

Part 21 (PAR)

Event # 50691

<b>Rep Org:</b> ABB GROUP		<b>Notification Date / Time:</b> 12/17/2014 17:38 (EST)	
<b>Supplier:</b> ABB GROUP		<b>Event Date / Time:</b> 12/17/2014 (EST)	
<b>Last Modification:</b> 11/17/2016			
<b>Region:</b> 1	<b>Docket #:</b>		
<b>City:</b> CORAL SPRINGS	<b>Agreement State:</b>	Yes	
<b>County:</b>	<b>License #:</b>		
<b>State:</b> FL			
<b>NRC Notified by:</b> DENNIS BATOVSKY		<b>Notifications:</b> DONNA JANDA	R1DO
<b>HQ Ops Officer:</b> JOHN SHOEMAKER		KATHLEEN O'DONOHUE	R2DO
<b>Emergency Class:</b> NON EMERGENCY		AARON MCCRAW	R3DO
<b>10 CFR Section:</b>		NEIL OKEEFE	R4DO
21.21(d)(3)(i) DEFECTS AND NONCOMPLIANCE		PART 21 GROUP	EMAIL

## PART 21 REPORT - POTENTIAL DEFECT REGARDING KF RELAYS

"Recent seismic testing results of the above Class 1E KF under-frequency relays uncovered inaccurate qualification by similarity to the tested relay 1328D72A03 (qualified in 2011). The subject relays do not meet the previously published ZPA rating, but meet a rating of 1.7g in accordance with IEEE C37.98-1987 requirements.

"Records show a total of 37 suspect relays were provided to seven customers. ABB does not have the capability to perform the evaluation to determine if a defect exists, thus we are notifying the purchasers or affected licensees of this determination so that they may evaluate the deviation, pursuant to 10 CFR. 21.21(b).

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

"Dennis Batovsky  
Managing Director"

\*\*\* UPDATE FROM DENNIS BATOVSKY TO HOWIE CROUCH VIA FAX ON 3/5/15 AT 1522 EST \*\*\*

"This letter is an update to the Part 21 Notification submitted on December 17, 2014, 'Potential defect regarding KF relay zero period acceleration (ZPA) rating'.

"ABB reminds all licensees, that per ABB KF Under-frequency relays, Instruction Leaflet 41-503.21A effective April 1997, 'the normally closed contact at terminal number 2 should not be used for critical circuits due to a low fragility rating'.

IE19  
NRK

"ABB [has] conducted the following actions:

-ABB has performed an initial extent of condition evaluation to determine if this situation exists in other electromechanical IE qualified relays. There are no additional findings at this time.

-ABB issued a corrective action to improve existing engineering qualification procedures that govern qualification by similarity.

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

Notified R1DO (Burritt), R2DO (Sykes), R3DO (Cameron), R4DO (Kellar) and Part 21 Group (via email).

\* \* \* UPDATE FROM DENNIS BATOVSKY TO DONALD NORWOOD AT 1621 EST ON 11/17/2016 VIA FAX \* \* \*

The following is a synopsis of the updated information received:

The seismic testing results for 1328D72A01 and 1328D72A02 Class 1E KF Under-frequency relays met a ZPA rating of 1.72g. This was previously communicated as 1.7g.

In lieu of previously communicated actions, future orders for 1328D72A01 and 1328D72A02 Class 1E KF Under-frequency relays will be only available at the published ZPA rating of 1.72g. Customers requiring higher ZPA will need to procure Class 1E KF style 1328D72A03 or 1328D72A04, as appropriate.

Notified R1DO (Bickett), R2DO (Lopez), R3DO (Peterson), R4DO (Azua) and Part 21 Group (via email).

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November 17, 2016

**US Nuclear Regulatory Commission**  
Washington, DC 20555-001

**Subject:** Amendment to Previously Submitted Notification: 10 C.F.R. Part 21 Notification of Deviation.

This letter is a 2nd update to the Part 21 Notification submitted on December 17, 2014 (amended May 05 2015). Potential Defect Regarding KF Relay Zero Period Acceleration (ZPA) Rating.

This letter provides notification of a deviation from the published ZPA rating for Class 1E KF styles 1328D72A01 and 1328D72A02.

Seismic testing results provided to ABB on Oct 20, 2014 indicated that the above Class 1E KF under-frequency relays met a ZPA rating of 1.72g (previously communicated as 1.7g) in accordance with IEEE C37.98-1987 requirements. This is a deviation from the previously published 5.3g ZPA. The originally tested relay (1328D72A03) contains internal circuitry that provides additional protection in seismic events that is not present in the affected relays. Specifically, the relays that meet 5.3g ZPA have an Indicating Contactor Switch (ICS) unit as part of the assembly, and the affected relays do not. ABB has determined that the original qualification by similarity was in error. This deviation may prevent the relay from performing its intended safety function during a seismic event in excess of the ZPA rating.

Records show a total of 37 suspect relays were provided to seven customers detailed in the separately attached document provided. ABB does not have the capability to perform the evaluation to determine if a defect exists, thus we are notifying the purchasers or affected licensees of this determination so that they may evaluate the deviation, pursuant to 10 C.F.R. 21.21(b).

ABB recommends that the affected licensees evaluate their specific application and determine whether the deviation described in this notice affects their design basis. If it is determined that it does, the licensees should contact ABB to determine appropriate corrective action.

ABB reminds all licensees, that per ABB KF Under-frequency relays, Instruction Leaflet 41-503.21A effective April 1997, "The normally closed contact at Terminal number 2 should not be used for critical circuits due to a low fragility rating".

ABB has conducted the following actions:

- In lieu of previously communicated actions, future orders for 1328D72A01 and 1328D72A02 Class 1E KF Under-frequency relays will be only available at the published ZPA rating of 1.72g. Customers requiring higher ZPA will need to procure Class 1E KF style 1328D72A03 or 1328D72A04, as appropriate.
- ABB has performed an initial extent of condition evaluation to determine if this situation exists in other electromechanical 1E qualified relays. There are no additional findings at this time.



- ABB issued a corrective action to improve existing engineering qualification procedures that govern qualification by similarity.

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

Very truly yours,

A handwritten signature in black ink, appearing to read 'Dennis Batovsky', written over a horizontal line.

**Dennis Batovsky**  
Managing Director



### Customer List for 1328D72A01 and 1328D72A02 KF Relays

#### ABB Florence

ORDER	DATE	STYLE	SERIAL NO.	QTY
CRS2086	9/16/2009	1328D72A02	12253	1
CRS1175	1/12/2007	1328D72A02	11759A	1
COR7409	08/14/1997	1328D72A01	10651	1

#### ABB Ltd Cheonan Korea

ORDER	DATE	STYLE	SERIAL NO.	QTY
XAM13349	12/1/2011	1328D72A01	12730, 12731 & 12732	3

#### ABB Ltd Chungchungnam-Do Korea

ORDER	DATE	STYLE	SERIAL NO.	QTY
XAS12183	3/23/2010	1328D72A01	12366	1

#### ABB LTD. SO. KOREA-KR

ORDER	DATE	STYLE	SERIAL NO.	QTY
XAS6784	10/2/2007	1328D72A01	11925 & 11926	2
XASB141	7/7/2008	1328D72A01	12025 & 12026	2

#### Georgia Power Company Birmingham

ORDER	DATE	STYLE	SERIAL NO.	QTY
RAC1000	6/3/2014	1328D72A02	12884 & 12885	2

#### WESCO- Murrysville PA

ORDER	DATE	STYLE	SERIAL NO.	QTY
VEH0884	10/10/1995	1328D72A01	10439A	1
VEH1137	3/14/1996	1328D72A01	10519	1
VEC2996	5/6/1999	1328D72A02	10842	1
VEC3333	10/27/1999	1328D72A02	10876	1
VEP1498	5/21/2007	1328D72A02	11801	1
VEP1514	5/24/2007	1328D72A02	11793,11794,11795,,11796,11797,11798,11799, 11800	8
VEP2192	1/31/2008	1328D72A02	11974, 11975, 11976, 11977, 11978, 11979, 11980	7
VEP2691	7/10/2008	1328D72A02	12027 & 12028A	2

#### COMM EDISON CO.

ORDER	DATE	STYLE	SERIAL NO.	QTY
NAP7507	01/27/1999	1328D72A02	01293 & 04405B	2