

Part 21 (PAR)

Event # 47833

<b>Rep Org:</b> MITSUBISHI HEAVY INDUSTRIES, LTD.	<b>Notification Date / Time:</b> 04/13/2012 15:58 (EDT)
<b>Supplier:</b> MITSUBISHI HEAVY INDUSTRIES, LTD	<b>Event Date / Time:</b> 02/21/2012 (EDT)
	<b>Last Modification:</b> 06/04/2012
<b>Region:</b> 1	<b>Docket #:</b>
<b>City:</b> ARLINGTON	<b>Agreement State:</b> Yes
<b>County:</b>	<b>License #:</b>
<b>State:</b> VA	
<b>NRC Notified by:</b> EI KADOKAMI	<b>Notifications:</b> BLAKE WELLING R1DO
<b>HQ Ops Officer:</b> JOHN KNOKE	KATHLEEN O'DONOHUE R2DO
<b>Emergency Class:</b> NON EMERGENCY	DAVID HILLS R3DO
<b>10 CFR Section:</b>	VINCENT GADDY R4DO
21.21(a)(2) INTERIM EVAL OF DEVIATION	PART 21 GROUP EMAIL

## PART 21 INTERIM REPORT - STEAM GENERATOR TUBE WEAR

This interim Part 21 is in regard to San Onofre Nuclear Generating Station, Unit 2, Steam Generator replacement.

"During the first refueling outage following steam generator replacement, eddy current testing identified ten total tubes with depths of 90 to 28 percent of the tube wall thickness. Some of the affected tubes were located adjacent to retainer bars. The retainer bars are part of the floating anti-vibration bar (AVB) structure that stabilizes the u-bend region of the tubes.

"Other tubes in the two steam generators had detectable wear associated with support points elsewhere in the AVB structure. Each steam generator has 9727 tubes with an 8 percent (778 tubes) design margin for tube plugging.

"Discovery Date: February 13, 2012

"Evaluation completion schedule date: May 31, 2012"

"Those Mitsubishi Heavy Industries customers potentially affected by this issue have been notified and will receive a copy of this interim report."

Reference Document: UET-20120089  
Interim Report No: U21-018-IR (0)

Notified R1DO (Joustra), R2DO (Nease), R3DO (Peterson), R4DO (O'Keefe), and Part 21 Group via email.

IEI9  
NRR

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\*\*\* UPDATE FROM MITSUBISHI HEAVY INDUSTRIES, LTD VIA FAX ON 6/4/12 AT 1145 EDT \*\*\*

The vendor changed the number of tubes identified with wear depths of 90 to 28 percent from ten tubes to six tubes and only some of the tubes were adjacent to retainer bars.

Notified R1DO (Cahill), R2DO (Vias), R3DO (Passehl), R4DO (Gepford) and Part 21 Groups via email.

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**MITSUBISHI HEAVY INDUSTRIES, LTD.**

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Ref: UET-20120089 Revision 1  
Date: June 1, 2012

**Subject: Interim Report of Evaluation  
of a Deviation Pursuant to 10 CFR 21.21(a)(2)**

Mitsubishi Heavy Industries, LTD. (MHI) has identified steam generator tube wear adjacent to retainer bars during the first refueling outage.

The following information is provided pursuant to the requirements of 10 CFR 21 to submit an Interim report on issues for which the evaluation will not be completed within 60 days of discovery.

An interim report on the evaluation is attached, specifically: Interim Report No. U21-018-IR Revision 1, where revisions at U21-018-IR Revision 1 are:

- 1) Changed "title"
- 2) Changed "Nature of Deviation" according to title change
- 3) Changed "Evaluation completion schedule date"

Those MHI customers potentially affected by this issue have been notified and will receive a copy of this Interim report.

Yours very truly,

Ei Kadokami  
Senior Vice President  
Deputy Head of Nuclear Energy Systems  
Head of Kobe Shipyard & Machinery Works  
Mitsubishi Heavy Industries, Ltd.

Attachment to UET-20120089 Revision 1

Interim Report U21-018-IR Revision 1

Page 1 of 1

**Subject:** Interim Report of evaluation pursuant to 10 CFR 21.21 (a) (2)

**Title:** Steam generator tube wear adjacent to retainer bars

**Identification of Basic Component:**

Replacement Steam Generators for San Onofre Nuclear Generating Station Unit 2

**Basic Component Supplied by:**

Mitsubishi Heavy Industries, LTD.

**Nature of Deviation:**

During the first refueling outage following steam generator replacement, eddy current testing identified six tubes with wear depths of 90 to 28 percent of the tube wall thickness in Unit 2. These affected tubes with wear depths of 90 to 28 percent were located adjacent to retainer bars. The retainer bars are part of the floating anti-vibration bar (AVB) structure that stabilizes the u-bend region of the tubes.

Each steam generator has 9727 tubes with an 8 percent (778 tubes) design margin for tube plugging.

**Discovery Date:** February 13, 2012

**Evaluation completion schedule date:** August 31, 2012