Part 21 (PAR) Event # 47975

Rep Org: ABB INC		**Notification Date / Time:** 05/29/2012 17:07 (EDT)	
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Region: 1		**Docket #:**	
City: CORAL SPRINGS		**Agreement State:** Yes	
County:		**License #:**	
State: FL			
NRC Notified by: DENNIS BATOVSKY		**Notifications:** HIRONORI PETERSON	R3DO
HQ Ops Officer: MARK ABRAMOVITZ		PART-21 GROUP	
Emergency Class: NON EMERGENCY			
10 CFR Section:			
21.21(a)(2)	INTERIM EVAL OF DEVIATION		

PART-21 NOTIFICATION - PROTECTIVE RELAYS MAY NOT BE QUALIFIED FOR HARSH ENVIRONMENTS

The following report was received via fax:

"During the commercial grade dedication process for a unit that was returned for repair, the unit was found to be in nonconformance with ABB specifications. The ABB specifications require that two (2) particular components, integrated circuits (ICs) of plastic construction, are replaced with 2 ICs of ceramic construction during the assembly process. The chips found on the harmonic filter circuit board (HF Board) of the relays were of plastic construction. While plastic ICs are approved for use in commercial relays, they have not been qualified for safety-related applications. Relays in this condition will function normally in mild environments, but have not been qualified for harsh environments, or for elevated radiation environments."

The affected solid state relays are 27N and 59G. The potentially affected site is Fermi-2.

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IE19
NRR

ABB

May 29, 2012

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

Subject: 10 C.F.R. Part 21 Notification of Potential Defect, Solid State Relays 27N and 59G

Dear Sir or Madam:

This letter provides an interim report and notice of deviation from specification requirements associated with Solid State Relays 27N and 59G shipped between August 1, 2010 and October 15, 2010.

The notifying individual is Mr. Dennis Batovsky, Managing Director, ABB Inc. (Protective Relay and Switches) 4300 Coral Ridge Drive, Coral Springs FL, 33065.

On March 29, 2012, a Corrective Action Request documented a nonconformance to ABB assembly procedures for the 27N and 59G solid state relays. During the commercial grade dedication process for a unit that was returned for repair, the unit was found to be in nonconformance with ABB specifications. The ABB specifications require that two (2) particular components, integrated circuits ("ICs") of plastic construction, are replaced with 2 ICs of ceramic construction during the assembly process. The chips found on the harmonic filter circuit board ("HF Board") of the relays were of plastic construction. While plastic ICs are approved for use in commercial relays, they have not been qualified for safety-related applications. Relays in this condition will function normally in mild environments, but have not been qualified for harsh environments, or for elevated radiation environments.

In the event that these components are exposed and fail, the relay will not perform to specification. Due to the unknown nature of the potential failure, the actual manifestation of this failure is unknown.

The investigation of the incident indicated a deficiency in the manufacturing process and a training deficiency for a newly hired dedication technician. Review of the shipped relays with secondary boards similar to the HF Board during an extended period of time following the technician's hiring date revealed the extent of the issue and allowed ABB to compile a list of customers who may have an affected relay.

The following actions will be or have been completed:

- The returned 59G Relay has been repaired, dedicated and returned to the customer.
- Remedial measures for Process Verification and training of assembly personnel related to this issue were identified.

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- Procedures have been verified and technicians trained to ensure that commercial grade dedication procedures include the verification of ceramic IC's.
- Training plans for Dedication Technicians review to prevent recurrence of the training issue
- Qualification and testing of representative plastic ICs to confirm acceptability and use in safety-related applications. Initial phase of this qualification is expected to be complete by June 30, 2012.

ABB does not have the capability to perform the evaluation to determine if a defect exists in a specific application, so we are informing the purchasers or affected licensees of this determination so that the purchasers or affected licensees may evaluate the deviation or failure to comply, pursuant to §10 C.F.R. 21.21(a). The list of affected customers is below; formal notification of the affected customers will be completed by June 1, 2012.

Eighteen (18) Relays (Material number: 211T4175-HF-1E) were sold to ABB Florence who in turn shipped the same to Detroit Edison's Fermi 2 Power Plant

If you have any questions regarding this notice, please contact ABB Technical Support at 954-752-6700.

Very truly yours,

Dennis Batovsky

Dennis Batovsky

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