

General Information or Other (PAR)

Event # 36512

Rep Org: ITT INDUSTRIES	Notification Date / Time: 12/14/1999 17:10 (EST)
Supplier: ITT INDUSTRIES	Event Date / Time: 12/14/1999 (EST)
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Region: 1	Docket #:
City: LANCASTOR	Agreement State: No
County:	License #:
State: PA	
NRC Notified by: RICHARD RANSALL	Notifications: HAROLD GRAY R1
HQ Ops Officer: FANGIE JONES	ANN BOLAND R2
Emergency Class: NON EMERGENCY	GARY SHEAR R3
10 CFR Section:	PHIL HARRELL R4
21.21 UNSPECIFIED PARAGRAPH	VERN HODGE (Fax) NRR

10-CFR-PART-21 REPORT ON 3-INCH DIAPHRAGM VALVES WITH 3250L ACTUATORS

"Recently, Engineered Valves was asked by a customer to perform tests and analysis documenting the maximum shutoff pressure for a diaphragm valve configuration. Based on testing and engineering calculations performed in November and December of 1999, Engineered Valves has discovered that 3" diaphragm valves with 3250L actuators, supplied to the nuclear power industry, may not be capable of bubble tight shutoff at customer specified operating conditions.

"These valves were supplied to the nuclear power industry for design pressures up to 200 psig and were factory tested at or above specified shutoff pressure depending on design specification or ASME Section III requirements. The testing and analysis described above indicate that there is a statistical possibility, depending on the tolerances of each valve and actuator component, that a valve can be built which will shut off bubble tight at no more than 147 psig. Therefore, it is possible that a valve, which has been maintained or repaired with new components or subassemblies might not have sufficient actuator thrust to shut off against the specified pressure."

Purchasers and sites include the following:
 Westinghouse Electric Corporation at multiple locations
 TVA at Bellefonte
 Louisiana Power and Light at Waterford
 Toledo Edison at Davis Besse
 Iowa Electric at Duane Arnold
 Pacific Gas and Electric at Diablo Canyon
 Consolidated Edison at Indian Point
 Virginia Electric and Power Company at Surry
 Florida Power and Light at Turkey Point and St. Lucie
 Duke Energy Corp. at Oconee

Due to organizational and name changes, include the following names as possible organizations over the past 31 years: ITT Corporation, ITT Grinnell Corporation, ITT Grinnell Valve Division, ITT Dia Flo, ITT Specialty Valve Group, ITT Fluid Products Corporation, ITT Fluid Technology Corporation, ITT Engineered Valves, and ITT

JE19

PDR PT21

General Information or Other (PAR)
Industries.

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Engineered Valves is now finalizing the list of affected purchasers and will notify them by Monday, 12/20/99.

(Call the NRC operations officer for ITT Engineered Valves contact information.)

FAX COVER SHEET



ITT Industries

Engineered Valves
33 Centerville Road
Lancaster, PA 17603
Tel 717.509.2200
Fax 717.509.2336

DATE: December 14, 1999
TO: NRC Document Control
FROM: Richard Randall *RR*
SUBJECT: 10 CFR Part 21 Report of Deviation Letter

*If there are problems with transmission of this fax, please call Patricia Iovale at 717-509-2267
If there are questions about this fax, please contact Richard Randall at 717-509-2268*

MESSAGE:

please see the attached letter.

TOTAL PAGES IN THIS FAX 4 (INCLUDING COVER SHEET)



ITT Industries

Engineered Valves

33 Centerville Road
PO Box 6164
Lancaster, PA 17604-0664
tel 717 399.2700
fax 717 399.2330

December 14, 1999

NRC Document Control
NRC Operations Center
Fax No. 301-816-5151

Subject: 10 CFR Part 21 Report of Deviation

Dear Sir/Madam:

Recently, Engineered Valves was asked by a customer to perform tests and analysis documenting the maximum shutoff pressure for a diaphragm valve configuration. Based on testing and engineering calculations performed in November and December of 1999, Engineered Valves has discovered that 3" diaphragm valves with 3250L actuators, supplied to the nuclear power industry, may not be capable of bubble tight shutoff at customer specified operating conditions

3250L

3250L

The deviation applies to 3" diaphragm valves, supplied with Grade M or MI EPDM diaphragms, and 3250L, spring-to-close actuators with spring numbers 96 and 97. The deviation was found following valve shutoff testing and a rigorous statistical evaluation of maximum possible thrust-to-close requirements, worst case actuator dimensions and worst-case spring specification limits.

This analysis, and fact gathering on the requirements of purchasers/licensees, resulted in an internal non-conformance report on 12/10/99. An evaluation meeting was held today, 12/14/99 with the conclusion that Engineered Valves does not have sufficient information to determine if the deviation is a defect.

These valves were supplied to the nuclear power industry for design pressures up to 200 psig and were factory tested at or above specified shutoff pressure depending on design specification or ASME Section III requirements. The testing and analysis described above indicate that there is a statistical possibility, depending on the tolerances of each valve and actuator component, that a valve can be built which will shut off bubble tight at no more than 147 psig. Therefore, it is possible that a valve, which has been maintained or repaired with new components or subassemblies, might not have sufficient actuator thrust to shut off against the specified pressure.


Due to organizational and name changes, the valves in question may have been purchased from the following organizations over the past thirty-one years: ITT Corporation, ITT Grinnell Corporation, ITT Grinnell Valve Division, ITT Dia Flo, ITT Specialty Valve Group, ITT Fluid Products Corporation, ITT Fluid Technology Corporation, ITT Engineered Valves, ITT Industries.

Dia Flo

Engineered Valves is now finalizing the list of affected purchasers and/or licensees and will notify them by Monday, 12/20/99. The current list is attached to this correspondence. Concurrently, facts are being gathered and analysis performed on similar configurations. Analysis of spring designs is being performed to determine if an alternative design solution can be found which will meet the full range of requirements regardless of tolerances.

For technical information related to this issue, please contact Richard Kovacs, Chief Product Engineer, at 717-509-2528. For information on notification of purchasers and/or licensees, contact Edwin Broome, Manager of Sales Operations, at 717-509-2207.

Sincerely,



Richard Randall
Director of Engineering

cc: R. Bird
E. Broome
A. Calabria
R. Kovacs
M. Lombardi
F. Milliken
C. Mooney
K. Yohn

List of purchasers and/or licensees for the ITT Engineered Valves valves in question:

<u>Purchaser/licensee</u>	<u>Site(s)</u>
Westinghouse Electric Corporation Pittsburgh PA	Multiple
TVA Knoxville TN	Bellefonte
Louisiana Power and Light Tulsa LA	Waterford
Toledo Edison Toledo OH	Davis Base
Iowa Electric Palo IA	Duane Arnold
Pacific Gas and Electric San Francisco CA	Diablo Canyon
Consolidated Edison NY NY	Indian Point
Virginia Electric and Power Company Mineral VA	Surry
Florida Power and Light Indiantown FL	Turkey Point/St Lucie Hutchinson
Duke Energy Corp. Charlotte NC	Oconee