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

Dresden Nuclear Power Station, Units 2 and 3
Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

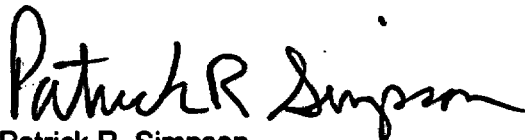
Subject: Additional Information Regarding Inservice Testing Program Relief Requests

Reference: Letter from R. J. Hovey (Exelon Generation Company, LLC) to U. S. NRC,
"Submittal of Proposed Alternatives and Reliefs to the Requirements of 10 CFR
50.55a Concerning the Fourth Ten-Year Interval Inservice Testing Program,"
dated April 30, 2003

In the referenced letter, Exelon Generation Company (EGC), LLC, proposed various code alternatives and reliefs associated with the fourth ten-year inservice testing (IST) program for Dresden Nuclear Power Station, Units 2 and 3. In a communication from Mr. L. W. Rossbach of the NRC to Mr. A. R. Haeger of EGC on July 23, 2003, the NRC requested additional information regarding these proposed changes. The attachments to this letter provide the requested information.

Should you have any questions concerning this letter, please contact Mr. Allan R. Haeger at (630) 657-2807.

Respectfully,



Patrick R. Simpson
Manager, Licensing
Mid-West Regional Operating Group

Attachment A: Response to NRC Questions

Attachment B: Test Procedure DOS 0250-04, Revision 26, "Relief Valve Testing At Low And At High Pressure"

Test Results for Unit 2 and 3 Valves 0203-3A through 3E

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Dresden Nuclear Power Station
Office of Nuclear Facility Safety – Illinois Department of Nuclear Safety

A047

Attachment A
Additional Information Regarding Inservice Testing Program Relief Requests
Response to NRC Questions

Question 1 - Relief Request RV-02A

Provide a copy of the testing procedure and all test results for the affected valves since its inception, or implementation. Also address if the 3.5 seconds of maximum limiting stroke time had been reviewed and approved by NRC.

Response

Attachment B provides the testing procedure and all test results for Unit 2 and 3 valves 0203-3A through 0203-3E, beginning in June 1997, which was the first performance of the specified testing following NRC approval of the relief request in the third ten-year interval (Reference 1).

Reference 2 discusses the basis for selecting the 3.5-second maximum stroke time and refers to NRC approval of similar relief for the Limerick Generating Station (LGS), Units 1 and 2. LGS submitted the proposed relief in Reference 3, which specifically discusses the proposed 3.5-second maximum stroke time and its basis. The LGS valves are identical to the relief valves in the DNPS relief request. The referenced NRC approval for the LGS relief discusses the fact that a maximum stroke time was selected, without specifically referring to a stroke time value. Since the 3.5-second maximum stroke time and basis was presented to the NRC in the LGS submittal, the NRC approval of the LGS relief constitutes review and approval of the selected stroke time.

Question 2 - Relief Request RV-57A

NRC's safety evaluation issued April 16, 1996, granted relief RV-57A for the balance of the 3rd 10-year period with the provision "that the licensee include the valve in a preventive maintenance program." Please address how this provision was resolved and if the resolution will continue thru the 4th 10-year IST period.

Response

A preventive maintenance (PM) program for the 2/3-5741-62, "Control Room Heating, Ventilation, and Air Conditioning Outlet Flow Control Valve" was implemented for the third ten-year interval and will be implemented for the fourth ten-year interval. The PM program consists of the following.

- A quarterly stroke of the valve in accordance with Procedure DOS 1600-04, "Unit 2/3 Quarterly Valve Timing," was implemented and includes acceptance criteria to document any unusual stem motion or evidence of degraded conditions.
- A preventive maintenance rebuild of the valve was implemented and occurs every five years.

References

1. Letter from U. S. NRC to D. L. Farrar (Commonwealth Edison Company), "Revision 3 to the Third 10-Year Interval Inservice Testing Program - Dresden Nuclear Power Station, Units 2 And 3," dated April 16, 1996

Attachment A
Additional Information Regarding Inservice Testing Program Relief Requests

Response to NRC Questions

2. Letter from R. J. Hovey (Exelon Generation Company, LLC) to U. S. NRC, "Submittal of Proposed Alternatives and Reliefs to the Requirements of 10 CFR 50.55a Concerning the Fourth Ten-Year Interval Inservice Testing Program," dated April 30, 2003
3. Letter from E. L. Fogarty (Philadelphia Electric Company) to U. S. NRC, "Limerick Generating Station Units 1 and 2 First 10-year Interval Pump and Valve Inservice testing (IST) Program Revision," dated November 23, 1988

Attachment B
Additional Information Regarding Inservice Testing Program Relief Requests

**Test Procedure DOS 0250-04, Revision 26,
"Relief Valve Testing At Low And At High Pressure"**

Test Results for Unit 2 and 3 Valves 0203-3A through 3E

CATEGORY 1

UNIT 2(3)
DOS 0250-04
REVISION 26

RELIEF VALVE TESTING AT LOW AND AT HIGH PRESSURE

REQUIREMENTS:

1. Technical Specifications.
2. Technical Requirements Manual (TRM).

INDEPENDENT TECHNICAL REVIEW:

Disciplines	NPPT	RO	RE/QNE	CH	RS	I&C	M&ES
Required:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Unit 1 Review Required: ☐ YES ☒ NO

Special Reviews: IST Coordinator.

PLANT OPERATIONS REVIEW COMMITTEE (PORC):

PORC REQUIRED ☐ YES ☒ NO

APPROVAL AUTHORITY: Shift Operations Supervisor, or designee

POST PERFORMANCE REVIEWS:

IST Coordinator.

CATEGORY 1

UNIT 2(3)
DOS 0250-04
REVISION 26

RELIEF VALVE TESTING AT LOW AND AT HIGH PRESSURE

A. PURPOSE:

1. To satisfy Technical Specifications SR 3.4.3.2, SR 3.5.1.10, and SR 3.6.1.6.1, at the frequency specified by the Predefine Program, by manually opening each ADS relief valve and Low Set relief valve within 12 hours after adequate steam pressure and flow are achieved (300 psig with two Bypass Valves open) and observing that either:
 - a. The turbine control valve or turbine bypass valve position responds accordingly.
- OR
- b. There is a corresponding change in the measured steam flow.
2. To satisfy IST Program exercise open, position indication testing (PIT) and stroke time data acquisition for the following components:
 - a. 2(3)-0203-3A, Target Rock Safety/Relief Valve.
 - b. 2(3)-0203-3B thru 3E, Electromatic Relief Valves.
3. With concurrence from the Operations Supervisor, perform high pressure testing of relief valves with reactor pressure at 950 to 1005 psig.

B. USER REFERENCES:

1. Technical Specifications:
 - a. Section 3.4.3, Safety and Relief Valves.
 - b. Section 3.5.1, ECCS - Operating.
 - c. Section 3.6.1.1, Primary Containment.
 - d. Section 3.6.1.4, Drywell Pressure.
 - e. Section 3.6.1.6, Low Set Relief Valves.
 - f. Section 3.6.1.8, Suppression Chamber to Drywell Vacuum Breakers.
 - g. Section 3.6.2.1, Suppression Pool Average Temperature.
 - h. Section 3.6.2.2, Suppression Pool Water Level.
 - i. Section 3.6.2.5, Drywell to Suppression Chamber Differential Pressure.

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- B. 2. Technical Requirements Manual (TRM):
 - a. Section 3.3.b, Post Accident Monitoring Instrumentation, Table T3.3.b-1 Function 2, Safety/Relief Valve Position Indicators - Acoustic & Temperature
- 3. Technical Specification Surveillance Requirements:
 - a. Section 5.5.6, Inservice Testing Program.
 - b. SR 3.4.3.2.
 - c. SR 3.5.1.10.
 - d. SR 3.6.1.8.2.
 - e. SR 3.6.1.6.1.
 - f. SR 3.6.2.1.1
- 4. TRM Surveillance Requirements:
 - a. Table T3.3.b-1 Function 2, TSR 3.3.b.1.
- 5. Procedures:
 - a. DGP 02-03, Unit 2(3) Reactor Scram.
 - b. DGP 03-04, Control Rod Movements.
 - c. DOA 250-01, Relief Valve Failure.
 - d. DOP 1500-02, Torus water Cooling Mode of Low Pressure Coolant Injection.
 - e. DOP 3390-01, Unit 2 Hydrogen Addition System Operation.
 - f. DOP 3390-03, Unit 3 Hydrogen Addition System (HAS) Operation.
 - g. DOS 0040-07, Verification of Remote Position Indication for Valves included in the Inservice Testing (IST) Program.
 - h. DOS 1600-09, Pressure Suppression Chamber to Drywell Vacuum Breaker Full Stroke Exercise Test.
- 6. Prints:
 - a. M-12(M-345), Diagram of Main Steam Piping.
 - b. M-25(M-356), Diagram of Pressure Suppression Piping.
 - c. M-26(M-357), Diagram of Nuclear Boiler and Reactor Recirculation Piping.
 - d. M-29(M-360), Diagram of LP Coolant Injection Piping.

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C. SUPPLEMENTS:

1. Checklist A, Relief Valve Operability at Low Pressure.
2. Checklist B, Relief Valve Operability at High Pressure.
3. Data Sheet 1, Torus Bulk Water Temperature Data Sheet.
4. Data Sheet 2, IST Stroke Time Data.
5. Figure 1, Torus Level Vs. Drywell to Torus dP.

D. EQUIPMENT REQUIRED:

1. Calibrated stopwatches controlled per DAP 11-12, Control and Calibration of Stopwatches.

Serial No: _____ CAL. Date: _____

Serial No: _____ CAL. Date: _____

E. PREREQUISITES:

Initial

1. Hydrogen Addition has been secured at least 35 minutes prior to performing this procedure (U2 DOP 3390-01, U3 DOP 3390-03). _____
2. Torus cooling is in service per DOP 1500-02. _____
3. Primary Containment Vent or Purge is not in progress or initiated until completion of this test. _____
4. Unit Supervisor has verified Torus temperature has sufficient margin to T/S Limit to perform test. _____
5. If applicable, THEN the Load Dispatcher is notified of pending test. _____
6. Rad Protection has been notified of potential changes in radiological conditions. _____

F. PRECAUTIONS:

1. Relief valves should NOT be left open for more than five minutes to prevent uneven heating of the torus.
2. Turbine Bypass valves must \geq 2 Bypass valves open.

CATEGORY 1

UNIT 2(3)
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- F. 3. IF a relief valve sticks OPEN and will NOT close, THEN DOA 0250-01, Relief Valve Failure, must be initiated.
4. A relief valve must NOT be reactivated until it has been closed for at least 10 seconds to allow the vacuum breaker to function.

G. LIMITATIONS AND ACTIONS:

1. Torus water level and temperature must be continuously monitored and the temperature logged every five minutes on Data Sheet 1 during the test.
2. The following Torus bulk water temperature limitations and associated Technical Specifications are applicable:
 - > 95°F, Tech Spec 3.6.2.1.a
 - > 105°F, Tech Spec 3.6.2.1.b
3. IF torus water level CANNOT be maintained within normal limits (≥ 14 ft 6.5 In to 14 ft 10.5 In) with one psid drywell to torus differential pressure (dP) OR within the limits shown on Figure 1), THEN refer to Tech Spec 3.6.2.2, 3.6.2.5, and DEOP 0200-01, Primary Containment Control.
4. Admitting steam to the Torus will cause fluctuations on Drywell to Torus ΔP. Drywell pressure and drywell to torus ΔP should be maintained within Tech Spec limits, although these limits can be exceeded for up to 4 hours for required surveillance which reduces the differential pressure (Tech Spec 3.6.2.5 NOTE).
5. Several Operators will be required to assist with obtaining data and performing verifications during this procedure. Coordination is essential to minimize the duration of relief valve operation.
6. [PRE-EPU None] [EPU 2(3)A TARGET ROCK RELIEF VLV is allowed to serve as both a Safety Valve AND a Relief Valve by Tech Spec Section 3.4.3 Bases and SR 3.4.3.1. Successful completion of this surveillance only satisfies the requirements of Tech Spec SR 3.4.3.2. To be considered operable for Safety Valve purposes, the requirements of Tech Spec SR 3.4.3.1 must be satisfied in accordance with the IST Program.]

CATEGORY 1

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H. ACCEPTANCE CRITERIA:

1. Steps in this procedure that satisfy Procedural Acceptance Criteria are identified by the notation "(AC)" prior to the performance requirement step.
2. For Technical Specifications SR 3.4.3.2, SR 3.5.1.10, and SR 3.6.1.6.1, upon manually opening the associated ADS relief valve with reactor steam dome pressure \geq 300 psig, one of the following is observed:
 - a. The turbine control valve or turbine bypass valve position responds accordingly.

OR

 - b. There is a corresponding change in the measured steam flow.
3. Testing per Tech Spec Section 5.5.6, Inservice Testing Program, of Main Steam Safety/Relief Valves 2(3)-0203-3A thru 3E is considered acceptable when:
 - Valve is exercised in the open direction.
 - Valve stroke time test data per Checklists 1 OR 2 AND Data Sheet 2 is obtained for evaluation by the IST Coordinator.
 - The selected valve position agrees with actual valve position as determined by monitored downstream parameters in Checklist 1 OR 2 to satisfy position indication testing (PIT) requirements.
4. Normal and Post Accident Monitoring Instrumentation (valve position indicators, annunciators, acoustic monitoring, tailpipe temperatures) utilized to determine relief valve status are monitored for functionality during testing.

CATEGORY 1

UNIT 2(3)
DOS 0250-04
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I. PROCEDURE:

INITIAL

NOTE

1. For relief valves 2(3)-0203-3B & 3C ONLY, the Amber TIME DELAY light illuminates for 10 seconds after valve closure which provides indication the valve can ONLY function in the MANUAL mode for the 10 second period. This will allow the vacuum breaker to function.
2. Initial (sign off) blanks are provided at the end of each repeatable step. These steps should be initialed for the associated valve 2(3)-0203-3A, 3B, 3C, 3D or 3E tested.

CAUTION

Only one relief valve should be tested at a time. Relief valves should not remain open for prolonged periods (> five minutes). Since a relief valve discharges to only one location in the torus, there is a danger that extended blowdown at a given point will locally overheat the water and cause damage to the torus interior coating.

1. LOW REACTOR PRESSURE RELIEF VALVE OPERABILITY CHECK:

- a. When reactor power has stabilized, perform the following:

- (1) Verify reactor pressure is 300 to 350 psig on ONE of the following instruments:

- Computer Point C-200(C-300), 2(3)A RX PRESS _____
- Computer Point C-265(C-365), 2(3)B RX PRESS _____

- (2) Verify reactor pressure is 300 to 350 psig on ONE of the following instruments:

- PI 2(3)A RX PRESS, PI 2(3) 640-25A _____
- PI 2(3)B RX PRESS, PI 2(3) 640-25B _____
- WR RX PRESS, PR 2(3) 640-27. _____

CATEGORY 1

UNIT 2(3)
DOS 0250-04
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INITIAL

- I. 1. b. At Panel 902(3)-7, reduce the EHC Pressure Setpoint to between 300 and 350 psig. _____
- c. Initiate monitoring Torus temperature and level AND at 5 minute intervals, record Torus bulk water temperature on Data Sheet 1. _____
- d. Withdraw control rods per DGP 03-04 until at least 2 Main Turbine Bypass Valves are open. _____
- e. At Panel 902(3)-3, CONCURRENTLY perform the following:

- OPEN relief valve to be tested by placing the associated Keylock Switch in MAN position.
- Start stopwatch.
- Monitor reactor water level and IRM readings.

INITIAL: A _____ B _____ C _____ D _____ E _____

- f. When Annunciator H-19, ACOUSTIC MONITOR ACTUATED, alarms, STOP stopwatch.

INITIAL: A _____ B _____ C _____ D _____ E _____

- g. Verify the following in any order:

- (1) (AC) Relief Valve being tested indicates OPEN (TRM TSR 3.3.b.1)

INITIAL: A _____ B _____ C _____ D _____ E _____

- (2) (AC) Panel 902(3)-7, valve opening confirmed by partial closure of Turbine Bypass Valve. (Turbine Control valves should not be open at this time.)

INITIAL: A _____ B _____ C _____ D _____ E _____

CATEGORY 1

UNIT 2(3)
DOS 0250-04
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INITIAL

- I. 1. g. (3) (AC) Associated relief valve annunciator
902(3)-3 in Alarm state. (TRM TSR 3.3.b.1)
- D-9 TARGET RELIEF VALVE 2(3)A OPEN _____
 - C-13 ELECTROMATIC RELIEF VLV 2(3)B OPEN _____
 - D-13 ELECTROMATIC RELIEF VALVE 2(3)C OPEN _____
 - E-13 ELECTROMATIC RELIEF VALVE 2(3)D OPEN _____
 - E-12 ELECTROMATIC RELIEF VALVE 2(3)E OPEN _____
- (4) (AC) Panel 902(3)-21, verify tail pipe
temperature rise for associated relief valve
from U2 VALVE LEAK-OFF/DW TEMP (U3 VLV LEAK &
DW TEMP) TR 2(3)-260-20A.

INITIAL: A _____ B _____ C _____ D _____ E _____

- h. Complete Valve Open data for associated relief
valve on Checklist A.

INITIAL: A _____ B _____ C _____ D _____ E _____

- i. Panel 902(3)-3, CLOSE the associated relief VALVE
by returning the Keylock Switch to the AUTO
position.

INITIAL: A _____ B _____ C _____ D _____ E _____

- j. Verify associated relief valve closed by the
following:

- Indicating lights for valve indicates closed.
- Turbine Bypass valve OPENING.
- Acoustic Monitor MEMORY (Amber) light lit.

INITIAL: A _____ B _____ C _____ D _____ E _____

CATEGORY 1

UNIT 2(3)
DOS 0250-04
REVISION 26

INITIAL

I. 1. k. Reset associated Annunciators 902(3)-3 and/or 4:

- D-9 TARGET RELIEF VALVE 2(3)A OPEN _____
- C-13 ELECTROMATIC RELIEF VLV 2(3)B OPEN _____
- D-13 ELECTROMATIC RELIEF VALVE 2(3)C OPEN _____
- E-13 ELECTROMATIC RELIEF VALVE 2(3)D OPEN _____
- E-12 ELECTROMATIC RELIEF VALVE 2(3)E OPEN _____

l. Panel 902(3)-21, reset Acoustic Monitor.

INITIAL: A _____ B _____ C _____ D _____ E _____

m. Complete Valve Closed data for associated relief valve on Checklist A.

INITIAL: A _____ B _____ C _____ D _____ E _____

n. Complete IST Stroke Time Test Data for associated relief valve on Data Sheet 2.

INITIAL: A _____ B _____ C _____ D _____ E _____

o. Repeat Steps I.1.e through I.1.n for remaining relief valve(s) to be tested.

p. IF any of the five relief valves have alarmed during testing, THEN reset Annunciator 902(3)-4 H-17, VALVE LEAK DETECTOR SYSTEM HIGH TEMP. _____

q. At Panel 902(3)-7 slowly increase EHC Pressure Setpoint to commence reactor heatup until:

- Turbine Bypass Valves are CLOSED. _____

OR

- Reactor pressure reaches 920 psig. _____

r. Terminate Torus Temperature and level monitoring. _____

CATEGORY 1

UNIT 2(3)
DOS 0250-04
REVISION 26

INITIAL

- I. 1. s. IF high pressure test will not be performed, THEN terminate Torus Cooling per DOP 1500-02. _____
- t. IF the valve position indicator provides the expected position indication but no corresponding downstream indication of valve opening (change in Turbine Bypass or Control Valve position), THEN the Licensed Shift Supervisor shall: _____
- (1) Immediately declare the relief valve INOPERABLE. _____
- (2) Comply with Tech Spec Section 3.4.3 Action A and/or B, 3.5.1 Action H and/or I, and 3.6.1.6 Action A and/or B, as applicable. _____
- (3) Notify the IST Coordinator. _____
- (4) Initiate an Action Request and CR. _____
- u. IF any Safety & Relief Valve Position Indicators, Acoustic & Temperature, does not accurately reflect actual valve position, THEN verify compliance with TRM Section 3.3.b. _____
- v. Within 12 hours of test completion, initiate and complete DOS 1600-09, Pressure Suppression Chamber to Drywell Vacuum Breaker Full Stroke Exercise Test. (Tech Spec SR 3.6.1.8.2.) _____

2. RATED REACTOR PRESSURE RELIEF VALVE OPERABILITY CHECK:

- a. Obtain authorization to perform this Section:

Unit Supervisor: _____

- b. Verify the following conditions:

- (1) Reactor pressure 950 to 1005 psig as indicated on RX PRESS PI 2(3) 640-25A(B). _____
- (2) Reactor power > 15% and < 85% indicated on APRM Meters. _____
- (3) Steam flowing to Main Turbine. _____
- (4) Level between High and Low level alarm points. _____

CATEGORY 1

UNIT 2(3)
DOS 0250-04
REVISION 26

INITIAL

- I. 2. c. Initiate monitoring Torus temperature and level AND at 5 minute intervals, record Torus bulk water temperature on Data Sheet 1. _____

- d. Complete the necessary data on Checklist B.

INITIAL: A _____ B _____ C _____ D _____ E _____

- e. At Panel 902(3)-3, CONCURRENTLY perform the following:

- OPEN relief valve to be tested by placing the associated Keylock Switch in MAN position.
- Start stopwatch.
- Monitor reactor water level and IRM readings.

INITIAL: A _____ B _____ C _____ D _____ E _____

- f. When Annunciator H-19, ACOUSTIC MONITOR ACTUATED, alarms, STOP stopwatch.

INITIAL: A _____ B _____ C _____ D _____ E _____

- g. Verify the following in any order:

- (1) (AC) Valve indicates OPEN (TRM TSR 3.3.b.1).

INITIAL: A _____ B _____ C _____ D _____ E _____

- (2) (AC) Panel 902(3)-7, valve opening confirmed by partial closure of Turbine Bypass OR Control Valve.

INITIAL: A _____ B _____ C _____ D _____ E _____

CATEGORY 1

UNIT 2(3)
DOS 0250-04
REVISION 26

INITIAL

- I. 2. g. (3) (AC) Associated relief valve annunciator
902(3)-3 in Alarm state (TRM TSR 3.3.b.1).

- D-9 TARGET RELIEF VALVE 2(3)A OPEN _____
- C-13 ELECTROMATIC RELIEF VLV 2(3)B OPEN _____
- D-13 ELECTROMATIC RELIEF VALVE 2(3)C OPEN _____
- E-13 ELECTROMATIC RELIEF VALVE 2(3)D OPEN _____
- E-12 ELECTROMATIC RELIEF VALVE 2(3)E OPEN _____

- (4) (AC) Panel 902(3)-21, verify tail pipe
temperature rise for the appropriate relief
valve from U2 VALVE LEAK-OFF/DW TEMP (U3 VLV
LEAK & DW TEMP) TR 2(3)-260-20A.

INITIAL: A _____ B _____ C _____ D _____ E _____

- h. Complete the necessary data on Checklist B.

INITIAL: A _____ B _____ C _____ D _____ E _____

- i. Panel 902(3)-3, CLOSE the associated Relief Valve
by returning the keylock switch to AUTO position.

INITIAL: A _____ B _____ C _____ D _____ E _____

- j. At Panel 902(3)-3, verify associated relief valve
has closed by the following:

- Valve indication lights providing a CLOSED
indication.
- Turbine Control Valves returning to
original OPEN position.
- Acoustic Monitor MEMORY (Amber) light lit.

INITIAL: A _____ B _____ C _____ D _____ E _____

CATEGORY 1

UNIT 2(3)
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INITIAL

I. 2. k. Reset associated Annunciators:

- D-9 TARGET RELIEF VALVE 2(3)A OPEN _____
- C-13 ELECTROMATIC RELIEF VLV 2(3)B OPEN _____
- D-13 ELECTROMATIC RELIEF VALVE 2(3)C OPEN _____
- E-13 ELECTROMATIC RELIEF VALVE 2(3)D OPEN _____
- E-12 ELECTROMATIC RELIEF VALVE 2(3)E OPEN _____

l. At Panel 902(3)-21, reset Acoustic Monitor.

INITIAL: A _____ B _____ C _____ D _____ E _____

m. Complete necessary data for associated relief valve under test on Checklist B.

INITIAL: A _____ B _____ C _____ D _____ E _____

n. Complete IST Stroke Time Test Data for associated relief valve on Data Sheet 2.

INITIAL: A _____ B _____ C _____ D _____ E _____

o. Repeat Steps I.2.d through I.2.n for remaining relief valve(s) to be tested.

p. IF any of the five relief valves have alarmed during testing, THEN reset Annunciator 902(3)-4 H-17, VALVE LEAK DETECTOR SYSTEM HIGH TEMP. _____

q. Terminate Torus Cooling per DOP 1500-02. _____

r. Terminate monitoring Torus temperature and level. _____

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INITIAL

- I. 2. s. IF the valve position indicator provides the expected position indication but no corresponding downstream indication of valve opening (change in Turbine Bypass or Control Valve position), THEN Licensed Shift Supervisor:

- (1) Immediately declare the relief valve INOPERABLE. _____
- (2) Comply with Tech Spec Sections 3.4.3 Action A and/or B, 3.5.1, Action H and/or I, and 3.6.1.6 Action A and/or B, as applicable. _____
- (3) Notify the IST Coordinator. _____
- (4) Initiate an Action Request and CR. _____

- t. IF any Safety & Relief Valve Position Indicators, Acoustic & Temperature, does not accurately reflect actual valve position, THEN verify compliance with TRM 3.3.b (TRM Table 3.3.b-1 Function 2, TSR 3.3.b.1). _____

- u. Within 12 hours of test completion, initiate and complete DOS 1600-09, Pressure Suppression Chamber to Drywell Vacuum Breaker Full Stroke Exercise Test. (Tech Spec SR 3.6.1.8.2.) _____

J. DISCUSSION:

1. With the reactor at low or high pressure the relief valves are manually opened until partial closure of the Turbine Bypass valve or Turbine Control valves provides indication of relief valve operation.
 - Although there are other indications of relief valve operation these are the criteria specified in the Bases of Technical Specification Sections 3.4.3, 3.5.1 and 3.6.1.6.

CATEGORY 1

UNIT 2(3)
DOS 0250-04
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- J. 2. After closure of Relief Valves 2(3)-0203-3B & 3C, the Amber Light between the OPEN and CLOSED indicators for these two valves will remain energized for 10 seconds, providing indication that only the manual operation of the relief valves is functional during this 10 second time delay.
- This logic is provided to insure that the two lowest-set relief valves will not OPEN on demand by a signal from the ADS or the pressure controller within 10 seconds of any previous closure.
 - This is to prevent excessive containment loads due to high water leg in the discharge line.
 - Manual actuation will not be inhibited for those cases where emergency conditions warrant valve opening.
3. © The test methodology utilized in open stroke time testing of relief valves 2(3)-0203-3A through 3E is from switch initiation to receipt of annunciator alarm window H-19, ACOUSTIC MONITOR ACTUATED.
- The valve position indicating lights for these valves are not directly coupled to their respective valves but rather to a pilot actuating device.
 - Industry events has recognized that this can lead to false indication of the main valves actual position and serves as the basis for monitoring available system parameters that would be indicative of actual valve status.
4. The normal and Post Accident Monitoring Instrumentation (valve position indicators, annunciators, acoustic monitoring, tailpipe temperatures) utilized to determine relief valve status during testing is being used to satisfy IST Program requirement.
- Verification of remote position indication for valves by methods other than direct local observation is allowed by the Code in situations where local observation is not feasible.
 - Monitoring of available system parameters during valve operation is acceptable to ascertain the valves actual position.
5. Although performance of this procedure does not directly satisfy TRM TSR 3.3.b.1, Table T3.3.b-1 Item 2 for Safety/Relief Valve Position Indicators - Acoustic & Temperature, failure to obtain expected indication(s) will require a review of the L.C.O Action Statement to ensure compliance. © (W-4)

W. WRITER REFERENCES:

1. ASME Boiler and Pressure Code, Section XI, Subsection IWV.
2. Dresden Units 2 & 3 IST Program.
3. GEK Manual 786, Chapter 27, Automatic Blowdown System.
4. NTS #237-180-96-01101-A, Design Basis Review of IST Program.

CATEGORY 1

UNIT 2(3)
DOS 0250-04
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CHECKLIST A (Page 1 of 1)

RELIEF VALVE OPERABILITY AT LOW PRESSURE

1.0 VALVE OPEN DATA:

Relief Valve	Valve Light Indicates Open (Yes/No)	Temperature Downstream of Valve (°F)	Acoustic Monitor Response (Yes/No)	Bypass Valve Closed (Yes/No)	Relief Vlv Indicates Open (Yes/No)	Open Stroke Time (seconds)
203-3A						
203-3B						
203-3C						
203-3D						
203-3E						

2.0 VALVE CLOSED DATA:

Relief Valve	Valve Light Indicates Closed (Yes/No)	Acoustic Monitor Response (Yes/No)	Bypass Valve Open (Yes/No)	Relief Valve Closed (Yes/No)	SRV Inhibit Logic* (On/Off)
203-3A					
203-3B					
203-3C					
203-3D					
203-3E					

- * The 10 Second time delay on Relief Valves 2(3)-203-3B and 2(3)-203-3C is indicated by an amber light between the OPEN and CLOSED indicators for these valves.

CATEGORY 1

UNIT 2(3)
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CHECKLIST B (Page 1 of 1)

RELIEF VALVE OPERABILITY AT HIGH PRESSURE

Relief Valve	Valve Indicates Open in Manual (Yes/No)	Valve Indicates Closed in Auto (Yes/No)	Total Steam Flow With Relief Valve			Control/Bypass Valve Position With Relief Valve		
			CLOSE	OPEN	CLOSE	CLOSE	OPEN	CLOSE
203-3A								
203-3B								
203-3C								
203-3D								
203-3E								

Relief Valve	Temperature Downstream Of Valve (°F)		Acoustic Monitor Responding (Yes/No)			Valve Verified Open	Valve Stroke Open Time	Valve Verified Closed	SRV Inhibit Logic*	
	Before Close	After Close	CLOSE	OPEN	CLOSE	(YES/NO)	(SECONDS)	(YES/NO)	(ON)	(OFF)
203-3A										
203-3B										
203-3C										
203-3D										
203-3E										

- * The 10 Second time delay on Relief Valves 2(3)-203-3B and 2(3)-203-3C is indicated by an amber light between the OPEN and CLOSED indicators for these relief valves.

CATEGORY 1

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DATA SHEET 1

TORUS BULK WATER TEMPERATURE DATA SHEET

Unit: _____

Test Date: / /

- 1) Torus bulk temperature to be logged every five minutes.
(Tech Spec SR 3.6.2.1.1)
- 2) Use one of the following to monitor the Torus bulk water temperature:
(Identify instrument used with circle)
 - a) TR 2(3)-1641-9, TORUS BULK TEMP, at Panel 902(3)-4.
 - b) TIRS 2(3)-1640-200A/B, TORUS TEMP MON DIV 1/2, Point 9, BULK TEMP, on Panel 902(3)-36.
 - c) Computer points: (U2-T257 or T258) (U3-T357 or T358)

[illegible]

CATEGORY 1

UNIT 2(3)
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DATA SHEET 2

IST STROKE TIME DATA

1. 2(3)-0203-3A:

INITIAL

a. Valve exercise open, stopwatch elapsed time:

Parameter: Switch to alarm H-19, ACOUSTIC MONITOR
ACTUATED.

(A) _____ seconds

b. Main valve actuation, measured by SER Points:

Parameter: [ACOUSTIC MON ACTUATED: RLF VLV 3A alarm
time] - [2(3)A TARGET ROCK RELIEF VLV,
alarm time]

_____ - _____ = (B) _____ seconds
SER 0613 SER 0190 (0122)

c. Switch to pilot valve opening time:

Parameter: (A) - (B)

(A) _____ - (B) _____ = _____ seconds

2. 2(3)-0203-3B:

a. Valve exercise open, stopwatch elapsed time:

Parameter: Switch to alarm H-19, ACOUSTIC MONITOR
ACTUATED.

(A) _____ seconds

b. Main valve actuation, measured by SER Points:

Parameter: [ACOUSTIC MON ACTUATED: RLF VLV 3B alarm
time] - [2(3)B ELECTROMATIC RELIEF VLV,
alarm time]

_____ - _____ = (B) _____ seconds
SER 0614(0598) SER 0199

c. Switch to pilot valve opening time:

Parameter: (A) - (B)

(A) _____ - (B) _____ = _____ seconds

CATEGORY 1

UNIT 2(3)
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DATA SHEET 2 (Continued)

IST STROKE TIME DATA

3. 2(3)-0203-3C:

INITIAL

a. Valve exercise open, stopwatch elapsed time:

Parameter: Switch to alarm H-19, ACOUSTIC MONITOR
ACTUATED.

(A) _____ seconds

b. Main valve actuation, measured by SER Points:

Parameter: [ACOUSTIC MON ACTUATED: RLF VLV 3C alarm
time] - [2(3)C ELECTROMATIC RELIEF VLV,
alarm time]

_____ - _____ = (B) _____ seconds
SER 0590(0534) SER 0201

c. Switch to pilot valve opening time:

Parameter: (A) - (B)

(A) _____ - (B) _____ = _____ seconds

4. 2(3)-0203-3D:

a. Valve exercise open, stopwatch elapsed time:

Parameter: Switch to alarm H-19, ACOUSTIC MONITOR
ACTUATED.

(A) _____ seconds

b. Main valve actuation, measured by SER Points:

Parameter: [ACOUSTIC MON ACTUATED: RLF VLV 3D alarm
time] - [2(3)D ELECTROMATIC RELIEF VLV,
alarm time]

_____ - _____ = (B) _____ seconds
SER 0592(0533)

SER 0231

c. Switch to pilot valve opening time:

Parameter: (A) - (B)

(A) _____ - (B) _____ = _____ seconds

CATEGORY 1

UNIT 2(3)
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DATA SHEET 2 (Continued)

IST STROKE TIME DATA

5. 2(3)-0203-3E:

INITIAL

a. Valve exercise open, stopwatch elapsed time:

Parameter: Switch to alarm H-19, ACOUSTIC MONITOR
ACTUATED.

(A) _____ seconds _____

b. Main valve actuation, measured by SER Points:

Parameter: [ACOUSTIC MON ACTUATED: RLF VLV 3E alarm
time] - [2(3)E ELECTROMATIC RELIEF VLV,
alarm time]

_____ - _____ = (B) _____ seconds
SER 0594(0532) SER 0227

c. Switch to pilot valve opening time:

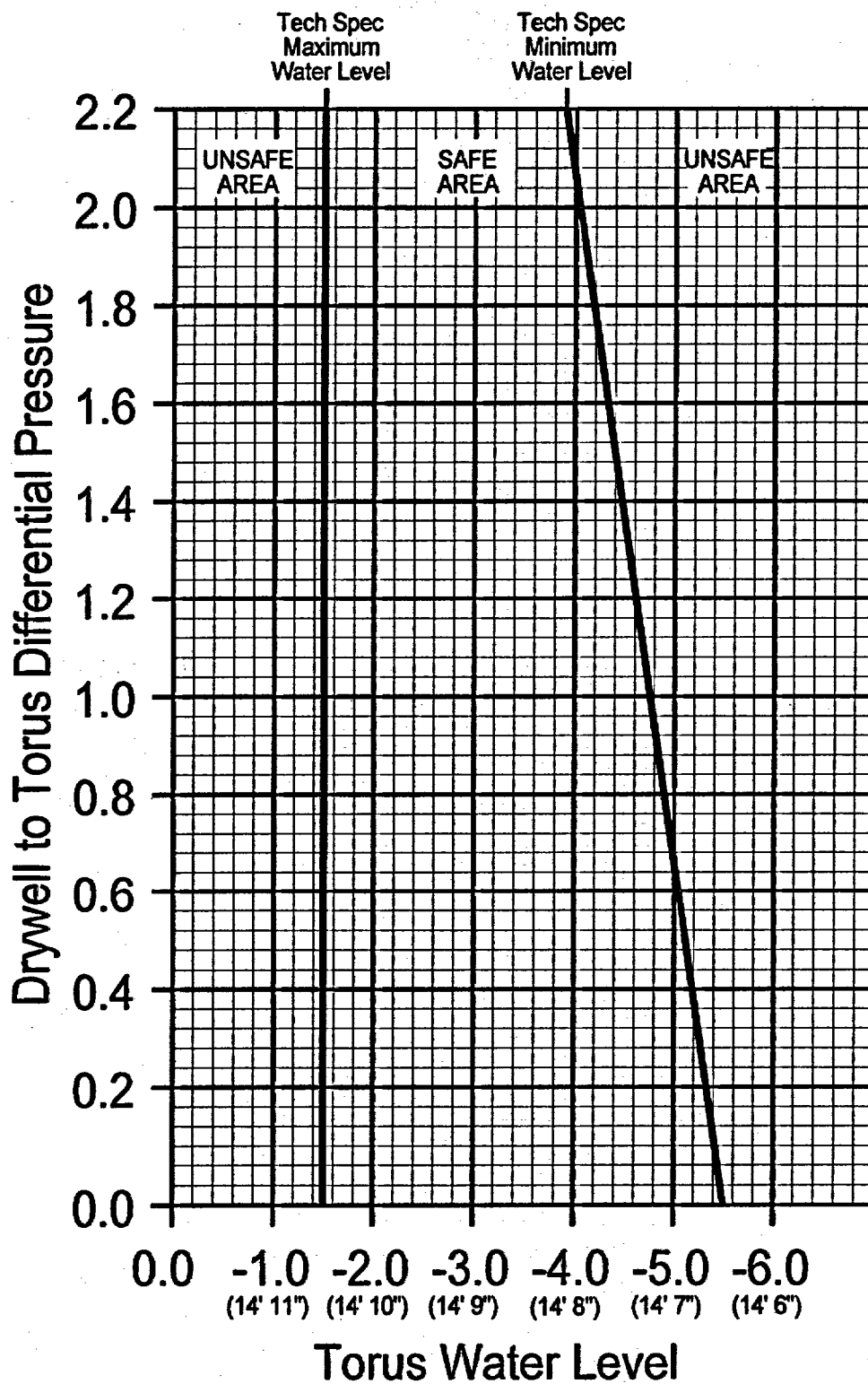
Parameter: (A) - (B)

(A) _____ - (B) _____ = _____ seconds _____

CATEGORY 1

UNIT 2(3)
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FIGURE 1
TORUS LEVEL VS. DRYWELL TO TORUS dP



ADS Valve Timing

Valve EPN	Stroke Time	WO#	Date	Notes	Outage
2-203-3A	1.5	99110127	11/07/2001	Replaced	D2R17
2-203-3B	1.8	99110127	11/07/2001	Replaced	D2R17
2-203-3C	1.8	99110127	11/07/2001		D2R17
2-203-3D	1.8	99110127	11/07/2001	Replaced	D2R17
2-203-3E	1.9	99110127	11/07/2001		D2R17
2-203-3A	1.5	980042612	10/26/1999	Replaced	D2R16
2-203-3B	1.9	980042612	10/26/1999		D2R16
2-203-3C	1.7	980042612	10/26/1999	Replaced	D2R16
2-203-3D	1.4	980042612	10/26/1999		D2R16
2-203-3E	1.9	980042612	10/26/1999	Replaced	D2R16
2-203-3A	1.5	960043717	04/16/1998	Replaced	D2R15
2-203-3B	1.8	960043717	04/16/1998	Replaced	D2R15
2-203-3C	1.7	960043717	04/16/1998		D2R15
2-203-3D	1.4	960043717	04/16/1998	Replaced	D2R15
2-203-3E	1.6	960043717	04/16/1998		D2R15
3-203-3A	0.9	99216266	10/26/2002	Replaced	D3R17
3-203-3B	0.9	99216266	10/26/2002		D3R17
3-203-3C	1.8	99216266	10/26/2002	Replaced	D3R17
3-203-3D	1.9	99216266	10/26/2002	Replaced	D3R17
3-203-3E	1.9	99216266	10/26/2002		D3R17
3-203-3A	1.6	990021070	10/03/2000	Replaced	D3R16
3-203-3B	1.6	990021070	10/03/2000	Replaced	D3R16
3-203-3C	1.4	990021070	10/03/2000		D3R16
3-203-3D	2.1	990021070	10/03/2000		D3R16
3-203-3E	2.2	990021070	10/03/2000	Replaced	D3R16
3-203-3A	1.87	970071374	02/24/1999	Replaced	D3R15
3-203-3B	1.84	970071374	02/24/1999		D3R15
3-203-3C	1.87	970071374	02/24/1999	Replaced	D3R15
3-203-3D	1.9	970071374	02/24/1999	Replaced	D3R15
3-203-3E	1.5	970071374	02/24/1999		D3R15
3-203-3A	1.62	950061448	06/17/1997		D3R14
3-203-3B	2.06	950061448	06/17/1997	Replaced	D3R14
3-203-3C	2.03	950061448	06/17/1997		D3R14
3-203-3D	1.7	950061448	06/17/1997		D3R14
3-203-3E	1.5	950061448	06/17/1997	Replaced	D3R14

$$59.39 / 35 = 1.696 \times 1.5 + 1 = 3.544$$

s:\IST\10-year update\new relief requests\ADS valve timinginfo\valve timing eval.xls