CLOSEOUT (ATTACH ADDITIONAL SHEETS IF NECESSARY)

CONTINUED



DAVIS-BESSE ADMINISTRATIVE PROCEDURE	PAGE	REVISION	PROCEDURE NUMBER
Acceptance Test Program	18	01	DB-PF-00203

## ATTACHMENT 2: DAVIS-BESSE NUCLEAR POWER STATION TEST CHRONOLOGICAL LOG

SHEET 1 OF 4TITLE PCS Leakage + PCS Hydrostatic TestTEST NO. DB-PF-03010TEST LEADER Serink

DATE	TIME	INITIAL	LOG OF SEQUENCE OF EVENTS WITH COMMENTS
5/11/06	02:00	RJL	Brief crew to install pressure gauges on HP81A, HP55A, HP77A, and HP75A. Test gauges are installed.
			Record info in procedure body. Air division hydrostatic pump stage 565 is contained. There is enough hose to reach CF32A and CF33A without moving pump. West side by down water supply header.
	04:20	RJL	Investigating staging pump in MPR 4 for DH16 test.
	06:20	RJL	Doug Munson reports that 3-2M Candle Power Flood lights are charging in low level rad waste building.
	06:30	PM	Complete list of Zone test assignments for UT-2 team. Inform Lucas Ring to schedule SP33W after CF010 and CF009. This is because of not meeting the <100 PWD requirement across DH21 + DH30. E.g. need PWD at 7100 PSI above CF31 + 30 upstream pressure.
			Completed first draft of assignment team. These are attached. Forward copy to RC + Safety.
	1959	PM	Completed turnover from day. Following comments are given.



DAVIS-BESSE ADMINISTRATIVE PROCEDURE	PAGE	REVISION	PROCEDURE NUMBER
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ATTACHMENT 2: DAVIS-BESSE NUCLEAR POWER STATION TEST CHRONOLOGICAL LOG

SHEET 2 OF 11

TITLE RCS Leakage & RCS Hydro test TEST NO. DB-PF-03010

TEST LEADER \_\_\_\_\_

DATE	TIME	INITIAL	LOG OF SEQUENCE OF EVENTS WITH COMMENTS
5/4	221	MM	We will attempt to test train 1 tomorrow first. Also prefer a generic PF 3069 for HPSG (HP41 + HP41/HP41) back to back check valve reverse leakage test. This will occur with isolation of MV flow to train 1 injection per section 4.2.8 + 4.2.9. Also that we can exam the CRO flange at +10 min since there is no insulation above the service structure / CRO housing. We identified that a visual can occur from the top of the service structure. Attempt to place plan on P-3 for detail study. Reported that Test gauges are installed. Hydro and manifold is staged in CMI. IIC, Peter Rymoski (7287) is using hydro pump for Fluel RCS flow sensing lines.
5/12	0015	PR	Enter Mode 4. Complete seal test on Pen 81 for ops. System NUP/OUT for this test to start is estimated in 24 hours. This may go longer because there will be fill water and drains. Hydro pump + manifold staged in CMI, PI data is PGA 00228, COD 9-18-00, 1" size 4/29/00.



DAVIS-BESSE ADMINISTRATIVE PROCEDURE	PAGE	REVISION	PROCEDURE NUMBER
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ATTACHMENT 2: DAVIS-BESSE NUCLEAR POWER STATION TEST CHRONOLOGICAL LOG

SHEET 3 OF 11

TITLE RCS Leakage & RCS Hydro Test TEST NO. DB-PF-03010

TEST LEADER \_\_\_\_\_

DATE	TIME	INITIAL	LOG OF SEQUENCE OF EVENTS WITH COMMENTS
5/12		ORW	Decided <del>to</del> <sup>to</sup> develop flow diagrams of tests. This will assist in planning. Also decided that we want a test briefing ~ 3 hours before N.P. start. Days should have this test briefing today.
5/12	0544	RA	SP 3702 is required by operator to test CF check valves at ~ 700 psi. RCS Pressure. Agreed to assist operation with this test.
5/12	0625	RA	Test leaders report that demin water at DW 317 is isolated upstream. Need to be investigated. The hood to move hydro pumps to elevation 603 at Equipment Hatch. They <del>assist</del> <sup>assisted</sup> assisted with investigation of FT RC 1B - 1, 2, 3 Flow Transmitter reference legs.
5/12/00	0715	MPP	Turned over from Peter's RCS hydro
	0830		SUPPORTED I&C IN FLUSHING DEMIN H <sub>2</sub> O THROUGH RPS FLOW X-METER DUE TO SUSPECTED BLOCKAGE.
	1000		SUSPECT RC 1B BLOCKAGE OR DISK HAS SEPERATED FROM STEM.

M.P. Beard



DAVIS-BESSE ADMINISTRATIVE PROCEDURE	PAGE	REVISION	PROCEDURE NUMBER
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ATTACHMENT 2: DAVIS-BESSE NUCLEAR POWER STATION TEST CHRONOLOGICAL LOG

SHEET 4 OF 11

TITLE RCS Leakage & RCS Hydro TEST NO. DB-BF-03010

TEST LEADER \_\_\_\_\_

DATE	TIME	INITIAL	LOG OF SEQUENCE OF EVENTS WITH COMMENTS
5/12	1100	MPB	PERFORMED BRIEF W/ OUTAGE MANAGEMENT (overview of RCS Hydro), DURING BRIEF, MANAGEMENT DECIDED TO PERFORM "SUEDO" RCS LEAKAGE INSPECTION, WILL BE HEADED UP BY HENGEES & MOLPOS. Note: ACTUAL RCS Hydro will NOT be performed @ THIS TIME DUE TO RCS WILL ONLY BE @ 2155 <sup>PS4</sup> & 2450-460°F for approximately 2-3 hrs for the "SUEDO" RCS LEAKAGE, THIS IS BEING done to verify no other PRIMARY COMPONENT PROBLEMS other than RCI/BB (DISK separated from STEM). OTHER ITEMS WE CAN perform during "SUEDO" RCS LEAKAGE WOULD BE: INSPECTION ON TOP OF RA HEAD, BOTH O2SG Primary Manways, Perform PF3069 PKTS for HPA8/HP50, PF3069 for HPA9/HP51 AND PF3969 for HP57/HP59 & HP56/HP58 AND Preliminary inspection for DH Pit.
	1800		DISCUSSED DB-SP-3300, RCS Iso check vlv Leak Test (CF) w/ John Baldwin, he concurs that this test will be performed



DAVIS-BESSE ADMINISTRATIVE PROCEDURE	PAGE	REVISION	PROCEDURE NUMBER
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ATTACHMENT 2: DAVIS-BESSE NUCLEAR POWER STATION TEST CHRONOLOGICAL LOG

SHEET 5 OF 11

TITLE RCS Leakage + RCS Hydrostatic Test TEST NO. DB-PF-03010  
 TEST LEADER BEIER / JENKIN

DATE	TIME	INITIAL	LOG OF SEQUENCE OF EVENTS WITH COMMENTS
5/12/00	1600	KPB	After RCS Hydro (Test Zones CF9 & CF10 Per DB-PF-03065) Note: Gages left installed on CF4867 / CF4866 from DB-SP-3302 TO SUPPORT DB-SP-3300.
	1815		TESTER REPORTS HP75A (North end of West D-Ring LS Set-up for DB-PF-03069 w/ Gage & T-connection for performing reverse flow Note: <sup>FOR</sup> HP77A, will need to retrieve the assembly OFF HP75A to perform HP50/HP48
5/12/00	18:30 063	PJK	Turnover completed. Will attempt to perform VI-2 on open items (un-insulated). Perform Back to Back Check valve test, and VI-2 (for real) on Service Structure because it only requires a ten min hydro.
5/12/00	04:00	PV	Completed 2 of 4 back/back check valve test. Unable to perform / complete DB-PF-03969 for ECCS Train 1 Check valves because of < 3 hours at operating pressure. Training, pre-req, Shift Brief, and just understand procedure took > 3 hours. Therefore because management's desire to start cooling down, I exp abouted this test performance. Really need to work on pre-reqs.







DAVIS-BESSE ADMINISTRATIVE PROCEDURE	PAGE	REVISION	PROCEDURE NUMBER
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## ATTACHMENT 2: DAVIS-BESSE NUCLEAR POWER STATION TEST CHRONOLOGICAL LOG

SHEET 7<sup>th</sup> OF 11

TITLE RCS Leakage & RCS Hydro TEST NO. DB-PF-03010  
 TEST LEADER Beier

DATE	TIME	INITIAL	LOG OF SEQUENCE OF EVENTS WITH COMMENTS
5/14/00	0940	RL	John Fehl at Encore Tank #11 is leaking.
	0950		Entry for under vessel inspection by R. Morrison Ron Brown for RP coverage.
	1000		Mike Distel for some repairs.
	1015		Greg Gibson/Tom LAPP in East D-Ring
	1025		Johannes/Mel Hervey in East/West Tunnel for core flood TK#1 also HP53/50, and HP 49/51 on West side.
	1015	RL	DH. VALVE pit "camera on stick" complete Ops notified for verification of can lock fitting.
	1025	RL	Completed under vessel inspection.
	1025	RL	Ron Brown (RP) Support Core Flood East/West Tunnel. Also notified Jeff Cuff notified for restoration for CFT-1 and DB-SP-03300.
	1045		Greg Tiel going in for restoration CFT-1 and performing DB-SP-03300
	1100		Mike DRTI (FIN Team) into CMT for packing leaks on HP75, HP75A, CF33, CF33A, CF38. Mike obtained two flats on



DAVIS-BESSE ADMINISTRATIVE PROCEDURE	PAGE	REVISION	PROCEDURE NUMBER
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ATTACHMENT 2: DAVIS-BESSE NUCLEAR POWER STATION TEST CHRONOLOGICAL LOG

SHEET <sup>8</sup> 28<sup>th</sup> OF 11

TITLE RCS Leaking + RCS Hydrostatic Test TEST NO. DB-PF-03010  
 TEST LEADER Beier

DATE	TIME	INITIAL	LOG OF SEQUENCE OF EVENTS WITH COMMENTS
			HP 75, HP 75A, completed at 1130,
	1115		Gray Gibson/Tom Lapp. wt of CTMT (East D-Ring) RC 2A1 showed evidence of packing leak.
	1115		John Clare/Mel Hurley performed CF009, HP 48/50, HP 49/51 no problems noted.
	1130		Bob Morrison/Steve Seagel went into CTMT for PORV VALVE Room, let down Area, Encore Tank.
	1230		John Clare/Mel Hurley into CTMT West D-Ring.
	1245		Bob Morrison/Steve Seagel completed PORV Room, Encore TK, Head Vent to Shield wall, let down cooler. Found RC 262 leaking at well CR 2000-1452 written. Additionally two incore leaking A5 and #11.
	1405		Aux. Spray line pressurized.
	1440		HPI 24 line 2A pressurized.
	1520		CF #2 CF 0010 pressurized.
	1615		Augie Falk relieved Gray Gibson at CF #2.



DAVIS-BESSE ADMINISTRATIVE PROCEDURE	PAGE	REVISION	PROCEDURE NUMBER
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## ATTACHMENT 2: DAVIS-BESSE NUCLEAR POWER STATION TEST CHRONOLOGICAL LOG

SHEET 9 OF 11

TITLE RCS Leakage & RCS Hydro. TEST NO. DB-PF-03010  
TEST LEADER Beser.

DATE	TIME	INITIAL	LOG OF SEQUENCE OF EVENTS WITH COMMENTS
	1800	MR	Mike Distal reported. Tighten packing on RC 1BA, RC 2B2. Tighten packing.
	1820	MR	Late Entry: John Clave / Mel Hurley identified active packing leak on RC 2B2. The maintenance <del>of</del> craft determined that no packing adjustment is left. CR 2000-
	1840	MR	Late Entry: Incore Tank Leaks Documented 2000-1453.
5/16/00	1900	PM	Relieved Mike Beser. Gary Gibson reported that CR 010, Sects 4.2.10 + 4.2.11 are completed. These are not. Per days finding need to re-examine RC 47 line (BA ball at "D" sig Penitator. Jamie Black revisits these. No additional leakage I.O. Note Had all of piping cleaned + waited 4 hours prior to re-examination. Re-inspected Flowmeters - Pots 5 + 11 in the "In Core Tank". Pot # 5 had 1 drop every 1.5 minutes. Pot # 11 had wetted nozzle, no drops observed. CR 2000-1456 + CR 2000-1453 written.



DAVIS-BESSE ADMINISTRATIVE PROCEDURE	PAGE	REVISION	PROCEDURE NUMBER
Acceptance Test Program	18	01	UB-PF-00203

## ATTACHMENT 2: DAVIS-BESSE NUCLEAR POWER STATION TEST CHRONOLOGICAL LOG

SHEET 10 OF 11

TITLE RCS Leakage + RCS Hydrostatic Test TEST NO. DA-17F-001.0  
TEST LEADER Semti

DATE	TIME	INITIAL	LOG OF SEQUENCE OF EVENTS WITH COMMENTS
			Maintenance is trying to remove RC 202.
			Packing gland leak off plug is still leaking.
			Also many other packing leaks are being investigated / tighten.
5/17/00	0200	PM 0200	Direct test leaders and Pipe Fitters to remove all test equipment from containment and Mechanical Pen Room #4. Review all VT-2 sheets and stand alone to PF 3005 test packages.
5/17/00	0900	PM	Review all procedure steps, ensure signature / initial where completed.
5/24/00	1300	PM	Review package / Test Deficiencies. Updated Chron log. Wrote PCR to address test deficiencies and other procedure over-ights. Completed TA 2000-1029, second Q.R. routing and forward to Allen McAllister for second signatures. VT-2 sheets from AMS have been approved. Await Mike Shepherd for supervisor signature. ATUC #9 Engineer still need help with step 4.?







Procedure/MWO WO 99-4650-00 (OTSG 1)	Revision N/A	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>1</u> of <u>1</u>
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### EXAMINATION DESCRIPTION

<b>Examination Scope:</b> Relief Request <u>RR-A7</u> System <u>RCS</u> Dwg. No. <u>M-030A</u>	<b>Test Requirements:</b> Pressure <u>None</u> Temperature <u>None</u> Hold Times _____ Insulated <u>None</u> Uninsulated <u>None</u>	<b>Test Type:</b> Hydrostatic _____ Pneumatic _____ Leakage _____ Inservice _____ Functional _____ Flow _____ Visual Exam <u>X</u> CC N-498-1 _____ CC N-522 _____
<b>Pipe lines/Components/Boundaries</b> Name: OTSG 1 Manways Note: This visual examination is for evidence of leakage at the bolted connection with insulation removed. Refer to RR-A7. Filename: VT2OTSG1Manways99 4650.doc		<b>Test Medium</b> None

### EXAMINATION RECORD

Test Press. <u>N/A</u> Inst. No. <u>N/A</u> Cal Date <u>N/A</u>	Test Pressure Stable Time <u>None</u>	
Test Temp. <u>N/A</u> Inst. No. <u>N/A</u> Cal Date <u>N/A</u>	Test Pressure Stable Time <u>None</u>	
Location/Boundary Examined	Time/Date	Description of Identified Leakage
SG 1 Lower Handholes (There are <u>2</u> lower handholds) <i>1 04/100</i>	1200 4/1/00	NONE
SG 1 Lower Manway	1200 4/1/00	NONE
SG 1 Upper Handhole (There are <u>2</u> upper handholds) <i>1 04/100</i>	1200 4/1/00	<i>1/8" x 1/2" Bolts (DRY) @ 1 BOLT (1ST BOLT C/W 1/2" FROM 12 O'CLOCK. BOLTS @ FLANGE TO 2/8" INTERFACE</i>
SG 1 Upper Manway	1200 4/1/00	NONE
		<b>Corrective Action</b>
Examined by: <u><i>[Signature]</i></u> <u>4/1/00</u> VT-2 Examiner Level II Date	Notification of System Engineer: Time _____ Date _____	
Reviewed by _____ IST Engineer Date	Notification of Shift Supervisor: Time _____ Date _____	
ANII Review _____ Date	If applicable, then annotate: <input type="checkbox"/> CR Number: _____	
Comments: _____	<input type="checkbox"/> MD Tag, Work Order Number: _____	
_____	<input type="checkbox"/> VT-2 Corrective Measures	
_____	Evaluation Report Number: _____	



## VT-2 CORRECTIVE MEASURES EVALUATION ACTION REPORT

Report/ Procedure Number <b>2000-001</b>	Revision N/A	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>1</u> of <u>1</u>
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EXAMINATION DESCRIPTION	
Relief Request <u>RR-A7</u> System <u>Reactor Coolant System</u> Dwg. No. (s) <u>M-030A</u>	Test Zones <u>RC001</u> Test Type <u>Visual Examination</u>

Component Identification	Type of Leakage	Corrective Evaluation / Action Required
OTSG 1 Upper Hand hole	Evidence of Leakage Boric Acid on first bolt clockwise from the 12:00 o'clock position.	MDT Z 0753 written to perform VT-3 examination on this bolting. Condition Report has been written.

Leakage at the OTSG 1 Upper Hand hole is an ASME failure until the bolting is determined as satisfactory. This CMEAR will remain open until examination of all suspected bolting found to be satisfactory.

Performed by	/	Date
	Applicable Engineer	
Verified by	/	Date
	VT-2 Level II or III	
ANII	/	Date
Approved by	/	Date
	Test Engineering Supervisor	





WORK REQUEST  
TAG # Z 0753

EQUIPMENT #/NAME OTSG#1 UPPER HAND  
HOLE - BOLT EXAM - Primary Seal

ORIGINATOR (Print) SEMDUM

DATE 4/2/00 PHONE# 8377

DEFICIENCY:

Pull First bolt clockwise from  
the 12:00 o'clock position.

Have Q.C. Perform VT-3 Examine  
on this bolt. See C-R  
and attached VT-2 sheet.

Required for restart.

LOCATION	TAG HUNG <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO - REASON:	
	ALARA	
	BUILDING	CTMT
	ELEVATION	630 ROOM # OTSG#1

APPROVED BY

WORK REQUEST # S.U.S.#

FORWARD TO PLANNING SECTION



## VT-2 EXAMINATION REPORT

Procedure/MWO DB-PF-03010 (RC1H-A)	Revision 04	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>1</u> of <u>5</u>
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### EXAMINATION DESCRIPTION

Examination Scope: Relief Request <u>RR-A15</u> System <u>RCS</u> Dwg. No. (s), <u>M030A, M030B</u> <u>M031A, M-033A, M033B, M040A</u> East D-Ring Walk down	Test Requirements: Pressure <u>NOP</u> Temperature <u>NOT</u> Hold Times Insulated <u>4 hours</u> Uninsulated <u>10 mins</u>	Test Type: Hydrostatic _____ Pneumatic _____ Leakage _____ Inservice _____ Functional _____ Flow _____ Augmented _____ CC N-498-1 <u>X</u> CC N-522 _____
Pipe lines/Components/Boundaries Test Zones RC001, RC002, DH014, DH015, DH016, CF009, and CF010 as described in the Second Ten Year Pressure Test Program. (VT2RC1LA Hydrostatic Exam Sheets.doc)		Test Medium <b>RCS</b>

### EXAMINATION RECORD

Test Press.	<u>2158</u>	Inst. No.	<u>P729</u>	Cal. Date	<u>5-16-00</u>	Test Pressure Stable Time  <u>0430</u>			
Test Temp.	<u>534.14</u> <del>770</del>	Inst. No.	<u>T781</u>	Cal. Date	<u>5-16-00</u>				
Location/Boundary Examined				Time	Description of Identified Leakage				
<b>STEAM GENERATOR 1-2 VENT</b> from 36"-CBA-6 to 1"-CCA-20, including to RC774 to NN68 via RC5000 to RC5001 via RC45 to RC4610B via RC4610A via RC44 including RC201A and RC201 vent				<u>10:05</u>	<u>No active leakage identified</u>				
				Corrective Action					
				Examined by:	<u>Jerry L. Gibson</u> T-2 Examiner Level II	<u>5-16-00</u> Date	Notification of System Engineer: Time <u>0400</u> Date <u>5/17/00</u> Notification of Shift Supervisor: Time <u>04:00</u> Date <u>5/17/00</u> If applicable, then annotate: <input type="checkbox"/> PCAQR Number: _____ <input checked="" type="checkbox"/> MD Tag, Work Request or MWO Number: <u>MOT 20752</u> <input checked="" type="checkbox"/> VT-2 Corrective Measures Evaluation Report Number: <u>2000-D10</u>		
				Reviewed by:	<u>Pete J. Serk</u> IST Engineer	<u>5/16/00</u> Date			
				ANII Review:	<u>Thomas &amp; Saps ANII</u>	<u>5/23/00</u> Date			
				Comments:	_____				



**VT-2 EXAMINATION REPORT Continuation Sheet**

Procedure/MWO	Revision	Inspection Interval	Sheet
DB-PF-03010(RC1H-A)	04	2	2 of 5
Inspection Period	3		
Location/Boundary Examined	Time	Description of Identified Leakage	
STEAM GENERATOR 1-2 HOT LEG	10:15	No Active Leakage identified	
36"-CBA-6 from Reactor Vessel to SG 1-2			
including TWRC3A			
TWRC3A1			
TWRC3A3			
FERC1A			
instrument line to RC2A2A			
via RC2A2			
instrument Line to RC2A1A			
<del>RC2A1</del>	~ 10:20	Indication of barm residue in pipe/garden no active leakage - seems to be fresh	
instrument line to RC1ABA		No Active Leakage identified	
via RC1AB			
instrument line to RC1AAA			
via RC1AA			
SG 2 Upper Primary Man-way (South side)			
SG 2 Upper Primary Hand hole (North side)			
including Head Vent Flange 5			
via 3"-CCA-23, Head Vent Line			
Pressurizer (Upper Level)			
Pressurizer 16 inch Man-Way			
4"-CCA-8 from Pressurizer to RC13A			
including RC13A bolting			
4"-CCA-8 from Pressurizer to RC13B			
including RC13B bolting			
3"-CCA-8 from Pressurizer to Shield Wall	↓		
1"-CCA-11 from Pressurizer to Shield Wall	10:25		
1"-CCA-8 from shield wall to 1"-CCA-14	↓		















### VT-2 EXAMINATION REPORT

Procedure/MWO DB-PF-03010 (RC1H-B)	Revision 04	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>1</u> of <u>3</u>
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#### EXAMINATION DESCRIPTION

Examination Scope: Relief Request <u>RR-A15</u> System <u>RCS</u> Dwg. No. (s), <u>M030A, M030B</u> <u>M031A, M-033A, M033B, M040A</u> East Side	Test Requirements: Pressure <u>NOP</u> Temperature <u>NOT</u> Hold Times Insulated <u>4 hours</u> Uninsulated <u>10 mins</u>	Test Type: Hydrostatic _____ Pneumatic _____ Leakage _____ Inservice _____ Functional _____ Flow _____ Augmented _____ CC N-498-1 <u>X</u> CC N-522 _____
Pipe lines/Components/Boundaries Test Zones RC001, RC002, DH014, DH015, DH016, CF009, and CF010 as described in the Second Ten Year Pressure Test Program. (VT2RC1LB Hydrostatic Exam Sheets)		Test Medium <u>RCS</u>

#### EXAMINATION RECORD

Test Press.	<u>2158.75</u>	Inst. No.	<u>P729</u>	Cal. Date	<u>05/16/00</u>	Test Pressure Stable Time <u>0430</u>
Test Temp.	<u>534.19</u>	Inst. No.	<u>7781</u>	Cal. Date	<u>05/16/00</u>	
Location/Boundary Examined				Time	Description of Identified leakage	
<u>Pressurizer Valve Room</u>						
<u>1/2"-BCA-3 (Spray Line Bypass)</u>				<u>11:30</u>	<u>NONE IDENTIFIED</u>	
<u>from 2 1/2"-BCA-2 to 2 1/2"-BCA-2</u>				<u>11:30</u>	<u>✓ ✓</u>	
<u>via RC262</u>				<u>11:30</u>	<u>THRU WALL BONNET LEAK</u>	
<u>2 1/2"-BCA-2 from Shield Wall to</u>				<u>11:30</u>	<u>NONE IDENTIFIED</u>	
<u>the Shield Wall</u>				<u>11:30</u>	<u>✓ ✓</u>	
<u>via RC50, including</u>				<u>11:30</u>		
<u>RC10 spray block valve</u>				<u>11:30</u>	<u>✓ ✓</u>	
						Corrective Action
Examined by: <u>R. J. Moran</u> <small>VT-2 Examiner Level II</small>				<u>05/16/00</u> <small>Date</small>		Notification of System Engineer: Time <u>04:00</u> Date <u>5/17/00</u>
Reviewed by: <u>Pat G. Smith</u> <small>IST Engineer</small>				<u>5/17/00</u> <small>Date</small>		Notification of Shift Supervisor: Time <u>04:00</u> Date <u>5/17/00</u>
ANII Review: <u>Thomas B. Payne ANII</u>				<u>5/23/00</u> <small>Date</small>		If applicable, then annotate: <u>2000-1453</u>
Comments: _____						<input checked="" type="checkbox"/> PCAQR Number: <u>2000-1456, 2000-1452</u>
_____						<input checked="" type="checkbox"/> MDM Tag, Work Request or MWO Number: <u>See CMEHR FORMS</u>
_____						<input type="checkbox"/> VT-2 Corrective Measures Evaluation Report Number: <u>2000-09</u> <u>2000-10</u>







**VT-2 EXAMINATION REPORT Continuation Sheet**

Procedure/MWO	Revision	Inspection Interval	Sheet
DB-PF-03010(RC1H-B)	04	2	3 of 3
		Inspection Period	3
Location/Boundary Examined	Time	Description of Identified leakage	
<i>RC valve manifold outside Incore Tk. Rm.</i>			
to Pen. 1 via 1"-CCB-17	12:00	NONE IDENTIFIED	
1"-CCA-11 from shield wall	↓	↓ ↓ ↓	
via RC200			
to NN64			
via RC239B			
via RC240A			
via RC239A			
via RC170A			
via RC170			
to RC52A via RC52 vent			
line 1"-CCB-35 via RC200 to:			
to RC5006			
to RC5007 via RO4614			
<i>SAMPLE LINES (Outside Shield Wall)</i>			
Inside Incore Tank Room	12:00	NONE IDENTIFIED	
1"-CCA-19 from Shield Wall to RC239B	↓	↓ ↓ ↓	
1/2"-CCA-22 from Shield Wall to RC4632			
1/2"-CCA-11 from RC4632 to 1"-CCA-11			
<i>Incore Tank/Detector Flanges</i>			
Inspect inside the incore tank includes		<del>Incore Tank</del> OR (1)	
the 52 Incore "Flower Pots"		TEIMOGRE (#5) TO PILSWI	
		LEAKING	
		Leakage also IP at # 11	
		Eloquet Flower-Pot PA	
		5/12/04	

① Confined Space Permit was posted.



## VT-2 EXAMINATION REPORT

Procedure/MWO DB-PF-03010 (RC1H-C)	Revision 04	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>1</u> of <u>2</u>
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### EXAMINATION DESCRIPTION

<b>Examination Scope:</b> Relief Request <u>RR-A15, RR-A16</u> System <u>RCS</u> Dwg. No. (s), <u>M030A, M030B</u> <u>M031A, M-033A, M033B, M040A</u> Decay Heat Pit Area	<b>Test Requirements:</b> Pressure <u>NOP</u> Temperature <u>NOT</u> Hold Times Insulated <u>none</u> Uninsulated <u>none</u>	<b>Test Type:</b> Hydrostatic _____ Pneumatic _____ Leakage <u>X</u> Inservice _____ Functional _____ Flow _____ Augmented _____ CC N-416-1 _____ CC N-498-1 <u>X</u>
Pipe lines/Components/Boundaries Test Zones RC001, RC002, DH014, DH015, DH016, CF009, and CF010 as described in the Second Ten Year Pressure Test Program. (VT2RC1LC Hydrostatic Exam Sheets)		Test Medium <u>RCS</u>

### EXAMINATION RECORD

Test Press.	2158	Inst. No.	P 729	Cal. Date	5/16/00	Test Pressure Stable Time  0430
Test Temp.	534.11	Inst. No.	T781	Cal. Date	5/16/00	
Location/Boundary Examined				Time	Description of Identified leakage	
DECAY HEAT VALVE PIT (DH014) (viewed from inspection port using camera)  ASME CLASS 1 Piping enclosed by the DH Valve Pit (DHVP) and is non-isolable from the RCS, including 12"-CCA-4 from DHVP wall to DH11 via DH12, including 12"-GCB-7 to DHVP wall 3/4"-CCA-4 from 12"-CCA-4 to DH20 and DH24 8"-CCA-4 from 12"-CCA-4 to DHVP cover				10:20	NO LEAKAGE FROM DH LINE IDENTIFIED  <div style="text-align: center;">↓</div>	
Examined by: <u>[Signature]</u> VT-2 Examiner Level II				Date	Corrective Action  Notification of System Engineer: Time _____ Date _____ Notification of Shift Supervisor: Time _____ Date _____ If applicable, then annotate: <input type="checkbox"/> PCAQR Number: _____ <input type="checkbox"/> MD Tag, Work Request or MWO Number: _____ <input type="checkbox"/> VT-2 Corrective Measures Evaluation Report Number: _____	
Reviewed by: <u>[Signature]</u> IST Engineer				Date		
ANII Review: <u>Thomas &amp; Laps ANII</u>				Date		
Comments: <u>NOTED SMALL AMOUNT OF WATER DROPLETS ALONG THE NW WALL UNDER THE INSPECTION PORT.</u>				Date		

2/10







## VT-2 EXAMINATION REPORT

Procedure/MWO DB-PF-03010 (RC1H-D)	Revision 04	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>1</u> of <u>4</u>
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### EXAMINATION DESCRIPTION

<b>Examination Scope:</b> Relief Request <u>RR-A15</u> System <u>RCS</u> Dwg. No. (s), <u>M030A, M030B</u> <u>M031A, M-033A, M033B, M040A</u> West D-Ring Walkdown	<b>Test Requirements:</b> Pressure <u>NOP</u> Temperature <u>NOT</u> Hold Times Insulated <u>4 hours</u> Uninsulated <u>10 mins</u>	<b>Test Type:</b> Hydrostatic _____ Pneumatic _____ Leakage _____ Inservice _____ Functional _____ Flow _____ Augmented _____ CC N-498-1 <u>X</u> CC N-522 _____
Pipe lines/Components/Boundaries <u>Test Zones RC001, RC002, DH014, DH015, DH016, CF009, and CF010 as described in the Second Ten Year Pressure Test Program. (VT2RC1LD Hydrostatic Exam Sheets)</u>		Test Medium <u>RCS</u>

### EXAMINATION RECORD

Test Press.	<u>2158.75</u>	Inst. No.	<u>P729</u>	Cal. Date	<u>5/16/00</u>	Test Pressure Stable Time <u>0430</u>
Test Temp.	<u>534.19</u>	Inst. No.	<u>T781</u>	Cal. Date	<u>5/16/00</u>	
Location/Boundary Examined				Time	Description of Identified Leakage	
<u>Team Generator 1-1 Vent</u>				<u>1400</u>	<u>NO LEAKAGE</u>	
<u>1"-CCA-20 from 36"-CBA-1 to:</u>						
<u>RC221</u>						
<u>RC5004 via RC43</u>						
<u>RC217A via RC217</u>						
<u>RC4608B via RC4608A</u>						
<u>NN69 via RC5003</u>						
<u>via RC42</u>				↓	↓	
					Corrective Action	
Examined by: <u>John Clare</u>		Date: <u>5/16/00</u>		Notification of System Engineer: Time <u>0400</u> Date <u>5/17/00</u> Notification of Shift Supervisor: Time <u>0400</u> Date <u>5/17/00</u> If applicable, then annotate: <input type="checkbox"/> PCAQR Number: <u>N/A PM</u> <input checked="" type="checkbox"/> MD Tag, Work Request or MWO Number: <u>MDT 20752</u> <input checked="" type="checkbox"/> VT-2 Corrective Measures Evaluation Report Number: <u>2000-10</u>		
Reviewed by: <u>Peter J. Sul</u>		Date: <u>5/23/00</u>				
ANII Review: <u>Thomas G. Lays ANII</u>		Date: <u>5/23/00</u>				
Comments: _____						

*Handwritten initials/signature*







**VT-2 EXAMINATION REPORT Continuation Sheet**

Procedure/MWO	Revision	Inspection Interval	Sheet
DB-PF-03010(RCIH-D)	04	2	3 of 4
		Inspection Period	3
Location/Boundary Examined	Time	Description of Identified Leakage	
<b>STEAM GENERATOR 1-1</b>			
SG 1 Lower Primary Man ways	1400	NO LEAKAGE	
SG 1 Lower Primary Hand holes	↓	↓	
<b>COLD LEG LOOP 1-1-1</b>			
28"-CBA-2 from SG 1-1 to RCP 1-1-1	1400	NO LEAKAGE	
including RCP 1-1-1 seals	1400	↓	
including RCP 1-1-1 casing bolts			
including RC-RCP-1-1-2 PUMP CASING WELD			
28"-CBA-4 from RCP 1-1-1 to reactor vessel			
including TWRC4B1			
TWRC4B3			
2½"-CCA-2 from HP48 to Cold Leg 1-1			
via HP50			
instrument line to RC746B via RC746A			
instrument line to RC218A			
via RC218 (loop 1-1 Cold Leg Pressure Tap)	↓	↓	
<b>COLD LEG LOOP 1-1-2</b>			
28"-CBA-3 from SG 1-1 to RCP 1-1-2	1400	NO LEAKAGE	
including RCP 1-1-2 seals		↓	
including RCP 1-1-2 casing bolts			
including RC-RCP-1-1-2 PUMP CASING WELD			
28"-CBA-5 from RCP1-1-2 to reactor vessel			
including TWRC4B2 and TWRC4B4			
2½"-CCA-2 from HP49 to 28"-CBA-5 via HP51			
instrument line to RC748B via RC748A		↓	
2½"-CCA-18 from 28"-CBA-3 to RC41 via RC40		RC-40 OLD PACKING LEAK - VISUAL	
instrument line to RC219A via RC219		NO LEAKAGE	
(loop 1-2 Cold Leg Pressure Tap)	↓	↓	







### VT-2 EXAMINATION REPORT

Procedure/MWO DB-PF-03010 (RC1H-E)	Revision 04	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>1</u> of <u>4</u>
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### EXAMINATION DESCRIPTION

<b>Examination Scope:</b> Relief Request <u>RR-A15</u> System <u>RCS</u> Dwg. No. (s), <u>M030A, M030B</u> <u>M031A, M-033A, M033B, M040A</u> Elevation 565 and Below	<b>Test Requirements:</b> Pressure <u>NOP</u> Temperature <u>NOT</u> Hold Times Insulated <u>4 hours</u> Uninsulated <u>10 mins</u>	<b>Test Type:</b> Hydrostatic _____ Pneumatic _____ Leakage _____ Inservice _____ Functional _____ Flow _____ Augmented _____ CC N-498-1 <u>X</u> CC N-522 _____
Pipe lines/Components/Boundaries Test Zones RC001, RC002, DH014, DH015, DH016, CF009, and CF010 as described in the Second Ten Year Pressure Test Program. (VT2RC1LE Hydrostatic Exam Sheets)		<b>Test Medium</b> <u>RCS</u>

### EXAMINATION RECORD

Test Press.	2158.75	Inst. No.	P729	Cal. Date	05/16/00	Test Pressure Stable Time	
Test Temp.	534.19	Inst. No.	T781	Cal. Date	05/16/00		0430
Location/Boundary Examined				Time	Description of Identified Leakage		
Above Vessel Flange Area							
Reactor Vessel Gasket Line (RC002)							
1"-CCA-3 to Shield Wall (for RC46 instrument line and PP3520)				10:26	NONE IDENTIFIED		
1"-CCA-3 to Shield Wall (for RC 47 isolation)				<del>18:30</del> 10:00	This was inspected by B. Wetzler as part of vessel (under) inspection. NO LEAKAGE NOTED. VERIFIED AGAIN @ 0030 on 5-17-00 WITH NO LEAKAGE. 5-17-00		
Examined by: <u>John Clave</u> VT-2 Examiner Level II				Date	Corrective Action		
Reviewed by: <u>Peter J. [Signature]</u> IST Engineer				Date	Notification of System Engineer: Time _____ Date _____ Notification of Shift Supervisor: Time _____ Date _____ If applicable, then annotate: <input type="checkbox"/> PCAQR Number: _____ <input type="checkbox"/> MD Tag, Work Request or MWO Number: _____ <input type="checkbox"/> VT-2 Corrective Measures Evaluation Report Number: _____		
ANII Review: <u>Thomas Y. Lopez ANII</u>				Date	5/23/00		
Comments:							

✓  
 P/M



**VT-2 EXAMINATION REPORT Continuation Sheet**

Procedure/MWO DB-PF-03010(RC1H-E)	Revision 04	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>2</u> of <u>4</u>
Location/Boundary Examined	Time	Description of Identified Leakage	
<b><i>Top of Service Structure (CRD Vents)</i></b>			
3/4"-CCA-21 to RC175A via RC175		Performed on 5/13/00 per PF3065.	
3/4"-CCA-21 to RC176A via RC176		Performed on 5/13/00 per PF3065.	
3/4"-CCA-21 to RC177A via RC177		Performed on 5/13/00 per PF3065.	
3/4"-CCA-21 to RC178A via RC178		Performed on 5/13/00 per PF3065.	
CRD Nozzles (69 nozzles, 7 are spares)		Performed on 5/13/00 per PF3065.	
Reactor Vessel (T1)		Performed on 5/13/00 per PF3065.	
Head Vent Flange 5 (at vessel), including 3"-CCA-23 from shield wall to Reactor Vessel.	1200	NONE IDENTIFIED	
Head Vent Flange 3 (over refueling pool east side)	1200	✓ ✓	
Head Vent Flange 4 (as service structure top )	1200	✓ ✓	
<b><i>Reactor Vessel Gasket Line (RC002)</i></b>			
1"-CCA-3 from Shield Wall to RC46 (top of normal sump area)	10:26 10:26	NONE IDENTIFIED ✓ ✓	
<b><i>Makeup Tank Area</i></b>			
From West D-Ring wall to Letdown Cooler via line 2.5"-CCA-18 including MU1A MU1B drain line to MU70A via MU70 vent line to MU71A via MU71 1"-CCA-18 from 2 1/2"-CCA-18 to line 2 1/2"-CCA-18 via MU72 via MU64 via MU73 drain Line to MU68B via MU68A drain Line to MU69B via MU69A	11:00	NONE IDENTIFIED ✓ ✓ ✓	



**VT-2 EXAMINATION REPORT Continuation Sheet**

Procedure/MWO	Revision	Inspection Interval <u>2</u>	Sheet <u>3</u> of <u>4</u>
DB-PF-03010(RC1H-E)	04	Inspection Period <u>3</u>	
Location/Boundary Examined	Time	Description of Identified Leakage	
<b>Below Vessel</b>			
Below Incore Tank	10:00	NONE IDENTIFIED	
Incore Guide Tubes (inside tunnel)	∫	∫ ∫	
Lower Reactor Vessel	∫	∫ ∫	
Lower 10, 28 and 36 inch RCS lines	∫	∫ ∫	
1-CCA-line class			
<b>100% of CRD Welds. Only 25% are listed to meet ISI sample requirements. Inspected during below vessel examination.</b>		Note, welds are insulated below the CRD flanges. Inspection for leakage below vessel meets code requirements.	
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B52-46) MK 52 TO MK 24	10:00	NO WATER UNDER Rx VESSEL	
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B52-48) MK 52 TO MK 24	∫	ON INSULATOR, NO STEAM	
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B53-51) MK 53 TO MK 24		FROM UNDER Rx VESSEL,	
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B53-52) MK 53 TO MK 24		SEE PHOTO'S FROM UNDER	
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B53-55) MK 53 TO MK 24		Rx VESSEL	
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B53-56) MK 53 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B54-58) MK 54 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B54-59) MK 54 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B54-60) MK 54 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B54-61) MK 54 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B55-62) MK 55 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B55-63) MK 55 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B55-64) MK 55 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B55-65) MK 55 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B55-66) MK 55 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B55-67) MK 55 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B55-68) MK 55 TO MK 24			
CRD NOZZLE TO CLOSURE HEAD WELD (ASSY NO. B55-69) MK 55 TO MK 24			
Remain CRD nozzles to closure head welds		CH	







### VT-2 EXAMINATION REPORT

Procedure/MWO DB-PF-03010 (4.2.7)	Revision 04	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>3</u> of <u>4</u> <u>1</u> of <u>4</u>
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### EXAMINATION DESCRIPTION

<b>Examination Scope:</b> Relief Request <u>RR-A15</u> System <u>RCS</u> Dwg. No. (s), <u>M-033A</u> East D-Ring Walk down	<b>Test Requirements:</b> Pressure <u>NOP</u> Temperature <u>NOT</u> Hold Times Insulated <u>4 hours</u> Uninsulated <u>10 mins</u>	<b>Test Type:</b> Hydrostatic _____ Pneumatic _____ Leakage _____ Inservice _____ Functional _____ Flow _____ Augmented _____ CC N-498-1 <u>X</u> CC N-522 _____
Pipe lines/Components/Boundaries    Test Zones RC001 as described in the Second Ten Year Pressure Test Program. (Secton 4.2.7.doc)		Test Medium <h2 style="text-align: center;">RCS</h2>

### EXAMINATION RECORD

Test Press.	<b>2240</b>	Inst. No.	PGA230	Cal. Date	9/15/00	Test Pressure Stable Time  <b>0647</b>
Test Temp.	<b>534.18</b>	Inst. No.	T781	Cal. Date	5/16/00	
Location/Boundary Examined				Time	Description of Identified Leakage	
1/2"-CCA-2 from HP48				1100	NO LEAKAGE	
to HP50 (back to back check valves)				↓	↓	
Examined by: <u>[Signature]</u> <span style="float: right;">5/16/00</span> <small>VT-2 Examiner Level II</small> Reviewed by: <u>Peter J. Smith</u> <span style="float: right;">5/16/00</span> <small>IST Engineer</small> ANII Review: <u>Thomas J. Pope ANII</u> <span style="float: right;">5/23/00</span> <small> </small> Comments: _____ _____ _____					<b>Corrective Action</b> Notification of System Engineer: Time _____ Date _____ Notification of Shift Supervisor: Time _____ Date _____ If applicable, then annotate: <input type="checkbox"/> PCAQR Number: _____ <input type="checkbox"/> MD Tag, Work Request or MWO Number: _____ <input type="checkbox"/> VT-2 Corrective Measures Evaluation Report Number: _____	







### VT-2 EXAMINATION REPORT

Procedure/MWO PB-PF-03010 (4.2.8)	Revision 04	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>4</u> of <u>1</u> <u>3 of 4</u>
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#### EXAMINATION DESCRIPTION

<b>Examination Scope:</b> Relief Request <u>RR-A15</u> System <u>RCS</u> Dwg. No. (s), <u>M-033A</u> <u>East D-Ring Walk down</u>	<b>Test Requirements:</b> Pressure <u>NOP</u> Temperature <u>NOT</u> Hold Times Insulated <u>4 hours</u> Uninsulated <u>10 mins</u>	<b>Test Type:</b> Hydrostatic _____ Pneumatic _____ Leakage _____ Inservice _____ Functional _____ Flow _____ Augmented _____ CC N-498-1 <u>X</u> CC N-522 _____
Pipe lines/Components/Boundaries Ten Year Pressure Test Program. (Secton 4.2.7.doc)	Test Zones RC001 as described in the Second	Test Medium <h3 style="text-align: center;">RCS</h3>

#### EXAMINATION RECORD

Test Press.	<u>2240</u>	Inst. No.	PGA002	Cal. Date	7/15/00	Test Pressure Stable Time
Test Temp.	<u>534.19</u>	Inst. No.	<u>7781</u>	Cal. Date	<u>5/16/00</u>	<u>6647</u>
Location/Boundary Examined				Time	Description of Identified Leakage	
1/2"-CCA-2 from HP49 to				<u>1100</u>	<u>No LEAKAGE</u>	
to HP51 (back to back check valves)				<u>↓</u>	<u>↓</u>	
Examined by: <u>John Clave</u> <small>VT-2 Examiner Level II</small>				<u>5-16-00</u> <small>Date</small>	<b>Corrective Action</b> <del>                             Notification of System Engineer:                              Time _____ Date _____                              Notification of Shift Supervisor:                              Time _____ Date _____                              If applicable, then annotate:  <input type="checkbox"/> PCAQR Number: _____  <input type="checkbox"/> MD Tag, Work Request or MWO                              Number: _____  <input type="checkbox"/> VT-2 Corrective Measures                              Evaluation Report Number: _____                         </del>	
Reviewed by: <u>Peter J. Smith</u> <small>IST Engineer</small>				<u>5-16-00</u> <small>Date</small>		
ANII Review: <u>Thomas J. Laps ANII</u>				<u>5/23/00</u> <small>Date</small>		
Comments: _____ _____ _____						

*PKM*  
*NNA*



### VT-2 EXAMINATION REPORT

Procedure/MWO DB-PF-03010 (4.2.11)	Revision 04	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>2</u> of <u>4</u> <u>4</u> of <u>4</u>
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### EXAMINATION DESCRIPTION

<b>Examination Scope:</b> Relief Request <u>RR-A15</u> System <u>RCS</u> Dwg. No. (s), <u>M-033A</u> East D-Ring Walk down	<b>Test Requirements:</b> Pressure <u>NOP</u> Temperature <u>NOT</u> Hold Times Insulated <u>4 hours</u> Uninsulated <u>10 mins</u>	<b>Test Type:</b> Hydrostatic _____ Pneumatic _____ Leakage _____ Inservice _____ Functional _____ Flow _____ Augmented _____ CC N-498-1 <u>X</u> CC N-522 _____
Pipe lines/Components/Boundaries Test Zones RC001 as described in the Second Ten Year Pressure Test Program. (Secton 4.2.7.doc)		<b>Test Medium</b> RCS

### EXAMINATION RECORD

Test Press.	2240	Inst. No.	PGA224	Cal. Date	9/18/00	Test Pressure Stable Time 0430 - Normal md in service prior to 0430. Gauge put in service at 14:35.
Test Temp.	534.19	Inst. No.	T-781	Cal. Date	5-16-00	
Location/Boundary Examined				Time	Description of Identified Leakage	
1/2"-CCA-2 from HP56				16:35	No Active Leakage Identified.	
to HP58 (back to back check valves)				↓		
Examined by: <u>Jerry L. Gibson</u> <small>VT-2 Examiner Level II</small> Reviewed by: <u>Pete J. Searl</u> <small>IST Engineer</small> ANII Review: <u>Thomas L. Papp ANII</u>				5-16-00 <small>Date</small>	<b>Corrective Action</b>	
Comments: _____ _____ _____				5-16-00 <small>Date</small>	Notification of System Engineer: Time _____ Date _____ Notification of Shift Supervisor: Time _____ Date _____ If applicable, then annotate: <input type="checkbox"/> PCAQR Number: _____ <input type="checkbox"/> MD Tag, Work Request or MWO Number: _____ <input type="checkbox"/> VT-2 Corrective Measures Evaluation Report Number: _____	



## VT-2 CORRECTIVE MEASURES EVALUATION ACTION REPORT

Report/ Procedure Number 2000-009	Revision N/A	Inspection Interval <u>2</u> Inspection Period <u>3</u>	Sheet <u>1</u> of <u>1</u>
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EXAMINATION DESCRIPTION	
Relief Request <u>RR-A15</u> System <u>Reactor Coolant System</u> Dwg. No. (s) <u>M-030A</u>	Test Zones <u>RC001L and RC001H</u> Test Type <u>CC N 498-1</u>

Component Identification	Type of Leakage	Corrective Evaluation / Action Required
Incore tank connections number 5.	Base plate leakage.	Base plate was re-torqued and leakage was reduced to 1 drop every 1.5 minutes. See WO 00 2353-01.
Incore tank connections number 11.	Leakages from top seal cover cap.	Base plate was re-torqued and leakage was reduced to the cap just staying wet. See MDT U-699.

Both these items are leakage from stainless steel threaded connection via internal metal o-ring seals. Both incore tank connections were re-torqued to the maximum values and as found leakage was reduced. However it was not stopped. CR 2000-1456 for Incore Tank connection 5 and CR 2000-1453 for Incore tank connection 11 contains an "Acceptance by Analytical Evaluation" per ASME IWB-3142.4.

Similar leakage at the incore tank connections has been identified in the past and was found to be acceptable. The component material is stainless steel, which is not susceptible to BA corrosion. Based upon this and the referenced Condition Report's analytical evaluation, this relevant condition is found acceptable for service. For further details, see the referenced Condition Reports.

Performed by	<u>Pete J. Senant</u>	/	<u>5/22/00</u>
	Applicable Engineer		Date
Verified by	<u>MMB</u>	/	<u>5/22/00</u>
	IST Engineering		Date
ANII	<u>Thomas J. Jahn ANII</u>	/	<u>5/23/00</u>
			Date
Approved by	<u>Michael Murphy For A. Mr.</u>	/	<u>5-25-00</u>
	Test Engineering Supervisor		Date



## VT-2 CORRECTIVE MEASURES EVALUATION ACTION REPORT

Report/ Procedure Number 2000-010	Revision N/A	Inspection Interval 2 Inspection Period 3	Sheet <u>1</u> of <u>1</u>
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EXAMINATION DESCRIPTION	
Relief Request <u>RR-A15</u> System <u>Reactor Coolant System</u>	Test Zones <u>RC001H, CF009</u>  Test Type <u>CC N 498-1</u>
Dwg. No. (s) <u>M-030A</u>	

Component Identification	Type of Leakage	Corrective Evaluation / Action Required
CF 38 and CF 33	Packing Leakage during pressurization.	Packing was tighten under FIN team generic guidance, leakage stopped.
RC 2A1, RC 1BA, RC 40	BA on packing, no leakage	No leakage identified. MDT Z 0752 written to clean stem.
RC 262	Leakage at packing leak off plug.	WO 00-2293-02 written to Furminte packing.
RC 2B2	packing leakage	WO 00-2356-01 written to Furminte packing, however maintenance identified that packing leakage has stopped.
1"-CCA-3 (to RC 47) at D-Ring wall below RCP 1-2.	BA identified on piping.	None required. This leakage is from the seal cover plate running down the outside of the vessel inner gasket tell tale line.
RC 176A	Leakage at end of pipe plug/nipple.	WO 00-2297-00 issued to dope and tighten plug. This was reported as resolved.

Leakage at <sup>mit</sup> ~~pipe~~ <sup>packing</sup> plugs or valve packing is acceptable per the ASME code. Work orders as referenced above will resolve these items.

The leakage identified at 1"-CCA-3 (to RC 47) at D-Ring wall below RCP 1-2 was re-examined after cleaning with a four hour hold, no leakage identified.

Performed by	<u>Pete J. Sennick</u>		<u>5/22/00</u>
	Applicable Engineer		Date
Verified by	<u>MM Beier</u>		<u>5/22/00</u>
	IST Engineering		Date
ANII	<u>Thomas J. Lopez ANII</u>		<u>5/23/00</u>
			Date
Approved by	<u>Michael R. [Signature]</u>		<u>5-25-00</u>
	Test Engineering Supervisor		Date



WORK REQUEST  
TAG # Z 0752

EQUIPMENT #/NAME MISC RC  
VALUES

ORIGINATOR (Print) SENDEN  
DATE 5/12/00 PHONE# 8371

DEFICIENCY:

CLEAN RC 2A1 WHEN CONSTRUCTION  
MENT ACCESS AVAILABLE.

CLEAN RC 1BA - DRY DR ALL  
AROUND VALVE, WHEN CONSTRUCTION  
AVAILABLE

CLEAN RC 40 - OLD BA ON  
PACIFIC, WHEN CONSTRUCTION ACCESS  
AVAILABLE

LOCATION TAG HUNG  YES  NO - REASON:  
BUILDING PLARA  
ELEVATION CTMT ROOM # 21P

APPROVED BY  
WORK REQUEST # S.U.S.#  
FORWARD TO PLANNING SECTION

TAG # Z 0752  
WORK REQUEST SUBMITTED  
DATE

TAG # Z 0752  
WORK REQUEST SUBMITTED  
DATE

