



**NUCLEAR PRODUCTS OPERATIONS**  
Vernon Nuclear Pump Operations, Vernon, CA 90058

10 September 2021

**INTERIM REPORT – FORMAL EVALUATION OF DEVIATIONS REPORTED**

To: Document Control Desk, Nuclear Regulatory Commission  
From: Thomas Yim, Nuclear Products Operations Team Leader, Flowserve Vernon NPO  
Reference: RLCA09317; O-Ring - AEP-DC Cook Flowserve Pump Division, Vernon, CA, 90058

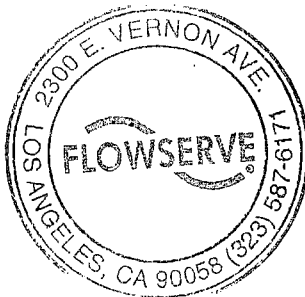
Subject: Request for extension to complete Formal Evaluation processes in accordance with 10CFR21.21

Date of Discovery by Customer: 04 May 2021  
Date of Notification to Flowserve: 04 May 2021  
Initial Evaluation by Flowserve Material Review Board: 10 September 2021  
Results of Initial Evaluation: Inconclusive with further investigation and information required;  
Internal Reference: Docket Number – 99901369; Flowserve Pump Division, Vernon CA, 90058

- During installation at customer site, a Flowserve Field Service representative observed poor fit up of the O-ring in question. Investigation revealed an incorrect O-ring size was specified on Flowserve Kalamazoo Drawing.
- Flowserve provided the correct O-ring as a warranty replacement and the Flowserve Kalamazoo drawing was revised.
- Flowserve conducted a delivery history of the subject O-Ring and determined that Dominion - North Anna was the only other site that had received this O-Ring. (North Anna had been notified that there was an evaluation pending and reported that their O-Rings were not being used in a Safety-Related system).
- A meeting was held by the Flowserve Material Review Board to conduct an initial evaluation of the reported incorrect O-ring and to identify the inputs required to conduct a formal evaluation for the condition's impact to safety.
- The inputs include those system-related attributes as provided by the owner, AEP – DC Cook.
- While Flowserve's internal and DC Cook's on-site external corrective actions have been completed, an internal audit of corrective actions revealed that a formal evaluation by Flowserve Engineering and DC Cook System Engineers for the condition's impact to safety had not been formally conducted and recorded.
- This is in violation of the Flowserve Quality Program which is focused on conducting evaluation activities in accordance with the discovery requirements of 10CFR21.21. Accordingly, there has been an internal Corrective Action initiated to capture this violation.
- Efforts are currently taking place between Flowserve and DC Cook to formally convene an MRB to disposition the errant O-Ring as a Deviation or Defect.

This request is to advise of the current status regarding the delivery and installation of an errant O-Ring and to request approval for an extension through the end of September 2021 to gather critical system-related information and to conduct the delinquent Formal Evaluation.

Cc: Scott Ford, Director, Global Quality, Flowserve Corp.  
Tanya Dembekjian, Plant Manager, FLS Vernon  
James Wilson, Facility Quality Manager, FLS Charlotte  
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