

TERRY

Part of worldwide Ingersoll-Rand

Steam Turbine Division
Terry Corporation
Windsor, CT., U.S.A.

INITIAL REPORT OF POTENTIAL SAFETY HAZARD, 10CFR21
(PART 21 OF TITLE 10 OF THE CODE OF FEDERAL REGULATION)

REPORT NO.: 10CFR21-029
TO: CHIEF OF ENGR.: E. Lichtsteiner
ENG. MGR.-NUCL.: K. A. Wheeler
PROD. MGR.-NUCL.: R. Hebert
Q.A. MGR.: D. W. Fitch
SERVICE MGR.: R. R. Theroux
DATE : 4/16/86
FILE NO.: Repair Z-0446G
SER. NO.: 41812B
TYPE : ZS-4
REF. : Mass. Matls. Res. Inc.
Rpt. J2492 (Terry E/L
20772)
PREPARED BY: G. L. Kniep
PART NO.: 91691B DRAWING NO.: 91691B REV.: B
PART NAME: Valve Guide (upper) QUAN.: 1 each valve
DATE 4/18/86

DESCRIPTION OF "DEFECT":

Tack welds applied to affix upper valve guide to valve body have exhibited stress corrosion cracks, or possibly corrosion fatigue cracks, that, according to an independent lab examination and analysis, may have formed progressively (over a period of time) during service.

(Ref. Assy. Dwg.: 92231C, Rev. G (5/28/82) or earlier designs. More current designs, i.e., 92231C, Rev. H (7/19/82) or later do not require subject tack weld of valve guide).

ENGINEERING EVALUATION & RECOMMENDATION:

Functional integrity of the guide will not be appreciably impaired - even under conditions when a crack develops and propagates. However, Engineering will identify all units having this particular design and work with the Service Department to alert customers and implement inspections.

In our judgment, this condition does not constitute a safety hazard and does not require any further reporting.

APPROVED BY CHIEF ENGR.: E. Lichtsteiner DATE: 4/30/86

THIS "DEFECT OR NON-COMPLIANCE"

____ CONSTITUTES A SAFETY HAZARD AND REQUIRES THAT A REPORT BE PREPARED BY NAME:

DATE: _____

DOES NOT CONSTITUTE A SAFETY HAZARD AND DOES NOT REQUIRE ANY FURTHER REPORTING.

APPROVED BY/TITLE: [Signature] / President DATE: 5/1/86
RETURN TO CHIEF ENGR.:

Form No.: K-13520 Rev. 2 3/86 GLK dn1452 dk0008

REF. SOM 6.1.111

FINDINGS: Design Control

Item 1 Response.

A. The original design of this valve was performed approximately 15 years ago. Since then, Terry Engineering S.O.M. 6.1.105 has been revised to specify that all drawings which depict welding or brazing or related practices shall be processed through and approved by cognizant Materials Engineer. This Revision 2 was issued in 1978 to insure that welding related drawings were processed through technically knowledgeable engineers in these processes.

B. The discrepancy on material Type 440C/410 exists only on parts list drawing. All detail drawings used by Manufacturing and Inspection have always reflected correct material (440C). Parts list drawing 118141A has been revised to reflect proper material.

C. Terry has issued a 10 CFR, Part 21, report addressing cracking problems first noted on Turkey Point units 41812 A/B/C. This report states that weld cracking does not affect safety related operations of units.

D. Terry is taking exception to your comment of page 3 of Audit Report stating that valve design was changed in 1982 because of Terry's apparent awareness of this problem. The fact that this new design was implemented was due to a leakage problem with valve and not because of known cracking of tack welds.

Item 2 Response.

Terry agrees that this is an electrical design problem. This anomaly would not have been found during drawing review. This switch was not designed for operating conditions, which were operator imposed, causing arcing. This switch was used during testing operations at Terry and functioned as designed.

FINDING: Instructions & Drawings

Item 1 Response

A. Terry agrees that certification to same fit/form/function was an Engineering and Quality Assurance oversight.

B. Terry's parts order entry procedure will be revised to insure that revised drawings and instructions are issued with shipments of upgrades of this type.

Completion date; July 30, 1986.

C. Terry will revise Drawing A8190 to call for .080 maximum GAP, not .060-.080. Completion date; June 30, 1986.

FINDING: Document Control

Item 1 Response

A. Terry is ~~in the preliminary stages of~~ developing a system for placing technical manuals under revision control. Completion date on this system is set for Jun 1986. Implementation of this system will start _____.

B. Terry's Nuclear Q.A. Manual will be revised to reflect this new system under Design Control Section. This area will also be included in Internal Audit Checklist under Design Control.

UDC/ENYD001

PLANNING

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RLS 4/14/86

Drawings or Page No.	P/N Manual	Revision Terry Manual	Pym 80-105	Comments
B00190A	A	B	B	4 Sheets
B00079A	B	E	C	4 Sheets
B00081E	B	—	C	
B00265D	N/A	C	B	
B00266A		A	A	
122428E	0	N/A	N/A	
800152D	B	B	B	Transmitted 2/26/86
B00157D	0	B	N/A	See B00152D
B00159D	0	B	N/A	
B00182C	0	0	Not on list	
B00190A	A	B	B	
75086A	0	0	0	
B00072D	B	B	B	

Revision

Drawing or Page No.	PTN Manual	Tenny Manual	PCM 80-105	Comments
A-2092-X-4B1Z	N/A	N/A	Not on list	Leven Diagram. No Rev. Tenny Corp. drawing notes (A) (B), PTN doesn't. Transmitted to Crowley 6/12/85.
B00090E	0	A	not on list	Turbine Section
118140D + 118141A	0	N/A	not on list	Gov Value & Linkage Section, Parts List Tenny has B00265D Rev C & B00266A Rev A yellow sheet.
"Reset Procedure for PG-P2 Woodward Gov. Equipment Turbines 114-121ing Ramp Bushing for "Quiet Start"				
Page 6-1	0-76	1-82	N/A	
Page 6-2	0-76	2-83	N/A	Back side of 6-1
B00080D	B	B	B	Transmitted 2/26/86 Shows Rev C
B00164D	0	0	A	" " " Rev A
B00165D	A	C	C	Transmitted 2/29/86
B00167D	0	0	N/A	" " " Shows Rev A
B00168D	0	0	0	Advise for re-designated request
A8190	0	0	not on list	Rev. 01 Transmitted via teletype 2/9/86 to C. Stronge