

Part 21 (PAR)

Event # 51262

Rep Org: FLOWSERVE CORPORATION		Notification Date / Time: 07/24/2015 17:05 (EDT)	
Supplier: FLOWSERVE CORPORATION		Event Date / Time: 07/24/2015 (EDT)	
		Last Modification: 07/24/2015	
Region: 1	Docket #:		
City: RALEIGH	Agreement State: Yes		
County:	License #:		
State: NC			
NRC Notified by: MICHAEL ROY		Notifications: SILAS KENNEDY	R1DO
HQ Ops Officer: JEFF ROTTON		PART 21/50.55 REACTORS	EMAIL
Emergency Class: NON EMERGENCY			
10 CFR Section:			
21.21(d)(3)(i) DEFECTS AND NONCOMPLIANCE			

PART 21 - MOUNTING BRACKET SEISMIC QUALIFICATION

The following information was excerpted from a facsimile from FLOWSERVE:

"In accordance with the provisions of 10CFR Part 21, [Flowserve] has identified a potential issue and is submitting our evaluation of the event.

"DESCRIPTION: Entergy Design Specification, SPEC-09-0001-P, paragraph 3.1.1 a, requires that position indicators remain operable during a seismic event. The seismic analysis performed [for installation at Pilgrim Station] did not include mounting brackets for the position indicators. Later review of these brackets found them to be inadequate for the application.

"SCOPE: The engineering evaluation searched all instances of the use of safety related Topworx C7 position indicators, base part number 04126889, by the Flowserve, Raleigh facility.

"PROPOSED ACTION: Flowserve will provide seismically analyzed replacement mounting brackets to Entergy Pilgrim Station at no charge. To prevent reoccurrence of this situation, additional training on the use of nuclear order checklists will be performed.

IE19
NRR

**Flow Control Division**

Anchor/Darling Valves

BW/IP Valves

Edward Valves

Valtek Control Products

Worcester Valves

July 24, 2015

US Nuclear Regulatory Commission
Document Control Desk
11545 Rockville Pike
Rockville, MD 20852-2746

Subject: Entergy Pilgrim – Mounting Bracket Seismic Qualification

This is to notify the US Nuclear Regulatory Commission that, in accordance with the provisions of 10CFR Part 21, we have identified a potential issue and are submitting our evaluation of the event.

DESCRIPTION: Entergy Design Specification, SPEC-09-0001-P, paragraph 3.1.1a, requires that position indicators remain operable during a seismic event. The seismic analysis performed did not include mounting brackets for the position indicators. Later review of these brackets found them to be inadequate for the application.

SCOPE: The engineering evaluation searched all instances of the use of safety related Topworx C7 position indicators, base part number 04126889, by the Flowserve, Raleigh facility. See attached Part 21 evaluation report.

PROPOSED ACTION: Flowserve will provide seismically analyzed replacement mounting brackets to Entergy Pilgrim station at no charge. To prevent reoccurrence of this situation, additional training on the use of nuclear order checklists will be performed, see attached CAR.

Please do not hesitate to contact me if you have any questions or require additional information.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael V. Roy".

Michael V. Roy
Quality Assurance Manager
Flowserve Corporation
1900 S Saunders St.
Raleigh, NC 27603

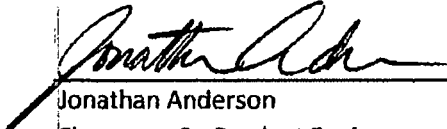


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PART 21 EVALUATION FOR FLOWSERVE CAR 1384

This evaluation was a search of all instances of the use of the safety related Topworx C7 position indicators, base part number 04126889, by the Flowserve, Raleigh facility. Where these position indicators have been used, determination was made whether appropriate analysis was performed.

Summary: No other situation described in CAR 1384 was discovered with other orders involving Topworx C7 position indicators, base part number 04126889.


Jonathan Anderson

Flowserve Sr. Product Engineer


Date:

PART 21 EVALUATION FOR CAR 1384

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ORDERS UTILIZING TOPWORX C7 POSITION INDICATORS, BASE P/N 04126889

SO	LINE ITEM	PROPER ANALYSIS PERFORMED?	SITE
59573	01, 05	NO	Entergy - Pilgrim
73561	08	N/A - Qualification Testing	N/A - Internal
78470	01, 02, 03, 04, 05, 06, 07, 08	N/A - Customer Material	Entergy - Pilgrim
91131	02, 04, 06, 07, 12, 13, 14, 15, 16, 17, 19, 20, 22, 24, 26, 27, 32, 33, 34 35, 36, 37, 39, 40, 55, 56, 57, 58, 59, 60, 67, 68	YES	Westinghouse - Sanmen & Haiyang
91139	06, 07, 20, 35, 36, 49, 65, 66	YES	Westinghouse - Sanmen & Haiyang
91154	10, 17, 18, 26	YES	Westinghouse - VC Summer
91170	02, 04, 05, 07, 08, 13, 14, 15, 16, 17, 19, 20, 21, 22, 24, 26, 27, 29, 30, 35, 36, 37, 38, 39, 41, 42, 43, 44, 51, 52, 53, 54, 55, 56, 57, 58,	YES	Westinghouse - VC Summer
91175	02, 04, 05, 07, 08, 13, 14, 15, 16, 17, 19, 20, 21, 22, 24, 26, 27, 29, 30, 35, 36, 37, 38, 39, 41, 42, 43, 44, 51, 52, 53, 54, 56, 57, 58,	YES	Westinghouse - Vogtle
91176	06, 08, 24, 71, 76	YES	Westinghouse - Vogtle
91213	01, 03, 05, 06, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 79, 80, 81	YES	SNPEC - Sanmen
91214	01, 03, 05, 06, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 48, 49, 50	YES	SNPEC - Haiyang
91215	01, 02	YES	SNPEC - Sanmen
91216	01, 02	YES	SNPEC - Haiyang



DATE INITIATED: 5/11/15		PROPOSAL DUE: 6/11/15	CORRECTIVE ACTION REQUEST
MANAGER/SUPERVISOR OR VENDOR: Jonathan Anderson			
PART, RT# OR OTHER IDENTIFIER: Pilgrim Station Limit Switch Mounting Bracket			
10CFR21 EVALUATION REQUIRED? Y <input checked="" type="checkbox"/> N <input type="checkbox"/> Eval #88 MVR 7/24/15			
HOW IDENTIFIED: Review of Order		INTERNAL <input checked="" type="checkbox"/> EXTERNAL <input type="checkbox"/>	CAR # 1384
INITIATED BY: Kerri Madden	CODE MATERIAL? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	IF CODE, ANI REVIEW:	
PROBLEM STATEMENT - (to be completed by QA or responsible department):			
Contrary to the customer P.O. requirements, the limit switch bracket was not seismically analyzed.			
BELOW DESCRIBE THE CONDITION OR CIRCUMSTANCE VIOLATING THE ABOVE LISTED REQUIREMENT			
ACKNOWLEDGEMENT OF RECEIPT OF THIS REQUEST (BUYER ACKNOWLEDGES EXTERNAL REQUESTS)		SIGNATURE/DATE <i>Jonathan Anderson</i> 6/11/15	
ROOT CAUSE AND PROPOSED ACTION (to be completed by responsible manager or designee)			
Root Cause: Requirement from design specification for position indicators to remain operable during seismic event, §3.1.1a, was missed when performing seismic analysis.			
Proposed Action: Provide Pilgrim with new limit switch brackets which will be analyzed in revised seismic reports, also to be provided. Provide training to engineers responsible for performing analyses to reinforce specification review and understanding of requirements for analysis of components such as brackets.			
ACTIONS WILL BE COMPLETED BY (DATE): 7/10/15		SIGNATURE/DATE <i>Jonathan Anderson</i> 6/11/15	
CORRECTIVE ACTION TAKEN TO PRECLUDE RECURRENCE: (attach evidence of actions taken)			
Provide training to engineers responsible for performing analyses to reinforce specification review and understanding of requirements for analysis of components such as brackets.			
Part 21 Evaluation Performed & Attached - MVR 7/24/15			
SUBMITTED BY (printed name) Jonathan Anderson		SIGNATURE AND DATE <i>Jonathan Anderson</i> 7/10/15	
CONFIRMATION OF CORRECTIVE ACTION TAKEN (To be completed by Flowserve QA after review of evidence)			
EVIDENCE SUFFICIENT TO CLOSE? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>		FURTHER FOLLOW UP REQUIRED? Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECTIVE ACTION REVIEWED BY (QA Manager or Designee)		SIGNATURE <i>Michael V. [Signature]</i>	
DATE 7/24/15			

FORM Q-985 REV. 2



Training for Engineers Performing Design Analysis

CAR 1384 Closeout

CAR 1384

- Customer design specification required that position indicators were to remain operable during seismic event.
- Position indicator mounting brackets were not considered in seismic analysis.
- Subsequent review found that the provided brackets were not adequate to maintain seismic qualification of the position indicators.

In Context

- While the position indicators themselves were suitable for the application and qualified by the manufacturer, the mounting brackets used were not seismically sufficient and consequently nullified the qualification.
- Attachment of accessories to the valve is critical for component operation.

Prevent Reoccurrence

- Thorough review and understanding of all customer purchase order and specification requirements.
- Appropriate analysis to substantiate compliance with customer requirements.
- Do not neglect accessories and mounting hardware when applicable.

FLOWSERVE, RALEIGH
TRAINING RECORDDepartment: EngineeringDate: 7/7/15Subject: CAR 1384 Closeout - Training for Engineers Performing Design Analysis

<u>Name(s)</u>	<u>Initials</u>
RUSSELL ROSE	RBR
Ben Vester	BPV
Derk de Groot	DDG
Ryan Askins	RSA
P.A. Sizemore	PAS
George Hinson	GDN
Mark Rain	MR
Jonathan Anderson	JMA
Mike McGee	JGM
Chris W.	AW
Thomas Rogers	TRR
Mark Cowell	MC
WADE SHEPARD	WDS

Length of session: 20 minutes

Signature of Instructor