Part 21 (PAR) Event # 51293

Rep Org:	ABB INC. (MEDIUM VOLTAGE SERVICE)	**Notification Date / Time:**	08/06/2015 14:23 (EDT)
Supplier:	ABB INC. (MEDIUM VOLTAGE SERVICE)	**Event Date / Time:**	08/06/2015 (EDT)
		Last Modification:	08/06/2015
Region:	1	**Docket #:**	
City:	FLORENCE	**Agreement State:**	Yes
County:		**License #:**	
State:	SC		

NRC Notified by:	DAVID BROWN	**Notifications:**	ART BURRITT	R1DO
HQ Ops Officer:	JEFF ROTTON		ANTHONY MASTERS	R2DO
Emergency Class:	NON EMERGENCY		ROBERT DALEY	R3DO
10 CFR Section:			PART 21/50.55 REACTORS	EMAIL
21.21(d)(3)(i)	DEFECTS AND NONCOMPLIANCE			

PART 21 REPORT - NOTIFICATION OF DEVIATION REGARDING HK CIRCUIT BREAKER PIVOT PIN

The following summary was excerpted from a facsimile received from ABB:

"This letter provides notification of a failure to comply with specifications associated with a pivot pin, part number 193610B00, used in HK circuit breakers. This pin is used as the pivot point for the arcing contacts. Information is provided as specified in 10CFR21 paragraph 21.21(d)(4).

"Notifying individual: Jay Lavrinc, Vice President & General Manager, ABB (Medium Voltage Service), 2300 Mechanicsville Road, Florence, SC 29501, phone number: (843) 413-4727

"Identification of the Subject component: ABB part number 193610B00 pivot pin. This pivot in is used on new legacy HK circuit breakers and during HK breaker refurbishments. The pivot pin is also available as a component item, as part of HK breaker refurbishment kits, and as part of upper terminal contact assemblies.

"Nature of the deviation: During a breaker refurbishment at the ABB Florence facility, it was noted that a pivot pin cracked at the threads during installation. The peening operation performed on the threaded end of the pivot pin caused cracking due to brittle failure. Laboratory testing revealed that this particular pivot pin was made from an incorrect material. This pivot pin was purchased in April of 2015 and parts from this batch were used between 14 April and 28 May of 2015. There have been no field failures reported at this time.

"Corrective actions include:
a. Removed all remaining pivot pins from stock. (Action complete)
b. Contact primary vendor to investigate cause and correct on future orders. (Action Complete)
c. Added material verification to our Critical Characteristic cards for future orders. (Action Complete)

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d. Upgrade of ABB's spectrometer to analyze this silicon bronze material on all future shipments. (Action Complete)
e. Obtained and tested, via qualified laboratory, a batch of pivot pins to supply to customers. (Action Complete)
f. Notification of the potential existence of this deviation to affected customers (Action to be completed the week of 10 August 2015)

"Affected Customers: Dominion (Surry Power Station); DTE Energy (Enrico Fermi Power Plant 2); Exelon Corporation (Limerick Generating Station); TVA (Sequoyah Nuclear Plant)

"Recommendations: If the part was installed in a breaker or assembly and the threaded end did not show signs of failure or fracture at installation, it is not considered to be part of the suspect population. ABB recommends that these pivot pins be visually inspected at the next convenient maintenance cycle. If the pivot pin is in their inventory as a component item or in a kit and was shipped in the time interval of the suspect material, it should be returned to ABB for replacement."

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HOO Hoc

From: David C. Brown <david.c.brown@us.abb.com>
Sent: Thursday, August 06, 2015 2:31 PM
To: HOO Hoc
Subject: [External_Sender] ABB, Inc. (Florence, SC) - Color Copy of Part 21 Notification
Attachments: ABB - Part 21 Notification - Pivot Pin.pdf

Good afternoon. Attached is a PDF (color copy) of the Part 21 Notification that I submitted via fax a few moments ago. Please let me know if anything further is needed.

Thanks,

David C Brown
QA Engineer
ABB Inc.
2300 Mechanicsville Road
29501-0524, Florence, South Carolina, UNITED STATES
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Mobile: +1 843 496 8161
email: david.c.brown@us.abb.com

ABB

August 6, 2015

Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001
FAX 301-816-5151

Subject: 10CFR Part 21 Notification of Deviation re. HK Circuit Breaker Pivot Pin

1. This letter provides notification of a failure to comply with specifications associated with a pivot pin, part number 193610B00 (see Figure 1), used in HK circuit breakers. This pin is used as the pivot point for the arcing contacts. Information is provided as specified in 10CFR21 paragraph 21.21(d) (4).

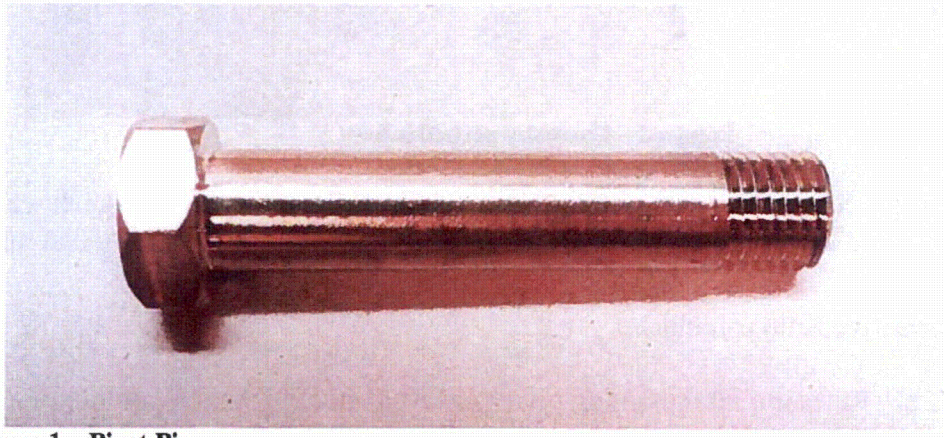

Figure 1 – Pivot Pin

2. Notifying individual: Jay Lavrinc, Vice President & General Manager, ABB (Medium Voltage Service), 2300 Mechanicsville Road, Florence, SC 29501

3. Identification of the Subject component: ABB part number 193610B00 pivot pin. This pivot pin is used on new legacy HK circuit breakers and during HK breaker refurbishments. The pivot pin is also available as a component item, as part of HK breaker refurbishment kits, and as part of upper terminal contact assemblies.

4. Nature of the deviation:

   During a breaker refurbishment at the ABB Florence facility, it was noted that a pivot pin cracked at the threads during installation. The peening operation performed on the threaded end of the pivot pin (see Figure 2) caused cracking due to brittle failure. Laboratory testing revealed that this particular pivot pin was made from an incorrect material.

ABB Inc.

2300 MECHANICSVILLE ROAD
FLORENCE, SC 29501 USA

MEDIUM VOLTAGE SERVICE

PHONE (843) 413-4727
FACSIMILE (843) 413-4853

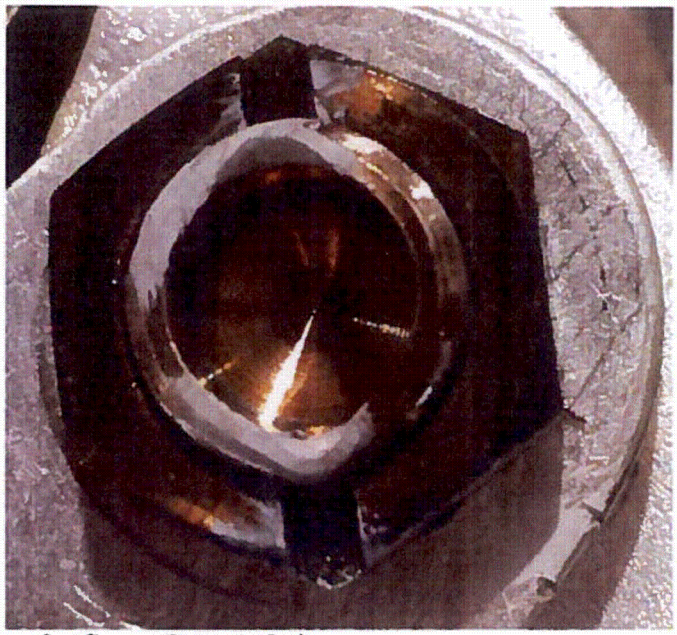

Figure 2 – Correctly peened pin

This pivot pin was purchased in April of 2015 and parts from this batch were used between 14 April and 28 May of 2015. There have been no field failures reported at this time.

5. Corrective actions include:

    a. Removed all remaining pivot pins from stock. (Action complete)
    b. Contact primary vendor to investigate cause and correct on future orders. (Action Complete)
    c. Added material verification to our Critical Characteristic cards for future orders. (Action Complete)
    d. Upgrade of ABB's spectrometer to analyze this silicon bronze material on all future shipments. (Action Complete)
    e. Obtained and tested, via qualified laboratory, a batch of pivot pins to supply to customers. (Action Complete)
    f. Notification of the potential existence of this deviation to affected customers (Action to be completed the week of 10 August 2015)

    Affected Customers:

    - Dominion (Surry Power Station)
    - DTE Energy (Enrico Fermi Power Plant 2)
    - Exelon Corporation (Limerick Generating Station)
    - TVA (Sequoyah Nuclear Plant)

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6. Recommendations:

If the part was installed in a breaker or assembly and the threaded end did not show signs of failure or fracture at installation, it is not considered to be part of the suspect population. ABB recommends that these pivot pins be visually inspected at the next convenient maintenance cycle.

If the pivot pin is in their inventory as a component item or in a kit and was shipped in the time interval of the suspect material, it should be returned to ABB for replacement.

Very truly yours,

Jay Lavrinc
VP & GM ABB MVS

ABB Inc.

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