Part 21 (PAR) Event # 51303

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Supplier: MOORE INDUSTRIES		**Event Date / Time:** 06/11/2015	(EDT)
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Region: 1	**Docket #:**		
City: OAK RIDGE	**Agreement State:**	Yes	
County:	**License #:**		
State: TN			
NRC Notified by: RAY CHALIFOUX	**Notifications:**	ROBERT ORLIKOWSKI	R3DO
HQ Ops Officer: JOHN SHOEMAKER		PART 21/50.55 REACTORS	EMAIL
Emergency Class: NON EMERGENCY			
10 CFR Section:			
21.21(a)(2) INTERIM EVAL OF DEVIATION			

PART 21 INTERIM REPORT - POTENTIAL DEFECT ON P/N 535-601 MOORE INDUSTRIES MILLIAMP MODULES

The following information is a summary that was excerpted from a facsimile received from ATC-Nuclear:

"The basic component which is the subject of this notification is identified as Moore Industries Milliamp Module with part number (P/N) 535-601 (alternate P/N: 535-601-SSTRV) which has been provided individually and/or contained within a STS 535 Single Loop Process Controller.

"On December 22, 2014, ATC Nuclear received a 535 controller from Detroit Edison (DTE) with a failed Milliamp Module (P/N 535-601). The customer requested ATC Nuclear to perform a failure analysis to determine the cause of no output (0 Ma) on output 2 of the 535 controller. ATC Nuclear initiated a failure analysis in January 2015 that was broken down into several stages to determine the cause of the Milliamp Module failure. ATC Nuclear is continuing to evaluate the cause of the Milliamp Module failure and has preliminarily identified workmanship issues with a surface-mount fuse that is installed in the Milliamp Modules. ATC Nuclear has provided the results of the analysis to Moore Industries and Littelfuse to support or refute the workmanship concerns.

"Preliminary information provided by Littelfuse on June 11, 2015, was sufficient evidence to identify the existence of a deviation potentially associated with a substantial safety hazard (i.e., discovery as defined in 10 CFR Part 21). This information was documented as part of CAR 15T-24. Evaluation of reportability in accordance with 10 CFR Part 21 was not able to be completed within the 60 day evaluation period.

"The discovery date of the deviation requiring evaluation under 10 CFR Part 21 is June 11, 2015.

"ATC Nuclear has preliminarily identified a total of 285 Milliamp Modules with P/N 535-601 that have been

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supplied to customers by ATC Nuclear since 2010. However, there is not sufficient evidence to establish that all Milliamp Modules supplied to customers have defective Littelfuse surface-mount fuses (P/N 0448.100MR) installed. ATC Nuclear will continue to work with Moore Industries and Littlefuse to define the population of Milliamp Modules that potentially have a defective surface-mount fuse installed. This information will become available once our 10 CFR Part 21 evaluation is completed.

"ATC Nuclear is reviewing customer purchase orders for Milliamp Modules to identify the population of Milliamp Modules that potentially have a defective surface-mount fuse installed. Additionally, ATC Nuclear is working with Moore Industries to purge its stock of potentially defective fuses. Additional time is needed to evaluate the condition of new surface-mount fuses and it is expected that this evaluation will be completed no later than October 9, 2015.

"Littlefuse identified a very low failure rate (< .001 %) in a preliminary report issued June 2015 spanning approximately an eighteen month period commencing January 2014. There were 356,250 fuses manufactured during this period. Littelfuse is conducting a more thorough review of this failure mechanism. There is no additional advice at this time."

For additional information, contact the following;

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Date: 8/10/2015

Subject: INTERIM REPORT 10 CFR 21

# of pages including cover: 3

Comments:

NONE

August 10, 2015

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

SUBJECT: INTERIM REPORT OF POTENTIAL 10CFR PART 21 DEFECT, MOORE INDUSTRIES MILLIAMP MODULE P/N 535-601

Pursuant to 10CFR 21.21(a)(2), ATC Nuclear is providing a written interim report to inform the Commission of a potential defect with Moore Industries Milliamp Module P/N 535-601. The following information is required per 10CFR 21.21(d)(4).

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

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Vice President QA, ATC-Nuclear
777 Emory Valley Road, Oak Ridge, TN 37830
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(ii) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.

This is an interim report. The basic component which is the subject of this notification is identified as Moore Industries Milliamp Module with part number (P/N) 535-601 (alternate P/N: 535-601-SSTRV) which has been provided individually and/or contained within a STS 535 Single Loop Process Controller.

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

ATC Nuclear, 777 Emory Valley Road, Oak Ridge, TN 37830.

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

This is an interim report. On December 22, 2014, ATC Nuclear received a 535 controller from Detroit Edison (DTE) with a failed Milliamp Module (P/N 535-601). The customer requested ATC Nuclear to perform a failure analysis to determine the cause of no output (0mA) on output 2 of the 535 controller. ATC Nuclear initiated a failure analysis in January 2015 that was broken down into several stages to determine the cause of the Milliamp Module failure. ATC Nuclear is continuing to evaluate the cause of the Milliamp Module failure and has

preliminarily identified workmanship issues with a surface-mount fuse that is installed in the Milliamp Modules. ATC Nuclear has provided the results of the analysis to Moore Industries and Littelfuse to support or refute the workmanship concerns.

Preliminary information provided by Littelfuse on June 11, 2015, was sufficient evidence to identify the existence of a deviation potentially associated with a substantial safety hazard (i.e., *discovery* as defined in 10 CFR Part 21). This information was documented as part of CAR 15T-24. Evaluation of reportability in accordance with 10 CFR Part 21 was not able to be completed within the 60 day evaluation period.

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

The discovery date of the deviation requiring evaluation under 10 CFR Part 21 is June 11, 2015.

(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.

ATC Nuclear has preliminarily identified a total of 285 Milliamp Modules with P/N 535-601 that have been supplied to customers by ATC Nuclear since 2010. However, there is not sufficient evidence to establish that all Milliamp Modules supplied to customers have defective Littelfuse surface-mount fuses (P/N 0448.100MR) installed. ATC Nuclear will continue to work with Moore Industries and Littelfuse to define the population of Milliamp Modules that potentially have a defective surface-mount fuse installed. This information will become available once our 10 CFR Part 21 evaluation is completed.

(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.

ATC Nuclear is reviewing customer purchase orders for Milliamp Modules to identify the population of Milliamp Modules that potentially have a defective surface-mount fuse installed. Additionally, ATC Nuclear is working with Moore Industries to purge its stock of potentially defective fuses. Additional time is needed to evaluate the condition of new surface-mount fuses and it is expected that this evaluation will be completed no later than October 9, 2015.

(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.

Littlefuse identified a very low failure rate (< .001 %) in a preliminary report issued June 2015 spanning approximately an eighteen month period commencing January 2014. There were 356,250 fuses manufactured during this period. Littlefuse is conducting a more thorough review of this failure mechanism. There is no additional advice at this time.

(ix) In the case of an early site permit, the entities to whom an early site permit was transferred.

Not applicable.