

Part 21 (PAR)

Event # 48911

<b>Rep Org:</b> CRANE NUCLEAR	<b>Notification Date / Time:</b> 04/10/2013 20:29 (EDT)
<b>Supplier:</b> CRANE NUCLEAR	<b>Event Date / Time:</b> 03/25/2010 (CDT)
	<b>Last Modification:</b> 04/10/2013
<b>Region:</b> 3	<b>Docket #:</b>
<b>City:</b> BOLINGBROOK	<b>Agreement State:</b> Yes
<b>County:</b>	<b>License #:</b>
<b>State:</b> IL	
<b>NRC Notified by:</b> ROSALIE NAVA	<b>Notifications:</b> DAVE PASSEHL R3DO
<b>HQ Ops Officer:</b> STEVE SANDIN	MALCOLM WIDMANN R2DO
<b>Emergency Class:</b> NON EMERGENCY	RICK DEESE R4DO
<b>10 CFR Section:</b>	NRR PART 21 GROUP EMAIL
21.21(d)(3)(i) DEFECTS AND NONCOMPLIANCE	

## PART 21 INVOLVING A POTENTIAL WELD DEFECT

The following information was received via fax as a supplement to a report originally submitted to the NRC Document Control Desk:

"This is a supplement to the above subject Part 21 letter issued by Crane Nuclear, Inc. on March 25, 2010 and NRC ref. ML100920093.

"In the referenced letter, Crane Nuclear Inc., located at [860 Remington Boulevard, Bolingbrook, Illinois 60440], filed a 10CFR21 Notification of a Potential Weld Defect to the US Nuclear Regulatory Commission and also the affected customers. Copies of these letters were provided to the NRC.

"This letter is intended to supplement that initial notification letter by providing further details on when Crane Nuclear became aware of the issue and the potential safety hazard associated with the issue.

"During the NUPIC [Nuclear Procurement Issues Committee] Audit of Crane Nuclear the week of February 2, 2010 an audit finding was issued to Crane Nuclear for not effectively reviewing a customer complaint. The complaint was relative to a potentially undersized fillet weld and the audit finding documented that Crane Nuclear did not review the issue through to completion, or with regard to potentially affecting other customers. In response to the NUPIC Audit Finding, Crane Nuclear generated a Corrective Action Report (CAR) CAR 10-22 on 03/01/10. This CAR identified two required actions and they were: 1) Create a formal procedure that ensures all customer complaints are thoroughly investigated until they are complete and that Part 21 applicability is considered for the initial complaint and the potential it affects other customers; and 2) Evaluate the complaint on the potentially undersized fillet weld to determine if a Part 21 reporting is required.

FE19  
NRR

Part 21 (PAR)

Event # 48911

"During that NUPIC Audit, Crane was asked to provide a statement relative to the potential defect or failure and the safety hazard which is created or could be created by a potentially undersized weld and the following statement was provided to the NUPIC Audit team and as of today this statement has been provided to the customers that received the initial notification - the following is the Statement that was provided to NUPIC and the notified customers:

"Assessment of Undersized Weld on Valve Safety Function

"Auxiliary connections on valve bodies, bonnets and covers are used for drains, vents or leak-off. The welds used to attach these connections are tested as part of the pressure boundary and subjected to ASME/ANSI hydrostatic test pressure (1.5 X cold working pressure). Because the pipe nipples used are short and fairly rigid, if the lines remained capped and not connected to a piping system it is unlikely that the combined stresses due to pressure and bending at the weld due to seismic accelerations would exceed the stress due to the pressure load applied during the hydrostatic test. However, a complete and instantaneous failure of the weld could result in a capped line becoming a missile and pressure boundary violation. If a line was connected to a piping system, if properly supported it is also unlikely the welded joint would see loads that would over stress the weld. However, if loads were generated at the welded connection that exceeded the strength of the weld a crack could be initiated and the pressure boundary violated.

"In response to the first required corrective action, Crane Nuclear created and released a robust customer complaint procedure CCP-1 titled, 'Customer Complaint Procedure.' This procedure requires a documented management review by the Customer Service Manager, Engineering Manager, Site Leader and Quality Director, for each and every customer complaint. The complaint form requires completion of a 'yes or no' check box that needs to be completed with respect to 10CFR21 applicability and it also has a 'yes or no' check box to document whether other customers are affected.

"In response to the second required action on the CAR, all Crane Nuclear designs with any kind of bleed off or other venting/leak type designs using fillet welds were isolated and each inspection 'as-built' record for each design and order were reviewed. The review of the 'as-built' inspection records confirmed that the fillet welds were in compliance with the drawing except for potentially those that were identified in the Part 21 notification referenced above. The review of all inspection documentation was completed on Friday March 19th and in accordance with our procedure the President was notified at 8:48PM that evening and the notification was completed on March 2, 2010. CAR 12-26 was later generated on 07/27/12 and closed on 08/21/12 for filing the report on the 6th day. If you have any further questions please contact [Rosalie Nava] at one of the following, phone 630-226-4940, email rnava@cranevs.com., or by fax 630-226-4646."

Affected licensees include Dominion, Duke Energy, Omaha Public Power District and TVA Nuclear.

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NUCLEAR

CRANE NUCLEAR

880 REMINGTON BOULEVARD

BOLINGBROOK, ILLINOIS 60440

April 10, 2013

US Nuclear Regulatory Commission  
Washington, DC 20555-001

Attention: Document Control Desk

Subject: Supplement to Crane Nuclear Part 21 Notification Letter dated March 25, 2010

Reference: NRC 2010-11-00; Crane Nuclear 03/25/10 ML100920093  
March 25, 2010 10CFR21 Notification of a Potential Weld Defect

Dear Sir or Madam:

This is a supplement to the above subject Part 21 letter issued by Crane Nuclear, Inc. on March 25, 2010 and NRC ref. ML100920093.

In the referenced letter, Crane Nuclear Inc., located at the above address, filed a 10CFR21 Notification of a Potential Weld Defect to the US Nuclear Regulatory Commission and also the affected customers. Copies of these letters were provided to the NRC.

This letter is intended to supplement that initial notification letter by providing further details on when Crane Nuclear became aware of the issue and the potential safety hazard associated with the issue.

During the NUPIC Audit of Crane Nuclear the week of February 2, 2010 an audit finding was issued to Crane Nuclear for not effectively reviewing a customer complaint. The complaint was relative to a potentially undersized fillet weld and the audit finding documented that Crane Nuclear did not review the issue through to completion, or with regard to potentially affecting other customers. In response to the NUPIC Audit Finding, Crane Nuclear generated a Corrective Action Report (CAR) CAR 10-22 on 03/01/10. This CAR identified two required actions and they were: 1) Create a formal procedure that ensures all customer complaints are thoroughly investigated until they are complete and that Part 21 applicability is considered for the initial complaint and the potential it affects other customers; and 2) Evaluate the complaint on the potentially undersized fillet weld to determine if a Part 21 reporting is required.

During that NUPIC Audit, Crane was asked to provide a statement relative to the potential defect or failure and the safety hazard which is created or could be created by a potentially undersized weld and the following statement was provided to the NUPIC Audit team and as of today this statement has been provided to the customers that received the initial notification – the following is the statement that was provided to NUPIC and the notified customers:

#### Assessment of Undersized Weld on Valve Safety Function

Auxiliary connections on valve bodies, bonnets and covers are used for drains, vents or leak-off. The welds used to attach these connections are tested as part of the pressure boundary and subjected to ASME/ANSI hydrostatic test pressure (1.5 X cold working pressure). Because the pipe nipples used are short and fairly rigid, if the lines remained capped and not connected to a piping system it is unlikely that the combined stresses due to pressure and bending at the weld due to seismic accelerations would exceed the stress due to the pressure load applied during the hydrostatic test. However, a complete and instantaneous failure of the weld could result in a capped line becoming a missile and pressure boundary violation. If a line was connected to a piping system, if properly supported it is also unlikely the welded joint would see loads that would over stress the weld. However, if loads were generated at the welded connection that exceeded the strength of the weld a crack could be initiated and the pressure boundary violated.

US Nuclear Regulatory Commission  
Ref: NRC 2010-11-00; Crane Nuclear 03/25/10 ML100920093  
Page 2

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Sincerely,

CRANE Nuclear, Inc.



Rosalie Nava  
Director Safety and Quality

Attachments: Letters to Dominion, Duke Energy, Omaha Public Power District and TVA Nuclear



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CRANE NUCLEAR

860 REMINGTON BOULEVARD

BOLINGBROOK, ILLINOIS 60440

April 10, 2013

Dominion Resources Services, Inc.  
Innsbrook Technical Center  
5000 Dominion Boulevard  
Glen Allen, VA 23060

Attention: Director Nuclear Licensing and Operations Support

Subject: Supplement to Crane Nuclear Part 21 Notification Letter dated March 25, 2010

Reference: Dominion Energy PO Number 45668430 and 45655828  
NRC 2010-11-00; Crane Nuclear 03/25/10 ML100920093  
March 25, 2010 10CFR21 Notification of a Potential Weld Defect

Dear Sir or Madam:

This is a supplement to the above subject Part 21 letter issued by Crane Nuclear, Inc. on March 25, 2010 and NRC ref. ML100920093.

In the referenced letter, Crane Nuclear Inc., located at the above address, filed a 10CFR21 Notification of a Potential Weld Defect to the US Nuclear Regulatory Commission and also the affected customers. Copies of these letters were provided to the NRC.

This letter is intended to supplement that initial notification letter by providing your organization with the potential safety hazard associated with the issue is as follows.

#### Assessment of Undersized Weld on Valve Safety Function

Auxiliary connections on valve bodies, bonnets and covers are used for drains, vents or leak-off. The welds used to attach these connections are tested as part of the pressure boundary and subjected to ASME/ANSI hydrostatic test pressure (1.5 X cold working pressure). Because the pipe nipples used are short and fairly rigid, if the lines remained capped and not connected to a piping system it is unlikely that the combined stresses due to pressure and bending at the weld due to seismic acceleration s would exceed the stress due to the pressure load applied during the hydrostatic test. However, a complete and instantaneous failure of the weld could result in a capped line becoming a missile and pressure boundary violation. If a line was connected to a piping system, if properly supported it is also unlikely the welded joint would see loads that would over stress the weld. However, if loads were generated at the welded connection that exceeded the strength of the weld a crack could be initiated and the pressure boundary violated.

If you have any further questions please contact me at one of the following, phone 630-226-4940, email [mava@cranevs.com](mailto:mava@cranevs.com), or by fax 630-226-4646.

Sincerely,

CRANE Nuclear, Inc.

A handwritten signature in cursive script that reads "Rosalie Nava".

Rosalie Nava  
Director Safety and Quality



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CRANE NUCLEAR

860 REMINGTON BOULEVARD

BOLINGBROOK, ILLINOIS 60440

April 10, 2013

Duke Energy Corporation  
Mail Code: EC05P  
PO Box 1006  
Charlotte, NC 28201-1006

Attention: OEA Manager – Nuclear Assessment Division

Subject: Supplement to Crane Nuclear Part 21 Notification Letter dated March 25, 2010

Reference: Duke Energy Corp. POs ON41905 and 00091378  
NRC 2010-11-00; Crane Nuclear 03/25/10 ML100920093  
March 25, 2010 10CFR21 Notification of a Potential Weld Defect

Dear Sir or Madam:

This is a supplement to the above subject Part 21 letter issued by Crane Nuclear, Inc. on March 25, 2010 and NRC ref. ML100920093.

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Sincerely,

CRANE Nuclear, Inc.

Rosalie Nava  
Director Safety and Quality



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CRANE NUCLEAR

860 REMINGTON BOULEVARD

BOLINGBROOK, ILLINOIS 60440

April 10, 2013

Omaha Public Power District  
Fort Calhoun Nuclear Station  
Mail Code: FC-2-4-ADM  
PO Box 399  
Fort Calhoun, NE 68023-0399

Attention: Manager of Nuclear Licensing

Subject: Supplement to Crane Nuclear Part 21 Notification Letter dated March 25, 2010

Reference: OPPD POs 00065142 & 00074717  
NRC 2010-11-00; Crane Nuclear 03/25/10 ML100920093  
March 25, 2010 10CFR21 Notification of a Potential Weld Defect

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CRANE Nuclear, Inc.

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Rosalie Nava  
Director Safety and Quality



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860 REMINGTON BOULEVARD

BOLINGBROOK, ILLINOIS 60440

April 10, 2013

TVA Nuclear  
Nuclear Assurance and Licensing  
1101 Market Street  
Chattanooga, TN 37402-2801

Attention: Manager Operating Experience

Subject: Supplement to Crane Nuclear Part 21 Notification Letter dated March 25, 2010

Reference: TVA PO 00051943  
NRC 2010-11-00; Crane Nuclear 03/25/10 ML100920093  
March 25, 2010 10CFR21 Notification of a Potential Weld Defect

Dear Sir or Madam:

This is a supplement to the above subject Part 21 letter issued by Crane Nuclear, Inc. on March 25, 2010 and NRC ref. ML100920093.

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Rosalie Nava  
Director Safety and Quality