Procedure and Form Change Request

(Sheet 1 of 1)

Section 1 Change Initiation

Document Number: Eng Form 21136-1F Revision No. 5 Change No. 3

Document Title: Quarterly IST Testing of the CTMT Spray System Valves FAC 2

Initiated By: T. Blanchard Date: 5/8/96

Reason for Change: One Time Change? YES ☐ NO ☒ *Change number is not applicable for one-time changes*

Add steps to document quarterly re-fill of the containment sump suction piping

Section 2 Non-Intent Change Approval

Section 2a. Approval of SORC Member or First Line Supervisor or Above

Signature: N/A Date: N/A

Interim Approval

Section 2b. Shift Supervisor Approval

Signature: N/A Non-Intent change logged Date: N/A

Upon completion of this section, change is effective on an interim basis pending final approval or cancellation not more than 14 days from signature date above.

Section 3 Instructions for Entering Change

Add Page 3a to form

Section 4 Intent Change Review

Qualified Reviewer (may not be change initiator) Signature: H. Beeman QAS Signature: (if required) ______

Section 5 Department Head Review

Is specific unreviewed safety question evaluation required?	YES ☐	NO ☑
Is environmental review required?	YES ☐	NO ☑
Is specific safety evaluation required?	YES ☐	NO ☑

Signature: [signature] Date: 5/21/96

Section 6 APPROVAL

SORC or PORC Chairman Signature: [signature]

Meeting Number: 2-96-137 Approval Date 5/24/96

Non-Intent or Intent Effective Date: 5/28/96

STOP THINK ACT REVIEW

Procedure and Form Change Request

(Sheet 1 of 1)

Section 1 Change Initiation

Document Number: Eng Form 2136-1F Revision No. 5 Change No. 2

Document Title: Quarterly IST Testing of the CTMT Spray System Valves - Facility 2

Initiated By: T. Blanchard Date: 4/24/96

Reason for Change: One Time Change? YES ☐ NO ☒ *Change number is not applicable for one-time changes*

Delete testing of 2-CS-2B, and 2-CS-6B. Testing was transferred to Ops Form 2606 B-2

Section 2 Non-Intent Change Approval

Section 2a. Approval of SORC Member or First Line Supervisor or Above

Signature: _____ Date: _____

Interim Approval

Section 2b. Shift Supervisor Approval

Signature: _____ Non-Intent change logged Date: _____

Upon completion of this section, change is effective on an interim basis pending final approval or cancellation not more than 14 days from signature date above.

Section 3 Instructions for Entering Change

Replace page 2 with attached

Section 4 Intent Change Review

Qualified Reviewer (may not be change initiator) Signature: _____ QAS Signature: (if required) _____

Section 5 Department Head Review

Is specific unreviewed safety question evaluation required? YES ☐ NO ☑

Is environmental review required? YES ☐ NO ☑

Is specific safety evaluation required? YES ☐ NO ☑

Signature: _____ Date: 4/24/96

Section 6 APPROVAL

SORC or PORC Chairman Signature: _____

Meeting Number: 2-96-114 Approval Date 4/26/96

Non-Intent or Intent Effective Date: 5/10/96

STOP THINK ACT REVIEW

Procedure and Form Change Request

(Sheet 1 of 1)

Section 1 Change Initiation

Document Number: Eng Form 21136-1F Revision No. 5 Change No. 1

Document Title: Quarterly IST Testing of the Cont Spray System - Facility 2

Initiated By: T. Blanchard Date: 1/10/96

Reason for Change: One Time Change? YES ☐ NO ☒ *Change number is not applicable for one-time changes*

To align testing of 2-CS-15B with the remainder of Facility 2 Testing

Section 2 Non-Intent Change Approval

Section 2a. Approval of SORC Member or First Line Supervisor or Above

Signature: NA Date: NA

Interim Approval

Section 2b. Shift Supervisor Approval

Signature: NA Non-Intent change logged Date: NA

Upon completion of this section, change is effective on an interim basis pending final approval or cancellation not more than 14 days from signature date above.

Section 3 Instructions for Entering Change

Replace page 3 with attached

Section 4 Intent Change Review

Qualified Reviewer (may not be change initiator) Signature: A. Beeman QAS Signature: (if required) _____

Section 5 Department Head Review

Is specific unreviewed safety question evaluation required?	YES ☐	NO ☑
Is environmental review required?	YES ☐	NO ☑
Is specific safety evaluation required?	YES ☐	NO ☑

Signature: John W Riley Jr Date: 1/14/96

Section 6 APPROVAL

SORC or PORC Chairman Signature: M Hentz

Meeting Number: 2-96-011 Approval Date 1-17-96

Non-Intent or Intent Effective Date: 1/22/96

STOP THINK ACT REVIEW

Quarterly ISI Testing of the CTMT Spray System Valves – Facility 2

SURVEILLANCE COVER SHEET

FORM APPROVED		DATE 8/31/94	PAGE 1 OF 3
REFERENCE SPEC. 4.05	REFERENCE PROCEDURE SP 21136	PORC MTG. NO. 2-94-152	
SCHEDULE DATE	APPLICABLE MODE All	FREQUENCY Q	

TEST AUTHORIZED BY (SS/SCO)	DATE	ACCEPTANCE CRITERIA MET:
COMPLETED BY	DATE	☐ YES ☐ NO
ACCEPTED BY (SS)	DATE	
APPROVED BY (DEPARTMENT HEAD)	DATE	

☐ TECH SPEC SURVEILLANCE ☐ MAINTENANCE RESTORATION ☐ SYSTEM ALIGNMENT ☐ NON-TECH SPEC SURVEILLANCE ☐ ISI TESTING

TEST EQUIPMENT	QA NUMBER	CAL DUE DATE

ACCEPTANCE CRITERIA

1. Valves exhibit required position changes and stroke times (where required) are less than the listed maximum acceptable values.
2. Valves move freely from the designated start position to the fail position.

NOTE: Normal stroke times are listed to aid in early identification of valve degradation or system misalignment.

NOTE: ISI Data Review (below) not required for surveillance completion.

IN ACCORDANCE WITH REFERENCE PROCEDURE		INITIALS
1.	PREREQUISITES/INITIAL CONDITIONS COMPLETED	
2.	PRECAUTIONS NOTED	
3.	COMMENTS: (IF MAINTENANCE RESTORATION, INDICATE BELOW WORK ORDER #, ETC.)	

If any valve fails to function within the specified stroke time, fails to move promptly to its designated FAIL position or fails to function as required:
1. Immediately declare the valve INOPERABLE
2. Initiate corrective action as required by the Technical Specification.
3. Submit a Plant Information Report and record the number here
4. Notify the IST Coordinator or Programs Group Supervisor as soon as posssible

AWO No. _____
PIR No. _____

4.	DATA	ISI DATA REVIEW
See Pages 2 through 3		COMPLETE ___ PARTIAL ___ ACCEPT___ALERT___REQ ACT ___ _____ INITIALS

Paragraph 7.24

1. "B" Ctmt Spray Pump Minimum Flow Recirc (Portable Flow Meter)

_____ GPM
Acceptable
≥25 GPM

Paragraph 7.24.7

VALVE NO.	DESCRIPTION	REQUIRED TEST(S)	INITIALS
2-CS-6B	"B" CTMT Spray Pump Minimum Flow Check Valve	Valve Strokes Fully Open (Item 1 Acceptable)	_____

Paragraph 7.24 (Continued)

2. "B" Ctmt Spray Header Flow (Computer Point F-3024)

_____ GPM
Acceptable
1350 to 1400 GPM

Paragraph 7.24.12

VALVE NO.	DESCRIPTION	REQUIRED TEST(S)	INITIALS
2-CS-2B	"B" CTMT Spray Pump Discharge Check Valve	Valve Strokes Fully Open (Item 2 Acceptable)	_____

Paragraph 7.25

VALVE NO.	DESCRIPTION	REQUIRED TEST(S)	INITIALS
2-CS-4.1B	"B" CTMT Spray Header CTMT Isolation	Stroke Time Full Closed to Full Open _____ Sec	
		Normal 12.5 to 15.0 Sec ACCEPTABLE ≤15 Sec	_____
		Full Open to Full Closed	_____

Paragraph 7.26

VALVE NO.	DESCRIPTION	REQUIRED TEST(S)	INITIALS
2–CS–16.1B	CTMT Spray Outlet "B" Header Stop Valve	Stroke Time Full Closed to Full Open _____ Sec	
		Normal 41.3 to 55.9 Sec ACCEPTABLE ≤60 Sec	_____
		Full Open to Full Closed	_____

Paragraph 7.21

VALVE NO.	DESCRIPTION	REQUIRED TEST(S)	INITIALS
2–CS–15B	CTMT Sump Outlet "B" Header Check Valve	Valve Strokes Partially Open	_____

Change 1

Paragraph 7.21.18

5. Containment Sump Level (L9155 or LI–9155) _____%

Paragraph 7.21.22.a.

6. Containment Sump Level (L9155 or LI–9155) _____%

Paragraph 7.21.23.a.

7. Containment Sump Level (L9155 or LI–9155) _____%

Paragraph 7.21.26

8. Containment Sump Level (L9155 or LI–9155) _____%

Change 3

Raytheon Nuclear Inc.
Two World Trade Center
New York NY 10048-0752

212 839 1000
FAX 212 839 3481

ATTACHMENT C (1 page)
TO CALC. No. ME-TH-001
Rev 1

Raytheon
Engineers & Constructors

July 25, 1995
EOC-95-179
File 1-E-6

Mr. Michael Cheskis,
Northeast Utilities Service Company,
P O Box 124,
Rope Ferry Road,
Waterford, CT 06385

SUBJECT: NORTHEAST UTILITIES SERVICES COMPANY
MILLSTONE UNIT 2
REVISION TO CALCULATION FOR VALVES 2 CS-16.1 A & B

Dear Mr. Cheskis,

Based on yesterday's telecon with our Mr. Nandu Patankar, Raytheon was requested to provide a revised calculation for determining the bonnet fluid temperature following a LOCA for Valve Tag Numbers 2 CS-16.1 A & B. The revised input for this calculation should consider:

(a) the upstream pipe to be full of water upto Elv. (-) 26'-6" in lieu of (-) 22'-0" and,

(b) the duration of 44 minutes should be changed to 8 hours.

Based on the above, the total firm price to complete this calculation is $ 5,000.00 and will be completed by July 26, 1995. If you have any questions, please contact me at (212) 839-3633 Or Nandu Patankar at (212) 838-4011.

Very Truly Yours

for L Pascariu
Project Manager

EBASCO SERVICES INCORPORATED

CHECKLIST FOR DESIGN VERIFICATION BY DESIGN REVIEW METHOD

DOCUMENT NUMBER	REVISION	DOCUMENT NUMBER	REVISION
ME-TH-001	0		
ME-TH-001	1		

QUESTIONS (SHALL BE ANSWERED BY THE INDEPENDENT VERIFIER)	CALCS	DWGS	QUESTIONS (SHALL BE ANSWERED BY THE INDEPENDENT VERIFIER)	CALCS	DWGS
1. WERE THE INPUTS CORRECTLY SELECTED AND INCORPORATED INTO DESIGN?	Yes	N.A.	11. HAVE ADEQUATE MAINTENANCE FEATURES AND REQUIREMENTS BEEN SPECIFIED?	N.A.	N.A.
2. ARE ASSUMPTIONS NECESSARY TO PERFORM THE DESIGN ACTIVITY ADEQUATELY DESCRIBED AND REASONABLE? WHERE NECESSARY ARE THE ASSUMPTIONS IDENTIFIED FOR SUBSEQUENT REVERIFICATIONS WHEN THE DETAILED DESIGN ACTIVITIES ARE COMPLETED?	Not Req'd	N.A.	12. ARE ACCESSIBILITY AND OTHER DESIGN PROVISIONS ADEQUATE FOR PERFORMANCE OF NEEDED MAINTENANCE AND REPAIR?	N.A.	N.A.
			13. HAS ADEQUATE ACCESSIBILITY BEEN PROVIDED TO PERFORM THE IN SERVICE INSPECTION EXPECTED TO BE REQUIRED DURING THE PLANT LIFE?	N.A.	N.A.
3. ARE THE APPROPRIATE QUALITY AND QUALITY ASSURANCE REQUIREMENTS SPECIFIED?	NA	N.A.	14. HAS THE DESIGN PROPERLY CONSIDERED RADIATION EXPOSURE TO THE PUBLIC AND PLANE PERSONNEL?	N.A.	N.A.
4. ARE THE APPLICABLE CODES, STANDARDS AND REGULATORY REQUIREMENTS INCLUDING ISSUE AND ADDENDA PROPERLY IDENTIFIED AND ARE THEIR DSGN. RQMNTS. MET?	NA	N.A.	15. ARE THE ACCEPTANCE CRITERIA INCORPORATED IN THE DESIGN DOCUMENTS SUFFICIENT TO ALLOW VERIFICATION THAT DESIGN RQMNTS. HAVE BEEN SATISFACTORILY ACCOMPLISHED?	N.A.	N.A.
5. HAVE FEASIBILITY AND PRACTICALITY OF CONSTRUCTION BEEN REVIEWED?	N.A.	N.A.	16. HAVE ADEQUATE PREOPERATIONAL AND SUBSEQUENT PERIODIC TEST RQMNTS. BEEN APPROPRIATELY SPECIFIED?	N.A.	N.A.
5a. HAS OPERATING EXPERIENCE BEEN CONSIDERED?	N.A.	N.A.			
6. HAVE THE DESIGN INTERFACE REQUIREMENTS BEEN SATISFIED?	N.A.	N.A.	17. ARE ADEQUATE HANDLING, STORAGE, CLEANING AND SHIPPING REQUIREMENTS SPECIFIED?	N.A.	N.A.
7. WAS AN APPROPRIATE DESIGN METHOD USED?	Yes	N.A.	18. ARE ADEQUATE IDENTIFICATION REQUIREMENTS SPECIFIED?	N.A.	N.A.
8. IS OUTPUT REASONABLE COMPARED TO INPUTS?	Yes	N.A.			
9. ARE THE SPECIFIED PARTS, EQUIPMENT AND PROCESSES SUITABLE FOR THE REQUIRED APPLICATION?	N.A.	N.A.	19. ARE REQUIREMENTS FOR RECORD PREPARATION REVIEW, APPROVAL, RETENTION, ETC., ADEQUATELY SPECIFIED?	NA	N.A.
10. ARE THE SPECIFIED MATERIALS COMPATIBLE W/EACH OTHER AND W/ DSGN. ENVRMNTL. CNDTNS. TO WHICH THE MATERIAL WILL BE EXPOSED?	N.A.	N.A.	20. HAVE THE INDEPENDENT VERIFIER'S COMMENTS BEEN RESOLVED WITH THE PREPARER?	Yes	N.A.

V Haramis 1/26/95

V Haramis 2/1/95

INDEPENDENT VERIFIER SIGNATURE DATE

REF. #4

Northeast
Utilities System

Memo

July 26,1995
NE-95-SAB-297

To: M. Cheskis (MP2 Tech. Support)

From: A. Gharakhanian
(Ext. 5710)

Subject: Review of RAYTHEON Calculation For Valves 2 CS-16.1 A&B Per NGP 6.05

References:

RAYTHEON Calculation ME-TH-001, Rev. 1, "Valve 2CS-16.1 A&B Bonnet Fluid Temperature Following LOCA", 07/26/95

Summary:

Per your request the Thermal Hydraulics Analysis group has completed its NGP 6.05 review of the referenced calculation and concluded the results to be reasonable and acceptable with the exception of the assumed elevation of the borated water in the upstream piping. It is recommended that a minimum borated water elevation of -24.0 ft to be maintained at all times during normal operation.

Bases:

The Rev. 1 analysis was performed to extend the length of the original analysis from 45 minutes to 8 hours in order to accommodate the small break LOCA scenarios. The analysis also lowered the assumed elevation of column of borated water in the upstream piping from -22 to -26.5 ft. This change in elevation was made to address the water column evaporation in the containment during normal operation. Since -26.5 ft elevation corresponds to the highest elevation of the horizontal section of the upstream piping, this change could potentially increase the possibility of formation of thermal diffusive currents in the piping following a LOCA inside the containment. This phenomenon was not modeled in the RAYTHEON analysis.

Recommendation:

In order to eliminate the possibility of formation of thermal diffusive currents in the piping, it is recommended that a minimum water elevation of -24.0 ft be maintained in the upstream piping of subject valves at all times during normal operation

If you have further questions on this subject, please feel free to contact me at Berlin, ext. 5710

cc: M. L. VanHaltern, M. S. Kai, N. K. Jain