TM-079

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THREE MILE ISLAND NUCLEAR STATION
UNIT #2 SURVEILLANCE PROCEDURE 2304-W1
BORATED WATER SOURCE CONCENTRATION VERIFICATION

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Unit 1 Staff Recommends Approval

Approval N/A Date —
Cognizant Dept. Head

Unit 2 Staff Recommends Approval

Approval N/A Date —
Cognizant Dept. Head

Unit 1 PORC Recommends Approval

N/A Date —
Chairman of PORC

Unit 2 PORC Recommends Approval

Date 3/2/79
Chairman of PORC

Unit 1 Superintendent Approval

N/A Date —

Unit 2 Superintendent Approval

Date 3/14/79

Manager Generation Quality Assurance Approval N/A Date —

TMI 55-A Rev 8/77

THREE MILE ISLAND NUCLEAR STATION

UNIT #2 SURVEILLANCE PROCEDURE 2304-W1

BORATED WATER SOURCE CONCENTRATION VERIFICATION

1.0 PURPOSE

1.1 To insure compliance with TMI Unit #2 Technical Specifications, Sections 4.1.2.8 a-1, 4.1.2.9 a-1 & 4.5.4 a-2 which state:

4.1.2.8 The BWST or one other borated water source (RBAT or BAMT) shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration of the water.

4.1.2.9 The BWST and RBAT or BAMT shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration in each water source.

4.5.4 The BWST shall be demonstrated OPERABLE:

a. At least once per 7 days by:

2. Verifying the boron concentration of the water.

2.0 APPLICABLE SURVEILLANCE FREQUENCY AND MODES

2.1 Frequency: At least once per week (W)

2.2 Modes:

2.2.1 In modes 1, 2, 3 & 4, both the BWST & RBAT or BAMT boric acid storage tanks boron concentration must be verified.

2.2.2 In modes 5 & 6, either the BWST or another source (RBAT, BAMT) boric acid storage tank concentration must be verified.

3.0 LIMITS AND PRECAUTIONS

3.1 Observe limits & precautions listed in 1912, 1912.1, & 2104-1.13

4.0 LOCATION OF SYSTEM/ASSEMBLIES

4.1 The BWST is located north of the Unit 2 Control & Service Building.

4.2 The Boric Acid Mix Tank is located on the 328' level of the Auxiliary Building.

4.3 The Reclaimed Boric Acid Tank is located on the 280' level of the Fuel Handling Building.

5.0 EQUIPMENT REQUIRED

5.1 Equipment required per 1912.1 & 1912

6.0 PROCEDURE

6.1 Obtain BWST sample

6.1.1 Have Control Room Recirc. the BWST (DH-T-1) for a minimum of 48 hours per 2104-1.13 prior to obtaining the sample.

6.1.2 Consult chemistry procedure 1912.1 prior to obtaining sample.

6.1.3 Check closed DH-V-217.

6.1.4 Open DH-V-216.

6.1.5 Slowly open DH-V-217 and obtain sample.

6.1.6 Close DH-V-216 & DH-V-217.

6.1.7 Have Control Room return BWST recirc. system to normal per 2104-1.13.

6.2 Obtain Boric Acid Mix Tank (BAMT) sample.

6.2.1 Have Control Room mix the BAMT thoroughly using CA-M-4 (minimum of 30 minutes) prior to obtaining sample.

6.2.2 Consult chemistry procedure 1912.1 prior to obtaining sample.

6.2.3 Check closed CA-V-208.

6.2.4 Open CA-V-128.

6.2.5 Slowly open CA-V-208 and obtain sample.

6.2.6 Close CA-V-208 & CA-V-128.

6.2.7 Have Control Room secure CA-M-4.

6.3 Obtain Reclaimed Boric Acid Tank (WDS-T-3) sample.

6.3.1 Have C.R. put TK on recirc. per 2104-4.4a.

6.3.2 Recirc. WDS-T-3 by running WDS-P-3 for a minimum of 12 hours prior to obtaining sample.

6.3.3 Consult chemistry procedure 1912.1 prior to obtaining sample.

6.3.4 Check closed WDS-V-113B.

6.3.5 Open WDS-V-113A.

6.3.6 Slowly open WDS-V-113B and obtain sample.

6.3.7 Close WDS-V-113B & WDS-V-113A.

6.3.8 Have Control Room secure WDS-P-3 and return valve lineup to normal.

6.4 Boron concentration determination.

6.4.1 Determine the boron concentrations per 1912 & 1912.1. If boron concentration falls below 8000 ppm or above 12000 ppm, initiate action to raise concentration to above 2000 ppm or below 12000 ppm as necessary.

6.5 Obtain RBAT or BAMT volume from C.R. and record on Data Sheet.

7.0 ACCEPTANCE CRITERIA

7.1 In modes 5 & 6, the BWST must have a minimum boron concentration of 2270 ppm or the RBAT/BAMT boric acid storage tank must be a boron concentration between 7875 & 13,125 ppm in accordance with Enclosure 1.

7.2 In modes 1, 2, 3 & 4, the BWST boron concentration must be between 2270 ppm & 2370 ppm and the RBAT or BAMT boric acid storage tank must be between 7875 & 13,125 ppm in accordance with Enclosure 1. If the acceptance criteria is not met, proceed with the appropriate action statement (3.1.2.8, 3.1.2.9, 3.5.4).

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DATA SHEET

SAMPLE	BORON CONCENTRATION (PPM)	TANK VOLUME (GAL)	ACCEPTANCE CRITERIA (PPM)
BWST (DH-T-1)			2270-2370
BAMT (CA-T-1)			*7875-13,125 and acceptable
RBAT (WDS-T-3)			*7875-13,125 and acceptable

MODE		PWR	TAV R.C.
	#1 Power Operation	> 5%	$\geq 280^{o}F$
	#2 Start-Up	$\leq$ 5%	$\geq 280^{o}F$
	#3 Hot Stand-by	0	$\geq 280^{o}F$
	#4 Hot Shutdown	0	$< 280, > 200^{o}F$
	#5 Cold Shutdown	0	$\leq 200^{o}F$
	#6 Refueling		$\leq 140^{o}F$

* Is the RBAT or BAMT acceptable per graph in Enclosure 1? Circle Yes or No

If the acceptance criteria is not met, notify chemistry Supervisor and Shift Supervisor to procede with appropriate action statement (3.1.2.8, 3.1.2.9, 3.5.4).

PERFORMED BY _____ DATE_____

APPROVED BY _____ DATE_____

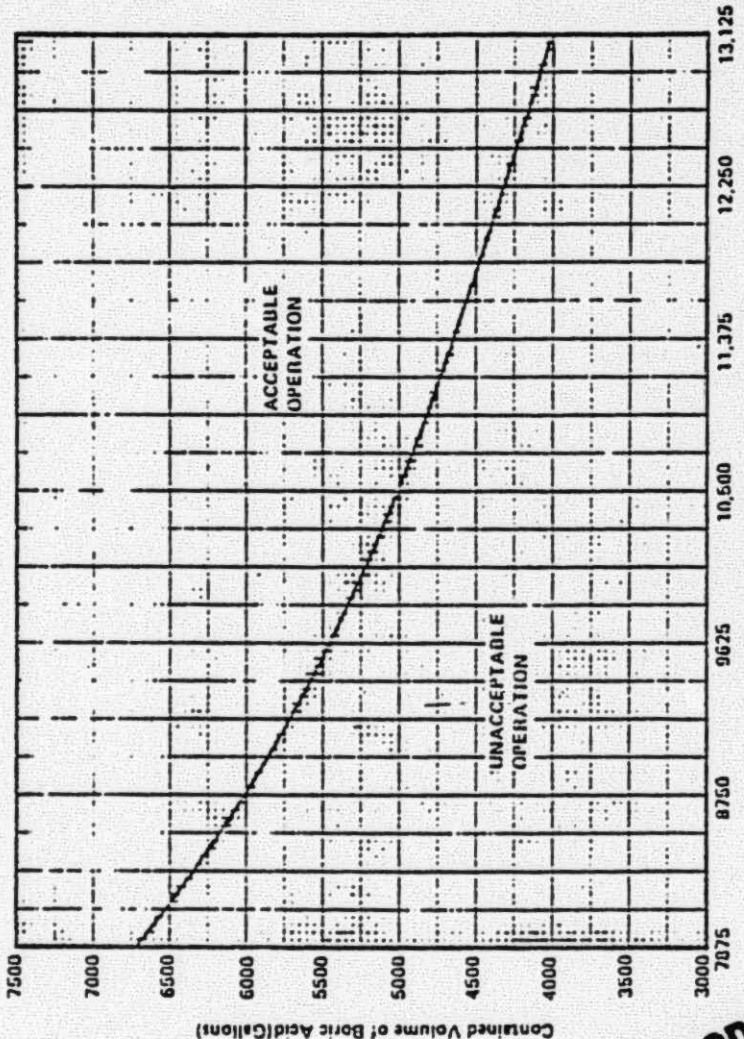

Figure 3.1-1 Minimum Boric Acid Tank Contained Volume as a Function of Stored Boric Acid Concentration

TMI DOCUMENTS

DOCUMENT NO: TM-0796

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Supervisor, Document Control, NRC

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