



**Nebraska Public Power District**

"Always there when you need us"

NLS2008101  
December 2, 2008

21.21(d)(3)

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

Subject: 10 CFR 21 Notification - Identification of Defect  
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Dear Sir or Madam:

The purpose of this letter is for the Nebraska Public Power District to provide written notification to the Nuclear Regulatory Commission regarding the identification of a defect found in a basic component at Cooper Nuclear Station. This notification is being submitted pursuant to 10 CFR 21.21(d)(3). The attachment to this letter provides the information required by 10 CFR 21.21(d)(4).

Should you have any questions concerning this matter, please contact David W. Van Der Kamp, Licensing Manager, at (402) 825-2904.

Sincerely,

Stewart B. Minahan  
Vice President - Nuclear and  
Chief Nuclear Officer

/dm

Attachment

cc: Regional Administrator, w/attachment  
USNRC - Region IV

NPG Distribution, w/attachment

Cooper Project Manager, w/attachment  
USNRC - NRR Project Directorate IV-1

CNS Records, w/attachment

Senior Resident Inspector, w/attachment  
USNRC - CNS

IE19  
LKR

**Notification per 10 CFR 21.21 (d)(3)(ii)**

This notification follows the format of and addresses the considerations contained in 10 CFR 21.21 (d)(4)(i) – (viii).

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

Stewart B. Minahan  
Vice President - Nuclear and Chief Nuclear Officer  
Cooper Nuclear Station  
P.O. Box 98  
Brownville, NE 68321-0098

- (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.

Facility:

Cooper Nuclear Station  
P.O. Box 98  
Brownville, NE 68321-0098

Basic component which fails to comply or contains a defect:

Bussmann general purpose fuse rated at 10 amps, 250 volts alternating current. Manufacturer Part Number NON-10 ; Date Code J47. "J" indicates the year of manufacture which is 2002. "47" indicates the week of manufacture was the 47<sup>th</sup> week of the year.

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

These fuses were procured as commercial grade items and dedicated by Nebraska Public Power District (NPPD).

Manufactured by: Cooper Industries, Inc.  
Bussmann Division  
114 Old State Road  
Ellisville, MO 63021

- (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:

Bussmann fuses NON-10 with a date code of J47 contained an underlying fabrication vulnerability that could have resulted in a premature failure of the fuse. These fuses have been determined by independent analysis to contain a poor solder joint internal to the fuse.

All the non-installed fuses in unrestricted inventory from this batch (21 in total) were inspected by an independent laboratory. Solder joints in the bottom ends of the fuses were of marginal quality. It appeared that the bottom-end soldering process may not have been appropriately controlled at the time the subject fuses were manufactured.

The next three figures show the failed fuse. Each of the 21 fuses examined from the batch exhibited varying degrees of the same condition.

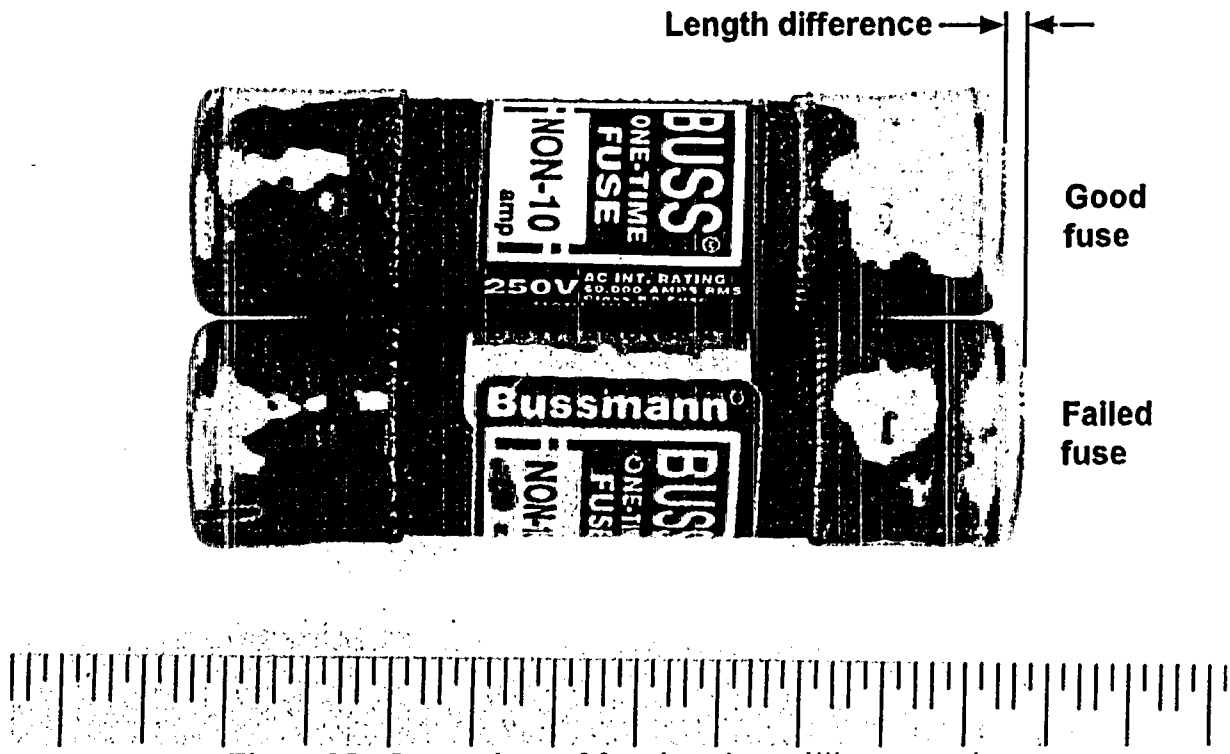


Figure 1: Difference in length between good fuse and failed fuse (millimeter scale).

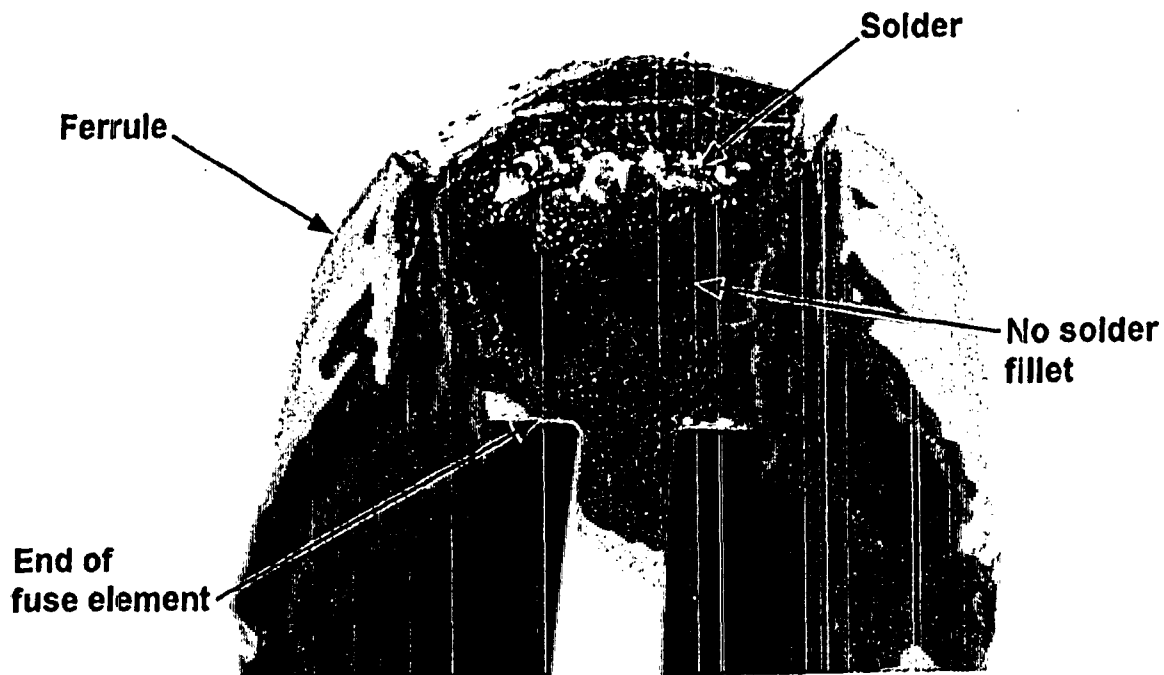


Figure 2: Detailed view of bad solder joint in failed fuse.

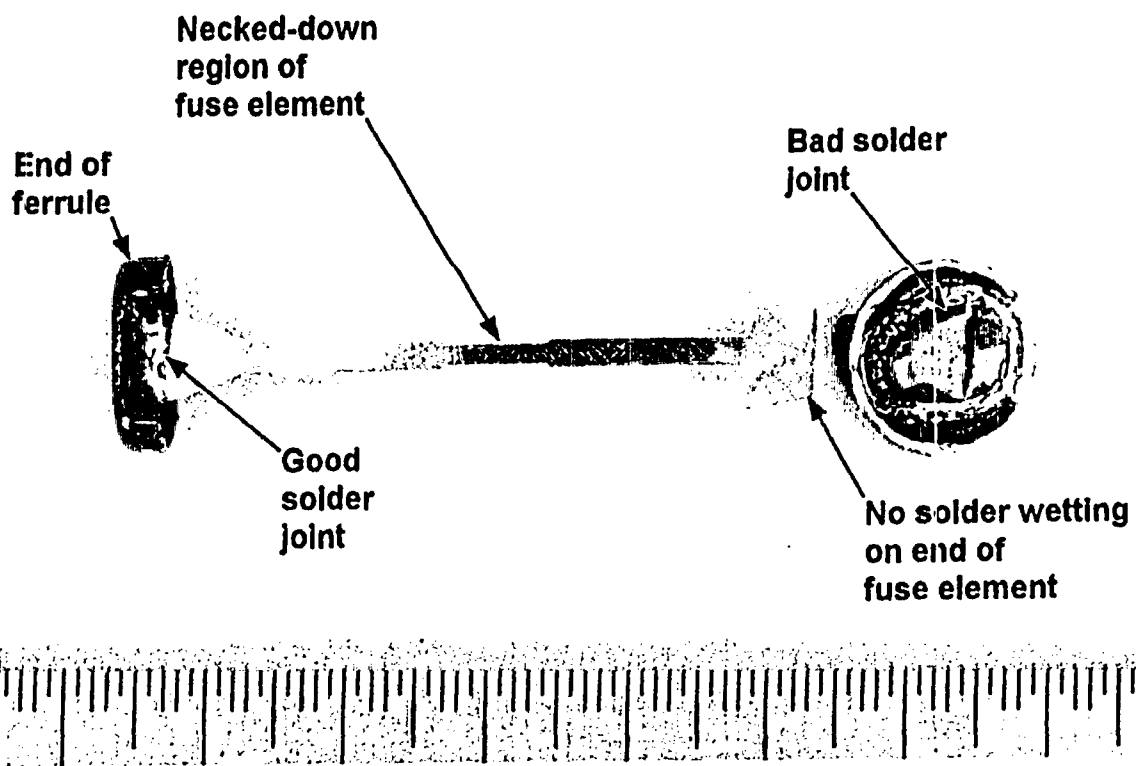


Figure 3: Failed fuse with fiber tube and most of ferrules removed (millimeter scale).

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

On November 6, 2008, NPPD completed its internal evaluation and made initial notification (Event No. 44634) to the Nuclear Regulatory Commission of this condition per 10 CFR 21.21(d)(3)(i).

- (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.

These specific fuses were purchased as commercial grade items and were dedicated by NPPD for its own use at Cooper Nuclear Station (CNS). The fuses are shipped directly from an authorized Bussmann facility to CNS. There were a total of 40 fuses in the batch coded "J47." Thirteen are installed at CNS as of November 25, 2008. Six have been removed and discarded. Twenty-one have been destructively examined in order to validate the defect and discarded. Of the 13 installed fuses, eight are installed in safety-related applications. Operability evaluations have been performed. These evaluations have concluded that the subject fuses are operable based on specific instructions for maintaining the fuses in place until replacement. None of the subject fuses have been provided by NPPD to other utilities.

- (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.

Corrective actions taken or planned:

- 1) The NPPD Procurement Engineering Department at CNS will revise the Commercial Grade Dedication plans for the Bussmann NON-10 and similarly constructed fuses to prevent future fuses from being placed into service with a similar manufactured condition. The specific actions and due dates are governed by the CNS Corrective Action Program.
  - 2) Twenty-one of the 40 fuses contained in the subject batch have been destructively examined and discarded. Six fuses have been removed and discarded. Six fuses in safety-related applications are scheduled to be replaced during December 2008 and the remaining two are scheduled to be removed during the next refueling outage, Fall 2009.
- (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.

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Attachment 1

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Utilities should contact Cooper Industries, Bussmann Division, for information regarding the potential failure modes of these fuses.

**ATTACHMENT 3 LIST OF REGULATORY COMMITMENTS©**

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Correspondence Number: NLS2008101

The following table identifies those actions committed to by Nebraska Public Power District (NPPD) in this document. Any other actions discussed in the submittal represent intended or planned actions by NPPD. They are described for information only and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
None	N/A	N/A