



May 29, 2025  
NRC:25:010

U.S. Nuclear Regulatory Commission  
Document Control Desk  
11555 Rockville Pike  
Rockville, MD 20852

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#### 10 CFR 21 Notification of Existence of a Defect

This letter provides notification of a reportable defect in accordance with 10 CFR 21.21(d)(4). This defect was reported to the NRC Operations Center by email at 9:15 a.m. EDT on May 22, 2025, Event Number 57729.

The defect concerns breakers that were installed at Arkansas Nuclear One (ANO) by Framatome Inc. during a recent refurbishment. During the refurbishment, shorter bell cranks were installed to mitigate an identified interference. These shorter bell cranks result in a higher force being needed to close the breaker which could result in failure of the pushrods. In the event of a pushrod failure, the breaker may not trip when required, resulting in a substantial safety hazard.

If you have any questions related to this information, please contact me by telephone at (434) 832-3347, or by e-mail at [Gayle.Elliott@framatome.com](mailto:Gayle.Elliott@framatome.com).

Sincerely,

**ELLIOTT**  
**Gayle**

Digitally signed by  
ELLIOTT Gayle  
Date: 2025.05.29  
07:22:15 -04'00'

Gayle Elliott, Director  
Licensing & Regulatory Affairs  
Framatome Inc.

cc: N. Otto  
Project 728

Y601  
TE19  
NRR

Attachments:

- 1 Notification of 10 CFR 21 Defect



## **Attachment 1**

### **Notice of 10 CFR 21 Defect**

**Subject:**

Notification of 10 CFR 21 Defect

**Name and Address of Individual Informing the Commission:**

Gayle Elliott  
Director, Licensing & Regulatory Affairs  
Framatome Inc.  
3315 Old Forest Road  
Lynchburg, Va. 24501

**Title:**

Spring Cup on Pushrod Contacting Operator Enclosure When Circuit Breaker Opened and Closed

**Identification of Basic Activity:**

Model 5-3AF-GEU-350-1200 Breaker

**Basic Activity Supplied By:**

Framatome Inc.

**Nature of Defect:**

During refurbishment of 5kv, 1200A GEU breakers for Arkansas Nuclear One (ANO), an interference was identified in the operator mechanism. One of the parts replaced during refurbishment is the bell crank, which acts as a lever between the pushrod and the movable side of the vacuum interrupter. This translates horizontal movement into vertical movement and is acted upon every time the breaker is operated (opened or closed). With the replacement of the newer and shorter bell crank, the spring cups on the breaker are too close to the operator and make contact with the operator box when the breaker is closed. This results in a higher amount of force needed to close the breaker. This higher amount of force coupled with the interference could potentially cause the pushrods to break.

If the pushrods were to break when the breaker was attempting to close, then the phase(s) with the broken pushrod would not have any contact pressure, meaning the contact could potentially weld and the phase would not trip.

If the pushrods were to break when the breaker was attempting to open, then the phase(s) with the broken pushrod would potentially not open, which could cause significant safety issues and potentially create a substantial safety hazard.



**Defect Determination Date:**

This issue was determined to be a 10 CFR 21 Defect on May 21, 2025.

**Location of Basic Components:**

Twenty-one (21) circuit breakers were refurbished by Framatome and supplied to ANO. These breakers are installed on their vital buses and feed various equipment.

**Corrective Actions to Date:**

The corrective action is to change out the bell cranks that were installed on the breakers during the refurbishment with the original design bell cranks, as this will eliminate the interference of the spring cups and pushrod springs. In addition to changing out the bell cranks, the closing springs will be replaced to ensure that the breaker is adjusted properly as the elimination of the interference means less closing force will be required. The vacuum interrupters will also be set to the original adjustment, which is shorter than the adjustment that they were being set to. This will ultimately move the bell crank where it attaches to the pushrod back and down, providing more room in between the spring cups/pushrods and the operator backplane.

**Advice Related to the Defect:**

Framatome provided written correspondence to ANO to advise that this issue is a reportable defect. Framatome will continue to respond to technical questions as requested.