

Subject: OE15860 - Main Steam Piping Experienced Significant Wall Erosion Around the Drain Slots at the End of the Main Steam Flow Venturi
Date: Mon, 31 Mar 2003 13:59:43 -0500
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Subject: OE15860 - Main Steam Piping Experienced Significant Wall Erosion Around the Drain Slots at the End of the Main Steam Flow Venturi

Abstract: During the current Unit 2 Steam Generator Replacement Outage, Calvert Cliffs discovered significant wall erosion around the drain slots at the end of the Main Steam flow venturi of the main steam piping system.

Reason for Message: This section of main steam would not have been examined by the Flow Accelerated Corrosion Program. Additionally, the nameplate was installed over the drain slot. This would have also prevented ultra-sonic thickness (UT) readings from finding this erosion.

Event Date:.....3/14/2003
Unit Name:.....Calvert Cliffs Unit 2
NSSS/A-E:.....CE/Bechtel
Turbine Manufacturer:...Westinghouse

Maintenance Rule Applicability: Yes

Component Information (as applicable): N/A

Description: Main Steam piping was removed for the steam generator replacement outage and the internal pipe was examined. NDE found two areas of excessive wall loss. The venturi did not have the proper inlet clearance allowing excessive steam flow around the outside of the venturi. One area was measured at 0.450-inches deep, pipe nominal wall is 1.13-inches and the code minimum is 0.950-inches, the other area was measured at 0.911-inches.

Causes: The inlet to the flow venturi is not welded to the pipe and is supposed to have a clearance gap of about 0.065-inches. The measured clearance was excessive with an average of about 0.197-inches. This excessive gap allowed excess flow around the outside of the venturi and accelerated the flow through the outlet drain slot. This in turn led to the erosion of the pipe wall.

Corrective Actions: The venturi was removed from the inside of the main Steam pipe. A weld repair was necessary to the non-welded end of the venturi to restore all clearances to design acceptable measurements. The two areas of excessive wall loss were repaired and the venturi reassembled. The nameplates were relocated so that baseline and follow-up UT readings can be taken to verify this erosion issue is corrected. These components were added to the-Flow Accelerated Corrosion Program.

DOCKETED
USNRC

August 12, 2008 (11:00am)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

U.S. NUCLEAR REGULATORY COMMISSION

In the Matter of Entergy Nuclear Vermont Yankee LLC

Docket No. 52-271 Official Exhibit No. E4-22-VY

OFFERED by Applicant/Licensee Intervenor _____

NRC Staff Other _____

IDENTIFIED on 7/23/08 Witness/Panel NEC 4

Action Taken: ADMITTED REJECTED WITHDRAWN

Reporter/Clerk MAC

Safety Significance: The potential existed for a non-isolatable through wall steam leak to develop had the erosion gone undetected.

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