Part 21 (PAR) Event # 49856

Rep Org: NUCLEAR LOGISTICS, INC.		**Notification Date / Time:** 02/26/2014 17:19	(EST)
Supplier: NUCLEAR LOGISTICS, INC.		**Event Date / Time:** 01/28/2014	(CST)
		Last Modification: 02/26/2014	
Region: 4	**Docket #:**		
City: FORT WORTH	**Agreement State:**	Yes	
County:	**License #:**		
State: TX			
NRC Notified by: TRACY BOLT	**Notifications:**	BOB HAGAR	R4DO
HQ Ops Officer: STEVE SANDIN		DANIEL RICH	R2DO
Emergency Class: NON EMERGENCY		ANNE DeFRANCISCO	R1DO
10 CFR Section:		PART 21 GROUP	EMAIL
21.21(d)(3)(i) DEFECTS AND NONCOMPLIANCE			

PART 21 REPORT INVOLVING A POTENTIAL MANUFACTURING DEFECT IN REPLACEMENT MASTERPACT CRADLES

The following information was received via facsimile:

"Part 21 Report No: P21-01312014

"Subject: Report of potential defect per 10CFR Part 21 primary disconnect assembly

"Pursuant to 10CFR 21.21(d)(3)(ii), AZZ/NLI is providing written notification of the identification of a defect. This letter is to notify you of a potential manufacturing defect concerning primary disconnect assemblies used on Masterpact replacement cradles. These assemblies are used in the replacement of the circuit breakers in low voltage switchgear.

"The following information is required per 10CFR 21.21(d)(4),

"(i) Name and address of the individual or individuals informing the Commission.

Aron Seiken, Vice President
Nuclear Logistics, Inc.
7410 Pebble Drive
Ft. Worth, TX 76118

"(ii) Identification of the facility, activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

IE19
NRR

Part 21 (PAR) Event # 49856

Facility:

Nuclear Logistics, Inc.
7410 Pebble Drive
Ft. Worth, TX 76118

"The specific part which fails to comply or contains a defect:

"Primary disconnect (p/n AHX30701) for Square D replacement low voltage switchgear breaker cradles (model LGSB4).

"(iii) Identification of the firm constructing or supplying the basic component which fails to comply or contains a defect.

"The primary disconnect was manufactured by Square D Services (Schneider Electric) and supplied as a dedicated component by Nuclear Logistics, Inc.

"(iv) Nature of defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

"The cradle is an adaptor between the replacement circuit breaker and the existing switchgear cubicle. Part of the interfaces is the primary disconnects (fingers). The cradle primary disconnects connect to the bus stabs in the switchgear. The cradle primary disconnects are designed to account for vertical misalignment of the stabs in the switchgear. The primary disconnect fingers have vertical flexibility (float) that maintains the finger pressure on the bus stabs when the bus stabs are not completely aligned in the vertical axis.

"The fabrication drawing for the primary disconnect fingers had an incorrect tolerance. If the fingers are made with a dimension at the low end of the specified tolerance, there will be interference with a mating part. This reduces or eliminates the vertical float for the fingers. If the cradle is installed in a switchgear cubicle with vertically misaligned bus stabs, the disconnect fingers may have inadequate contact pressure. This condition may result in a higher than normal contact resistance from the cubicle stab to the cradle primary disconnect. The higher contact resistance at any one finger contact could cause an unacceptable temperature rise at that connection point. At very high temperatures, the springs that maintain the finger contact pressure could relax, which would further increase the connection resistance and cause additional overheating.

"This would not be an issue if there was no vertical misalignment of the switchgear cubicle stabs. See the additional clarifications in section (vi) below.

"(v) The date on which the information of such defect or failure to comply was obtained.

"The information that there is a defect was obtained on January 28, 2014.

"(vi) In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for being supplied for, or may be supplied for, manufactured or being manufactured for one or more facilities or activities subject to the regulations in this part.

"The issue is applicable to 1600amp cradles only. The same and similar disconnects are used in the different cradle designs identified below. A list of the cradle types, primary disconnect part numbers and affected facilities (plants) in Table 1 as follows:

"TABLE 1

Part 21 (PAR) Event # 49856

Plant Name / Cradle-Breaker Type / Primary disconnect part number / Quantity / Original breaker type-Notes

OPPD-Ft. Calhoun/LGSB4 with Masterpact NW breaker/AHX30701/18/Original breakers: GE AK-50. OPPD replaced all AHX30701 with narrower disconnect p/n R300112

TVA-Browns Ferry/LGSB4 and LGSB21 with Masterpact NW breaker/AHX30701/28/Original breakers: GE AK-50.

Entergy-River Bend/LGSB9 Masterpact NW breaker/R300112/5/ Original breakers: AKR-50. Narrower disconnect.

FENOC-Beaver Valley/LGSB4 Masterpact NW breaker/AHX30701/20/Original breakers: GE AK-50

FPL-St. Lucie/LISB2 Masterpact NW breaker/AJF30101/15/Original breakers: ABB K-1600

FPL-Turkey Point/LISB2 Masterpact NW breaker/AJF30101/12/Original breakers: ABB K-1600

SCE-SONGS/LISB2 Masterpact NW breaker/AJF30101/8/Original breakers: ABB K-1600

Nextera Energy-Seabrook/LISB2 Masterpact NW breaker/AJF30101/4/Original breakers: ABB K-1600

"Additional details:

"- This issue does not affect all of the cradles identified above. Since the issue is a result of incorrect manufacturing tolerances, it will not be present on all cradles.

"- The overheating issue could be a problem with replacement circuit breakers for GE AK-50 circuit breakers. Due to the construction of the switchgear cubicles, there can be vertical misalignment of the stabs in the switchgear. If the primary disconnect float is not adequate, the overheating issue identified above could occur.

"- The overheating issue is expected to be much less prevalent or non-existent on the replacements for GE AKR and ABB K-line circuit breakers. The construction of the switchgear cubicles results in good vertical alignment of the stabs in the switchgear, so the amount of cradle finger vertical float is not as critical.

"(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

"NLI has generated Technical Bulletin TB-14-001 to direct the plants for inspections to determine if the manufacturing defect is present in the specific applications. The Technical Bulletin will be issued to the potentially impacted plants by March 4, 2014.

"NLI is in process of revising test plans to include verification of the proper operation of the primary disconnects during factory acceptance testing. The verification will be performed on 100% of supplied cradles.

"Square D Services is revising manufacturing drawings to eliminate any tolerance stack up issue that could limit the vertical movement of the finger contacts of the primary disconnect assemblies.

"(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

"NLI Will submit NLI Technical Bulletin TB-14-001 to all facilities where the potentially impacted Masterpact breakers have been installed. The technical bulletin provides a summary of the issue and provides instructions for inspection and testing of the cradles. Please contact me with any questions or comments."

Part 21 (PAR) Event # 49856

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AZZ NLI™

FACSIMILE COVER SHEET

Date: 2/26/14

TO: Document Control Desk

COMPANY: Nuclear Regulatory Commission

FAX NO.: (301) 816-5151

FROM: Tracy Bolt - Director of Quality Assurance

NO. OF PAGES INCLUDING COVER SHEET: 5

MESSAGE: The attached is a Report of Potential Defect per 10CFR Part 21

Document No: P21-01312014

If there are any problems in the transmittal of this document please call 817-284-0077.

NUCLEAR LOGISTICS INC. www.azz.com

7410 Pebble Drive • Fort Worth, Texas 76118 • 800.448.4124 Phone • 817.590.0484 Fax

AZZ NLI™

Date: February 26, 2014

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Part 21 Report No: P21-01312014

Subject: Report of potential defect per 10CFR Part 21 primary disconnect assembly

Pursuant to 10CFR 21.21 (d) (3) (ii), AZZ/NLI is providing written notification of the identification of a defect. This letter is to notify you of a potential manufacturing defect concerning primary disconnect assemblies used on Masterpact replacement cradles. These assemblies are used in the replacement of the circuit breakers in low voltage switchgear.

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7410 Pebble Drive
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Facility:

Nuclear Logistics, Inc
7410 Pebble Drive
Ft. Worth, TX 76118

The specific part which fails to comply or contains a defect:

Primary disconnect (p/n AHX30701) for Square D replacement low voltage switchgear breaker cradles (model LGSB4).

(iii) Identification of the firm constructing or supplying the basic component which fails to comply or contains a defect.

The primary disconnect was manufactured by Square D Services (Schneider Electric) and supplied as a dedicated component by Nuclear Logistics, Inc.

(iv) Nature of defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

The cradle is an adaptor between the replacement circuit breaker and the existing switchgear cubicle. Part of the interfaces is the primary disconnects (fingers). The cradle primary disconnects connect to the bus stabs in the switchgear. The cradle primary disconnects are designed to account for vertical misalignment of the stabs in the switchgear. The primary disconnect fingers have vertical flexibility (float) that maintains the finger pressure on the bus stabs when the bus stabs are not completely aligned in the vertical axis.

The fabrication drawing for the primary disconnect fingers had an incorrect tolerance. If the fingers are made with a dimension at the low end of the specified tolerance, there will be interference with a mating part. This reduces or eliminates the vertical float for the fingers. If the cradle is installed in a switchgear cubicle with vertically misaligned bus stabs, the disconnect fingers may have inadequate contact pressure. This condition may result in a higher than normal contact resistance from the cubicle stab to the cradle primary disconnect. The higher contact resistance at any one finger contact could cause an unacceptable temperature rise at that connection point. At very high temperatures, the springs that maintain the finger contact pressure could relax, which would further increase the connection resistance and cause additional overheating.

This would not be an issue if there was no vertical misalignment of the switchgear cubicle stabs. See the additional clarifications in section (vi) below.

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The information that there is a defect was obtained on January 28, 2014.

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The issue is applicable to 1600amp cradles only. The same and similar disconnects are used in the different cradle designs identified below. A list of the cradle types, primary disconnect part numbers and affected facilities (plants) in Table 1 as follows:

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Entergy-River Bend	LGSB9 Masterpact NW breaker	R300112	5	Original breakers: AKR-50. Narrower disconnect.
FENOC-Beaver Valley	LGSB4 Masterpact NW breaker	AHX30701	20	Original breakers: GE AK-50
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FPL-Turkey Point	LISB2 Masterpact NW breaker	AJF30101	12	Original breakers: ABB K-1600
SCE-SONGS	LISB2 Masterpact NW breaker	AJF30101	8	Original breakers: ABB K-1600
Nextera Energy-Seabrook	LISB2 Masterpact NW breaker	AJF30101	4	Original breakers: ABB K-1600

Additional details:

- This issue does not affect all of the cradles identified above. Since the issue is a result of incorrect manufacturing tolerances, it will not be present on all cradles.
- The overheating issue could be a problem with replacement circuit breakers for GE AK-50 circuit breakers. Due to the construction of the switchgear cubicles, there can be vertical misalignment of the stabs in the switchgear. If the primary disconnect float is not adequate, the overheating issue identified above could occur.
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NLI will submit NLI Technical Bulletin TB-14-001 to all facilities where the potentially impacted Masterpact breakers have been installed. The technical bulletin provides a summary of the issue and provides instructions for inspection and testing of the cradles.

Please contact me with any questions or comments.

Sincerely,

Aron Seiken
Vice President/General Manager