

PROCEDURE COVER SHEET

PENNSYLVANIA POWER & LIGHT CO. SUSQUEHANNA STEAM ELECTRIC STATION	SE-151-001 Revision 5 Page 1 of 72
18 MONTH CORE SPRAY SYSTEM AND LOGIC FUNCTION CHECK LOOP A (DIVISION I)	
EFFECTIVE DATE <u>9/21/90</u> PERIODIC REVIEW FREQUENCY AND EXPIRATION DATE (check one): <input checked="" type="checkbox"/> Procedure exempt from periodic review. Procedure will not expire. <input type="checkbox"/> Periodic Review Frequency is: <u>QA</u> Expiration Date: <u>QA</u> Revised Expiration Dates: _____	
PROCEDURE TYPE (check one): <input checked="" type="checkbox"/> PORC <input type="checkbox"/> NON-PORC REVIEW TYPE (check one): <input type="checkbox"/> Expedited Review. PORC Review not required. <input checked="" type="checkbox"/> Alternate Review. PORC Review not required. <input type="checkbox"/> PORC Review. PORC Meeting No. _____	
Prepared by <u>Robert Russiter</u> Date <u>9-19-90</u> Reviewed by <u>SDR [Signature] for A. Piemantese</u> Date <u>9-19-90</u> Responsible Supervisor Recommended <u>[Signature]</u> Date <u>9-20-90</u> Section Head/Manager Approved by <u>[Signature]</u> Date <u>9-20-90</u>	

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SE-151-001

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1.0 PURPOSE/SCOPE

- 1.1 To ensure the Div I Core Spray System (CSS) will respond to an initiation signal and carry out the design features of delivering Core Spray from the suppression pool. Initiation logic and operating logic will be confirmed to perform all design safety features. This test is to be performed at least once per 18 months.
- 1.2 To perform a Div I Core Spray System response time test confirming that the Core Spray System will respond to an actuation signal and develop rated conditions within specified limits at least once per 18 months. Conformance with 27 second requirement is verified in SE-100-001.
- 1.3 To demonstrate the proper performance of the Unit 1 HPCI Initiation Logic upon detection of a High Drywell Pressure signal.
- 1.4 This test will not initiate the Diesel Generators, trip the Drywell Cooling Fans, or test the Plant Aux. Load Shed.

2.0 REFERENCES

- 2.1 Technical Specification 4.3.3.1, Table 4.3.3.1-1.1.d
- 2.2 Technical Specification 4.3.3.2, Table 4.3.3.1-1.1.a
- 2.3 Technical Specification 4.3.3.2, Table 4.3.3.1-1.1.b
- 2.4 Technical Specification 4.3.3.2, Table 4.3.3.1-1.1.c
- 2.5 Technical Specification 4.3.3.2, Table 4.3.3.1-1.1.d
- 2.6 Technical Specification 4.3.3.2, Table 4.3.3.1-1.3.b
- 2.7 Technical Specification 4.3.3.3, Table 3.3.3-3.1.a
- 2.8 Technical Specification 4.3.3.3, Table 3.3.3-3.1.b
- 2.9 Technical Specification 4.3.3.3, Table 3.3.3-3.1.c
- 2.10 Technical Specification 4.5.1.c.1
- 2.11 Technical Specification 4.6.3.2, Table 3.6.3-1.a
- 2.12 Technical Specification 4.7.1.2.b
- 2.13 Technical Specification 3.3.3.b
- 2.14 Technical Specification 3.5.2.a

- 2.15 Technical Specification 3.5.2.b
- 2.16 Technical Specification 3.8.1.1
- 2.17 Technical Specification 3.8.1.2
- 2.18 FSAR Section 6.3
- 2.19 P&ID M-152
- 2.20 Electrical Schematic E-155, Sh 1,2,3,5,9
- 2.21 Electrical Schematic E-156, Sh 1 and 3
- 2.22 GE Elementary 8856-M1-E21-35, Sh (1)(2)(3)(4)(6)(7)
- 2.23 GE Functional Control Diagram 8856-M1-E21-3
- 2.24 AD-QA-422, Surveillance Test Program
- 2.25 OP-151-001, Core Spray System
- 2.26 SE-100-001, 18 Month ECCS Response Time Calculation
- 2.27 IEEE STD 603-1980, (Definitions)
- 2.28 Electrical Schematic E-146, Sht 1
- 2.29 SE-124-107, DG A and C Auto Start upon LOOP with a LOCA (Division I)
- 2.30 SE-124-207, DG B and D Auto Start upon LOOP with a LOCA (Division II)
- 2.31 SE-152-001, 18 Month HPCI System and Logic Function Check
- 2.32 Electrical Schematic E-185, Sh 2,34,38
- 2.33 Electrical Schematic E-102, Sh 32
- 2.34 Electrical Schematic E-184, Sh 2,5,6,7,8
- 2.35 GE Elementary 8856-M1-E41-69(2)(4)(5)(7)(8)
- 2.36 Breaker 1A20105 Connection Diagram 8856-E109-11(56)
- 2.37 Breaker 1A20305 Connection Diagram 8856-E109-13(63)
- 2.38 GE Elementary 8856-M1-E21-20(2) and (3)
- 2.39 GE Elementary 8856-M1-E11-66(3)(4)(5)(6)(8)(9)

- 2.40 Emergency Core Cooling Benchboard 1C601 Drawing J802 Sh 3,4,6,7,8
- 2.41 GE Panel 1C626 Connection Drawing 8856-M1-H12-183(1)(2)
- 2.42 Panel 1C235A Connection Drawing E357 Sh 1 and 2
- 2.43 Electrical Schematic E-222 Sh 1
- 2.44 PLIS-17483 Policy on Control and Verification of Operating Actions
- 2.45 SE-151-002, 18 Month Core Spray System and Logic Function Check Loop B (Division II)
- 2.46 SI-151-501, 18 Month Core Spray System Logic System Functional Test
- 2.47 SI-151-431, 18 Month Time Response Test of Core Spray (CS) Div. 1 Sensor/Trip Relays E21A-K5A, K6A, K7A, K8A, K9A, K19A, K32A, K33A, K100A, K101A, E11A-K47A, K90A, K91A, and K105A (Unit 1)
- 2.48 SI-151-432, 18 Month Time Response Test of Core Spray (CS) Div. 2 Sensor/Trip Relays E21A-K5B, K6B, K7B, K8B, K9B, K19B, K32B, K33B, K100B, K101B, E11A-K47B, K90B, K91B, and K105B (Unit 1)
- 2.49 SI-151-411, 18 Month Time Response Test of Drywell Pressure High Switches PS-E11-1N011A&C
- 2.50 SI-151-421, 18 Month Time Response Test of Drywell Pressure High Switches PS-E11-1N011B&D
- 2.51 SI-180-411, 18 Month Time Response Test of Reactor Vessel Pressure Switches PS-B21-1N021A,C,E,G
- 2.52 SI-180-421, 18 Month Time Response Test of Reactor Vessel Pressure Switches PIS-B21-1N021B&D
- 2.53 CL-151-0011, Unit 1 Core Spray System Div 1 Electrical
- 2.54 CL-151-0012, Unit 1 Core Spray System Div 1 Mechanical
- 2.55 CL-151-0013, Unit 1 Core Spray System Div 1 Containment
- 2.56 CL-151-0017, Unit 1 Core Spray System Common Electrical
- 2.57 CL-151-0018, Unit 1 Core Spray System Common Mechanical
- 2.58 OP-037-001, Demineralized and Condensate Transfer Systems
- 2.59 Unit 2 Technical Specification 4.5.1.e.1

3.0 SPECIAL TOOLS/EQUIPMENT

- 3.1 Stopwatch (3)
- 3.2 DC Voltmeter (1)
- 3.3 ECCS Test Switch (2)
- 3.4 Jumper with toggle switch (14)
- 3.5 Maintenance Pages, if available (3)

4.0 PRECAUTIONS/NOTES

- 4.1 When visually confirming the status of HMA and/or HFA relays the contact fingers are pulled in when energized and are pulled away when de-energized.
- 4.2 Valve stroking and pump breaker operation will be confirmed by the indication on Panel 1C601.
- 4.3 When attempting to open or close valves, (to confirm the valve will not open or close), hold the control switch in the position required for approx. 10 seconds to ensure valve will not move.
- 4.4 All Core Spray Logic is shown on GE drawings 8856-M1-E21-35 Sheets 1,2,3,4,6,7 except as noted throughout this test.
- 4.5 Reference Attachment B for HFA and HMA relay connection layout.

5.0 PREREQUISITES AND LIMITATIONS

- 5.1 No Core Spray initiation signals present. (This is performed by observing the green CORE SPRAY LOOP A(B) INIT SIG RESET HS-E21-1S17A(B) RESET lights are OFF.)

Confirmed By

- 5.2 No maintenance or other testing is being performed on the Unit 1 Core Spray System and none allowed to start during this test which may affect the performance of this test without test director's concurrence.

Confirmed By