

POWER REACTOR

EVENT NUMBER: 31371

FACILITY: MILLSTONE  
UNIT: [ ] [ ] [3]  
RX TYPE: [1] GE-3, [2] CE, [3] W-4-LP

REGION: 1  
STATE: CT

NOTIFICATION DATE: 11/22/96  
NOTIFICATION TIME: 14:05 [ET]  
EVENT DATE: 09/25/96  
EVENT TIME: 00:00 [EST]  
LAST UPDATE DATE: 11/22/96

NRC NOTIFIED BY: JAMES PESCHEL  
HQ OPS OFFICER: STEVE SANDIN

## NOTIFICATIONS

EMERGENCY CLASS: NOT APPLICABLE  
10 CFR SECTION:  
CCCC 21.21 UNSPECIFIED PARAGRAPH

UNIT	SCRAM CODE	RX CRIT	INIT PWR	INIT RX MODE	CURR PWR	CURR RX MODE
3	N	N	0	COLD SHUTDOWN	0	COLD SHUTDOWN

## EVENT TEXT

THE LICENSEE IS MAKING A PART 21 NOTIFICATION.

"IN ACCORDANCE WITH 10 CFR 21.21(d)(3)(i), NORTHEAST NUCLEAR ENERGY COMPANY (NNECO) IS PROVIDING NOTIFICATION TO THE NRC VIA THIS FACSIMILE AND CONCURRENT TELEPHONE CONVERSATION, REGARDING A POTENTIAL SIGNIFICANT SAFETY HAZARD (SSH) IDENTIFIED AT MILLSTONE STATION."

"FIFTEEN DIFFERENT FUSE TYPES FROM THREE DIFFERENT MANUFACTURERS (GOULD-SHAWMUT, BUSSMAN, AND CEFECO) WERE FOUND TO HAVE AXIAL CRACKS. THE CRACKS OCCURRED AS A RESULT OF THE BRASS FERRULE RELIEVING INTERNAL STRESS.

"DURING COMMUNICATIONS WITH MANUFACTURERS, IT WAS DETERMINED THAT THESE DEFECTS HAVE BEEN PRESENT WITHIN THE FUSE INDUSTRY FOR MANY YEARS AND THAT FUSES MANUFACTURED WITH BRASS ARE SUSCEPTIBLE TO THIS DEFECT."

"NNECO DETERMINED THAT FUNCTIONAL TESTING SHOULD BE PERFORMED ON A SAMPLE OF THE FUSES. THE RESULTS FROM THE TESTING INDICATED THAT THE FUSES MET THEIR INTENDED FUNCTION OF INTERRUPTING THE CURRENT, HOWEVER TEN OUT OF FORTY SIX FUSES HAD FERRULES PHYSICALLY BLOW OFF THE END. THE FOLLOWING IS A LIST OF THOSE FUSES THAT THE FERRULE(S) CAME OFF THE END:

GOULD-SHAWMUT

A6Y2 TYPE II, 10KA IR  
A6Y5, 200KA IR  
TRM25, 10KA IR  
A4J10, 200KA IR (2)

IE 19%

(Continued on next page)

9611260325 961122  
PDR ADOCK 05000423  
S PDR

BUSSMAN

FRN12, 200KA IR  
FRN-R25, 200KA IR  
FRN-R30, 200KA IR  
FRN-R35, 200KA IR  
FRN-R60, 200KA IR"

"CONCLUSION:

THE CRACKS COULD RESULTS IN A LOSS OF SAFETY-RELATED EQUIPMENT DUE TO THE FERRULE COMING OFF OF THE FUSE, WHICH COULD THEN SHORT OUT OR DAMAGE OTHER SAFETY-RELATED ELECTRICAL DISTRIBUTION. THIS COULD BE A SSH CONCERN THAT SHOULD BE REPORTED THROUGH 10CFR21, WITH NOTIFICATION TO OTHER UTILITIES DUE TO THE GENERIC NATURE OF THE BASIC COMPONENT."

"IN ACCORDANCE WITH 10CFR 21.21(d)(3)(ii), A WRITTEN REPORT WILL BE PROVIDED WITHIN 30 DAYS."

Northeast  
Utilities SystemTELECOPIER COVER LETTER  
(FAX)

ADM4781-1 REV 9-90

DATE 11/22/96	TIME 2:00 pm	TOTAL NUMBER OF PAGES BEING SENT. (including this page) 2
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TO:

COMPANY US NRC	
DEPARTMENT/DIVISION NRC OPERATIONS CENTER	
ATTENTION	TELEPHONE NUMBER (301) 816-5100
TELECOPIER TELEPHONE NUMBER	(INCLUDE AREA CODE) (301) 816-5151 301-816-5152

FROM:

NAME JAMES PESCHEL	ROOM NO. 475/5	TELEPHONE NUMBER * (860) 437-5840
DEPARTMENT/DIVISION MILLSTONE UNIT 3 LICENSING		
TELECOPIER TELEPHONE NUMBER	(INCLUDE AREA CODE) (860) 440-2091	

\* IF YOU DID NOT RECEIVE ALL OF THE PAGES, PLEASE CALL THIS NUMBER.

## COMMENTS/DIRECTIONS

ATTACHED IS A NOTIFICATION OF A SUBSTANTIAL  
SAFETY HAZARD EVALUATION THAT WAS COMPLETED FOR  
NUMEROUS FUSES USED AT MILLSTONE.

PLEASE CONTACT ME IF YOU HAVE ANY FURTHER QUESTIONS.

Note - Faxed to NRC Operations Center on 11/22/96

**Northeast Nuclear Energy Company  
SUBSTANTIAL SAFETY HAZARD REPORT  
November 22, 1996**

In accordance with 10 CFR 21.21(d)(3)(i), Northeast Nuclear Energy Company (NNECO) is providing notification to the NRC via this facsimile and concurrent telephone conversation, regarding a potential Significant Safety Hazard (SSH) identified at Millstone Station.

- Fifteen different fuse types from three different manufactures (Gould-Shawmut, Bussmann, and CEFCO) were found to have axial cracks. The cracks occurred as a result of the brass ferrule relieving internal stress.
- During communications with manufacturers, it was determined that these defects have been present within the fuse industry for many years and that fuses manufactured with brass are susceptible to this defect.
- NNECO determined that functional testing should be performed on a sample of the fuses. The results from the testing indicated that the fuses met their intended function of interrupting the current, however ten out of forty six fuses had ferrules physically blow off the end. The following is a list of those fuses that the ferrule(s) came off the end.

Gould-Shawmut

A6Y2 Type II, 10KA IR  
A6Y5, 200KA IR  
TRM25, 10KA IR  
A4J10, 200KA IR (2)

Bussmann

FRN12, 200KA IR  
FRN-R25, 200KA IR  
FRN-R30, 200KA IR  
FRN-R35, 200KA IR  
FRS-R60, 200KA IR

Conclusion

The cracks could result in a loss of safety-related equipment due to the ferrule coming off of the fuse, which could then short out or damage other safety-related electrical distribution. This could be a SSH concern that should be reported through 10CFR21, with notification to other utilities due to the generic nature of the basic component.

If you have any questions regarding this information, please contact Mr. James M. Peschel at (860) 437-5840. In accordance with 10CFR 21.21(d)(3)(ii), a written report will be provided within 30 days.