

General Information or Other (PAR)

Event # 43776

Rep Org: CONVAL INC	Notification Date / Time: 11/09/2007 15:30 (EST)
Supplier: CONVAL INC	Event Date / Time: 11/09/2007 (EST)
	Last Modification: 11/09/2007
Region: 1	Docket #:
City: SOMERS	Agreement State: No
County:	License #:
State: CT	
NRC Notified by: DONALD CURTIN	Notifications: MARIE MILLER R1
HQ Ops Officer: MARK ABRAMOVITZ	MARK LESSER R2
Emergency Class: NON EMERGENCY	MONTE PHILLIPS R3
10 CFR Section:	BLAIR SPITZBERG R4
21.21 UNSPECIFIED PARAGRAPH	VERN HODGE (EMAIL) NRR
	JOHN THORPE (EMAIL) NRR

PART 21 NOTIFICATION - CONVAL VALVES WELD QUALIFICATIONS

The manufacturer provided the following information via facsimile:

"This letter serves to notify the Commission of two (2) potential safety-related, non-compliances as defined in 10CFR-Part 21. These non-compliances involve Electron Beam (EB) weld qualifications for welds performed on pressure boundary and safety related components of Conval valves; and Electron Beam (EB) welding of cobalt alloy types 6 and 21 to pressure boundary parts of Conval valves.

"Possibly as high as 2,000 forged-body, globe valves generally for use on high temperature steam and hot water in sizes ranging from, 1/2" to 4", possibly involving one or more of these non-compliances, have been supplied by Conval to approximately 25 nuclear power plants over an estimated time period extending from the 1980's to the present. Probably over half of the valves suspected of nonconformances were procured as Commercial Grade valves."

Potentially affected plants are:

Region 1: Fitzpatrick, Indian Point, Pilgrim, Vermont Yankee, Nine Mile Point

Region 2: North Anna, Surrey, Oconee, Brunswick, Crystal River, Harris

Region 3: Cook, Palisades, Quad Cities, Point Beach

Region 4: Arkansas Nuclear One, Fort Calhoun, Palo Verde, Grand Gulf, Waterford, Cooper, South Texas

Foreign Plants: Laguna Verde (Mexico), Keoberg (South Africa)

IEA
NRR

Gonval INC.

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November 9, 2007

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555
Fax: (301) 816-5151

Subject: 10CFR-Part 21,
Notification of Potential Safety Related Noncompliance Deviations

Dear Commissioners:

This letter serves to notify the Commission of two (2) potential safety-related, non-compliances as defined in 10CFR-Part 21. These non-compliances involve Electron Beam (EB) weld qualifications for welds performed on pressure boundary and safety related components of Conval valves; and Electron Beam (EB) welding of cobalt alloy types 6 and 21 to pressure boundary parts of Conval valves.

Possibly as high as 2,000 forged-body, globe valves generally for use on high temperature steam and hot water in sizes ranging from ½" to 4", possibly involving one or more of these non-compliances, have been supplied by Conval to approximately 25 nuclear power plants over an estimated time period extending from the 1980's to the present. Probably over half of the valves suspected of non-conformances were procured as Commercial Grade valves.

- The first non-compliance involved the process for qualifying Electron Beam welds on pressure boundary and safety related components, specifically body-seat welds and welded stem assemblies, on Conval valves. ASME, Section IX and Code Case N62-7 together require that such welds be qualified, in part, by the evaluation of cross sections of weld coupons for adequate penetration per design requirements and for weld integrity (free of cracks, porosity, etc.). Four (4) cross sections are required for this evaluation, but Conval performed evaluations on only two (2) cross sections for virtually all of its approximately 62 EB weld qualifications.

Conval has already re-qualified 8 of the 62 existing weld procedures using four (4) cross sections, and has achieved a 100% success rate. We will re-qualify the remainder of the 62 EB welds, using the original weld coupons, by the end of November, 2007 under the direction of Charles Sumner, Conval's Engineering Manager, with the expectation that all will be successfully verified. At this time, Conval is confident that the installed population of Conval valves in nuclear power plants are, and will remain, fully operable and functional. **We suggest that there are no substantial safety hazards attributable to this issue.**

- The second deviation involved Electron Beam (EB) welding of cobalt alloy types 6 and 21 to pressure boundary parts of Conval valves, specifically body-seat welds and welded stem assemblies, when, due to a Conval review of its weld procedures and qualifications, it was learned that welding of cobalt alloy types 6 and 21 are prohibited by Code Case N62-7, the Code Case required to permit EB welding without a bend test.

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Although EB welding of cobalt alloy types 6 and 21 is prohibited by Code Case N62-7, Conval's extensive analysis of the strength of these welded joints in Conval valves revealed that there is adequate strength for proper valve functionality for all valve sizes, process conditions and operational circumstances encountered in nuclear power plants. **We therefore suggest that there are no substantial safety hazards attributable to this issue.**

Nevertheless, Conval has an alternative joint design that avoids the welding material restrictions in Code Case N62-7. That design will be available for licensees requesting it.

This identical valve design has been used with great success for almost 40 years in super-critical and other steam applications, operating at temperatures and pressures that are well in excess of those encountered in nuclear power plants. **Therefore, Conval will be pursuing a Code Case permitting EB welding of the aforementioned cobalt alloys.**

The weld qualification process and material restriction issues were identified during a weld-qualification research project undertaken in late September, 2007. Conval's Engineering Department initiated a study of the issues to determine their validity, and on November 8, Charles A. Sumner, Engineering Manager concluded an extensive engineering analysis and issued a formal report to Conval's president, Donald L. Curtin, recommending notification of the NRC relative to the two non-conformances cited above. On November 9, Donald Curtin faxed this report to the NRC and will follow up with a mailed copy of it along with Conval's applicable engineering reports.

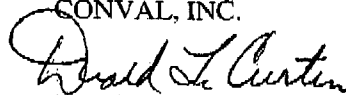
Conval is in the process of gathering user plant information and officially notifying the individual plants of these issues. Resolution of the weld qualification and welding material restriction non-conformances will be guided by input from users and appropriate regulatory officials; Conval will research all applicable customer orders and respond diligently to any user requirements for remedial action. Possibly over half of the valves suspected of non-conformances were procured as Commercial Grade valves.

It is anticipated that most, if not all, licensees will determine that no substantial safety hazards are attributable to these welding non-compliances.

If you have any questions or need additional information concerning this notification, please contact me directly.

Very truly yours,

CONVAL, INC.


Donald L. Curtin
President

Cc: F. Siver, Chairman, CEO, Conval
D. Williams, Vice President Finance, Conval
M. Hendrick, Vice President Sales and Marketing, Conval
H. Smith II, Quality Assurance Manager, Conval
C. Sumner, Engineering Manager, Conval
I. Makuch, Nuclear Accounts Representative, Conval

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CONVAL 10CFR21 2/12/07
 Listing of Plant Notifications
 NRC Report # 43166

<u>Owner/Plant</u>	<u>Date of Original Notice</u>	<u>Supplied Specific Plant Listing</u>	<u>NCA3800 Material</u>	<u>Undedicated Split Rings</u>	<u>8J & 8K Split Rings</u>	<u>Not Affected</u>
AEP/DCCook	2/21/2007	3/23/2007	X	X	X	
APS/Palo Verde	2/21/2007	3/23/2007				X
CFR/Laguna Verde/Mexico	2/21/2007	3/20/2007	X			
Constellation/Nine Mile	2/21/2007	3/23/2007				X
Consumers Energy/Palisades	2/21/2007	3/20/2007	X	X	X	
Dom. Virginia/N.Anna & Surrey	2/21/2007	3/16/2007	X	X	X	
Duke/Oconee	2/21/2007	3/20/2007		X		
Entergy/Arkansas One	2/21/2007	3/20/2007	X			
Entergy/JAFitzpatrick	2/21/2007	3/23/2007		X	X	
Entergy/Grand Gulf	2/21/2007	3/20/2007				X
Entergy/IP 2 & 3	2/21/2007	3/23/2007	X	X	X	
Entergy/Pilgrim Station	2/21/2007	3/15/2007	X	X	X	
Entergy/Waterford 3	2/21/2007	3/20/2007				X
Entergy/Vt. Yankee	2/21/2007	3/15/2007	X	X	X	
Exelon/Oyster Creek/Quad Cities	2/21/2007	3/23/2007		X	X	
Koeberg Station/CVT/S.Africa	3/30/2007	3/30/2007	X	X	X	
Nebraska Public Power/Cooper	2/21/2007	3/20/2007				X
OPPD/Fort Calhoun	2/21/2007	3/15/2007	X			
Point Beach	2/21/2007	3/23/2007	X	X	X	
Progres Energy/Carolinas	2/21/2007	3/7/2007	X	X	X	
Progress Energy/Cyrstal River	2/21/2007	3/16/2007	X			
Progress Energy/Harris	2/21/2007	3/20/2007				X
South Texas Project	2/21/2007	3/20/2007				X
Weir Valves	2/21/2007	3/20/2007	X	X	X	