

*In entirety* R

# CR Summary Report

Tuesday, December 21, 2004

Page 1 of 3

CR number: CR-04-09086                      AR number: 04005976  
 Sig: N  
 Date: 12/06/2004  
 Investigator: Eric Bookmiller                      x 0519  
 Department: MGRSITEENG

**Problem Statement:** During a recent NRC inspection an unresolved item (URI) is being opened on Main Steam Code Safety Valve Testing at Millstone on Unit 2.

**Event:** NRC INSPECTION

**Investigation:** An unresolved item (URI) is being opened to determine how information supplied by Appendix B certified vendors is reviewed, if Dominion can trace the M&TE equipment to a national standard and whether it is acceptable to test main steam code safeties with the test apparatus following an actual lift of the relief valve. (URI 05000336/2004007-05).

Millstone Unit 2 main steam code safety valve TS surveillance testing is implemented in part by SP-2730B, Main Steam Code Safety Valve Test. The inspectors questioned the following based on a review of the surveillance procedure and supporting documentation:

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 12/21/04  
 David Perry  
 X5224*

**Issue 1:**

The surveillance procedure contained a conversion factor for the main steam code safety valves that was developed by a 10 CFR Appendix B qualified vendor, however, the developmental data was not available for NRC inspection and had not been independently reviewed by Dominion. Additionally, the conversion factor does not indicate tolerances such as testing assurance, variation or error related to the development of the conversion factor and the surveillance did not address testing assurance, variation or error related to the measurement and test equipment (M&TE).

Millstone Power Station did not validate the vendors methodology for the determination of the Valve Constant "K". The "K" value is used in the determination of the MSSV set pressure when using the Hydroset.

**Discussion**

Both Millstone Unit 2 and 3 have Dresser (Consolidated) base model number 3707R MSSVs. Both units MSSVs have R orifices and use the same disc. Both units use the Dresser 1566-2 Hydroset Testing Devices for MSSV set pressure confirmation. The Hydroset is used to confirm the set pressure of the MSSVs to meet Technical Specification and IST program requirements.

The original "K" value was identified as being incorrect in Dresser 10CFR Part 21 File 90-01. Millstone Power Station addressed this Part 21 under Control Routing 7887. At that time Millstone Power Station revised the applicable procedures to incorporate the new "K" value (Millstone Unit 2 was shutdown at the time of the Part 21 and identified a number MSSVs that were out of tolerance. These MSSV were reset using the new "K" value).

During recovery the NRC questioned Millstone Unit 3 as to the assist device only providing a representation of simmering on the valve, and not actually the set pressure. Millstone Unit 3 responded to this issue by performing set pressure confirmation testing using a MSSV that was at Wyle Labs. The set pressure testing consisted of testing the valve on a test stand using a limited travel steam lift set pressure method (standard method for determining set pressure post valve overhaul and permit by the code), then performed set pressure confirmation using a Hydroset and then performed additional limited travel steam lift set pressure method to confirm set pressure. This testing is documented in Technical Evaluation M3-EV-98-0183 Rev 0. The Technical Evaluation concluded that use of the Hydroset did provide accurate set pressure results.

Based on the above information Millstone Power Station does not believe there is any need to validate/verify the vendors methodology for the determining the Valve Constant "K" (conversion factor). The new Valve Constant "K", was provided to Millstone Power Station as part of the vendors Appendix B program. Millstone Power Stations also has in house operational experience, that shows the use of the Hydroset to confirm MSSV set pressure provides an accurate method of determining set pressure of MSSVs. The IST code requires testing M&TE have an overall

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# CR Summary Report

Tuesday, December 21, 2004

Page 2 of 3

combined accuracy of +2% to -1% as documented in section 2.3 of Millstone procedure SP 2730B

**Issue 2:**

There was no indication in the Dominion surveillance that the M&TE used during the implementation of the surveillance was calibrated and traceable to a National Bureau of Standards (NIST) standard.

All of the M&TE used for MSSV set pressure testing and calibrated at the Millstone Metrology Laboratory shop is traceable to NIST. For equipment or M&TE that is not calibrated on site the requirements for calibration traceable to NIST is invoked by the QA purchase order.

**Issue 3:**

The vendor technical manual that was related to the M&TE used in the Millstone Unit 2 surveillance indicated that the M&TE is to be used only for confirming valve set pressure once the valve has been set by the use of full system over pressure ("full lift") testing. Dominion documentation indicates that the M&TE was used on several main steam code safety valves following full valve lifts that resulted from plant transients.

**Discussion**

The above issue is based on the following statement in VTM 25203-190-006A introduction section, "It is recommended that the 1566 Hydroset be used only for confirming valve set pressure once the valves have been adjusted by the use of full steam overpressure." Millstone personnel reviewed this statement and the second part of the paragraph where this statement is made. The second section of this paragraph states, "Initial settings with the Hydroset is not recommended if the capability exists in the system to overpressure and adjust the safety valves."

Millstone personnel reviewed both of these statements and determined that the statement in question is the vendor informing the user that the Hydroset should only be used for set pressure confirmation and not for determination. This means that if a MSSV is overhauled (disassembled) or rings (blowdown, accumulation) have been adjusted that the valve needs to set pressure tested on a test stand, using no hydraulic assist lift type device (i.e. Hydroset). Millstone personnel discussed this issue with the vendor and the vendor concurred with Millstone Power Station personnel determination on the proper use of the Hydroset. Therefore Millstone Power Station uses the 1566-2 Hydroset per the manufacturers Vendor Technical Manual and directions.

**Extent of Condition:** BOTH MILLSTONE UNIT 2 AND 3 HAVE DRESSER (CONSOLIDATED) BASE MODEL NUMBER 3707R MAIN STEAM SAFETY VALVES (MSSVS). BOTH UNITS' MSSVS HAVE "R" ORIFICES AND USE THE SAME DISC. BOTH UNITS USE THE DRESSER 1566-2 HYDROSET TESTING DEVICE FOR MSSV SET PRESSURE CONFIRMATION. THE HYDROSET IS USED TO CONFIRM THE SET PRESSURE OF THE MSSVS TO MEET TECHNICAL SPECIFICATION AND IST PROGRAM REQUIREMENTS.

**Initiator Feedback:** Initiator notified

General Trend Codes:	Category	Code	Description
	CATEGORY	?	PERSONNEL ERROR PRECURSOR
	CATEGORY	EIND	INDIVIDUAL ERROR - STATION PERSONNEL
	CATEGORY	ENGR	ENGINEERING ISSUES
	CATEGORY	EROR	HUMAN PERFORMANCE ERROR
	CATEGORY	ICNF	CONFIGURATION CONTROL (PAPERWORK, DRAWING & DES
	ENGRCODES	CFMT	CONFIGURATION MANAGEMENT DEGRADATION
	HOWDISCOVR	EXOV	EXT. OVERSIGHT
	HUMAN ERROR	PNEP	PERSONNEL ERROR PRECURSOR
	HUMANPERFOR	EROR	HUMAN PERFORMANCE ERROR
	INITIALCODE	ICNF	CONFIGURATION CONTROL (PAPERWORK, DRAWING & DES
	PERFORMERRO	EIND	INDIVIDUAL ERROR - STATION PERSONNEL
	WHATHAP	CFMT	CONFIGURATION MANAGEMENT DEGRADATION

# CR Summary Report

Tuesday, December 21, 2004

Page 3 of 3

**Cause Number:** 1      **Apparent Cause**

**Causal Factor:** NA

**Cause:** Not applicable / undetermined

**Detail:** Due to the investigation there are no corrective actions required this is a differing professional opinion between the NRC and Millstone

**Trend Codss:**

**Corrective Actions**

1

**Corrective Action Coordinator:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Process Owner (designee):** \_\_\_\_\_ **Date:** \_\_\_\_\_

**MPO / CR Owner (level 1 only):** \_\_\_\_\_ **Date:** \_\_\_\_\_