



CRANE NUCLEAR, INC. 860 REMINGTON BOULEVARD BOLINGBROOK, IL. 60440

March 21, 2018

Attn: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-001

Subject: 10 CFR Part 21 Notification of Defect on Crane Nuclear Figure Number 83 ½
SPL 10"x8"x10" and 6"x4"x6" Bolted Bonnet Gate Valve

This letter provides notification of a defect on Crane Nuclear Figure Number 83 ½ SPL
10"x8"x10" and 6"x4"x6" valve components.

(i) Name and address of the individual or individuals informing the Commission.

Joyce Hamman
Director, Safety and Quality

Burt Anderson
Site Leader

Samson Kay
Engineering Manager

Crane Nuclear
860 Remington Blvd
Bolingbrook, IL 60440

*(ii) Identification of the basic component supplied for such facility or such activity within the
United States which may fail to comply or contains a potential defect.*

Crane Nuclear Figure Number 83 ½ SPL 10"x8"x10" and 6"x4"x6" Bolted Bonnet Gate Valve

*(iii) Identification of the firm supplying the basic component which fails to comply or contains a
defect.*

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*(iv) Nature of the defect or failure to comply and the safety hazard which is created or could be
created by such defect or failure to comply*

A Crane Nuclear Figure Number 83 ½ SPL 10"x8"x10" Bolted Bonnet Gate Valve supplied to
Duke Energy experienced a packing blowout on 12/17/17. Preliminary review of the packing
design suggested that the packing clearances within the stuffing box were larger than standards
specified by MSS-SP-120. Dimensions for parts such as the gland and stuffing box were based
on drawings Crane Nuclear Figure Number 83 ½, which consolidates and tabulates dimensions
needed to fabricate the parts based on stem dimensions. Review of the component drawings
made for the Crane Nuclear Figure Number 83 ½ SPL 10"x8"x10" and 6"x4"x6" Bolted Bonnet
Gate Valve determined that the outside diameter of the gland for the 10"x8"x10" and 6"x4"x6"



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valves was incorrectly transcribed, resulting in an undersized condition for the packaging gland and excess diametric clearance between the gland and stuffing box.

(v) *The date on which the information of such defect or failure to comply was obtained.*

Duke Energy's Brunswick facility notified Crane on 12/20/2017. Crane began research under Corrective Action Report 17-36 (Later Changed to 18-01) on 12/22/18.

(vi) *In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.*

| <u>CNI Sales Order</u> | <u>Valve Size</u> | <u>Licensee</u> |
|------------------------|-------------------|--|
| 33663 | 10x8x10 | NPPD – Cooper Station (sold to Browns Ferry) |
| 41030 | 10x8x10 | TVA – Browns Ferry |
| 41115 | 10x8x10 | TVA – Browns Ferry |
| 41619 | 10x8x10 | NPPD – Cooper Station |
| 43725 | 10x8x10 | Duke Energy – Brunswick |
| 45441 | 10x8x10 | Duke Energy – Brunswick |
| 4378 | 6x4x6 | Entergy – Pilgrim |

(vii) *The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.*

Drawings for Crane Nuclear Figure Number 83-1/2 SPL 10"x8"x10" and 6"x4"x6" valve components have been corrected. Additionally, notification is being made to each customer noted above.

(viii) *Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.*

Update 03/15/2019
 CNI Recommends one of the following actions be taken:

- The valve gland should be replaced to tighten clearances to meet MSS-SP-120 requirements.
- Install a packing washer in the current configuration that complies with MSS-SP-120 clearances. Use of a packing washer will allow for load to be evenly distributed across the packing to prevent extrusion through diametral clearances. Note, that existing drawings and bills of materials should be updated to match this configuration if this option is selected.

(ix) *In the case of an early site permit, the entities to whom an early site permit was transferred.*

Not applicable.

MAR. 21. 2018 1:12PM

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Should you have any questions regarding this matter, please contact me, Joyce Hamman, Director, Safety & Quality at (678) 451-2280, Burt Anderson, Site Leader, at (630) 226-4990, or Samson Kay, Engineering Manager at (630) 226-4983.

Regards,

A handwritten signature in black ink, appearing to read "Samson Kay", with a long, sweeping horizontal line extending to the right.

Samson Kay
Crane Nuclear, Inc.
Sustaining Engineering Manager