



## 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.

**Title:**

Breaker – Erroneous Change of State

**Identification of Basic Activity:**

Eaton Corporation Breakers

**Basic Activity Supplied By:**

Framatome Inc.

**Nature of Defect:**

In 2011, Framatome Inc. (Framatome) supplied a DS-206DC Breaker that closed at the end of a charging cycle. This is not supposed to occur. The DS-206DC circuit breaker is a power circuit breaker. A power circuit breaker has a mechanism that must be CHARGED before the breaker can be CLOSED. Once the breaker is CHARGED, it must remain CHARGED until the end user commands the breaker to CLOSE. A power circuit breaker is charged by extending the closing springs. The power circuit breaker is closed by releasing the energy in the closing springs. The circuit breaker went from CHARGED directly to CLOSED without the end user initiating a command to CLOSE the breaker.

The cause of the “auto-close” (automatic closure of the breaker at the end of the charging cycle) was that Eaton made the trigger roller (Eaton Part # 783A446H01) out of round. The trigger roller is a component in the main cam assembly (Eaton Part # 436B418G03). Normally, after the breaker is charged, the trigger roller on the main cam assembly contacts the close prop. The trigger roller and close prop remain in contact until the end user commands the breaker to be closed. Since the trigger roller is made “out of round” to a degree higher than specified by Eaton’s design drawings, and if the trigger roller is radially located in in a certain position, the trigger roller could “roll past” the close prop, release the stored energy in the closing springs and close the breaker. These DS power breakers must be racked into the connected position before they can transmit power to their connected load. If this breaker were to open and then charge (electrically or manually) and “auto-close”, this would result in a possible unwanted start of the load the breaker is associated with (motor, heater, etc.).

**Defect Determination Date:**

This issue was determined to be a 10 CFR 21 Defect on April 6, 2023.

**Location of Basic Components:**

Framatome supplied breakers and/or potentially affected parts (such as the main cam assembly) to the following customers:

Calvert Cliffs / Electrical Load / DS-206, DS-416 Breakers  
KRSKO / Electrical Load / DS-206DC Breakers  
Oconee / Reactor Trip Switchgear / DSII-516 Breakers  
STP / Electrical Load / DS-206, DS-416 Breakers  
TVA / Electrical Load / DS-206, DS-416 and DS-632 Breakers

**Corrective Actions to Date:**

Eaton made changes to their manufacturing process to correct the issue. Affected utilities will be provided an inspection procedure to determine if the defect is located in affected components that may be in storage or in operation.

**Advice Related to the Defect:**

Framatome will be providing written correspondence to each affected customer to advise that this issue is a reportable defect. Framatome will respond to technical questions as requested.