



Commonwealth Edison
Braidwood Nuclear Power Station
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Braceville, Illinois 60407
Telephone 815/458-2801

February 17, 1994
SVP/94-012

U.S. Nuclear Regulatory Commission
Washington, DC 20555

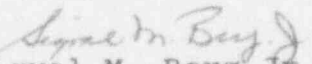
Attn: Document Control Desk

Subject: Braidwood Nuclear Power Station Units 1 and 2
Response to Notice of Violation
Inspection Report Nos. 50-456/93022; 457/93022
NRC Docket Numbers 50-456 and 50-457

Reference: G. C. Wright letter to S. Berg dated
January 20, 1994 transmitting
NRC Inspection Report
50-456/93022; 50-457/93022

Enclosed is Commonwealth Edison Company's (CECo) response to the Notice of Violation (NOV) and the inspector fillip item which were transmitted with the referenced letter and Inspection Report. The NOV cited a Severity Level IV violation requiring a written response. CECO's response is provided in the attachment.

If your staff has any questions or comments concerning this letter, please refer them to Alan Haeger, Braidwood Regulatory Assurance Supervisor, at (815)458-2801, extension 2702.


Sigval M. Berg Jr.
Site Vice President
Braidwood Station

SMB/JML/mr

Attachments

cc: J. B. Martin, NRC Regional Administrator - RIII
Ramin Assa, Project Manager - NRR
S. Du Pont, Senior Resident Inspector

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ATTACHMENT A

RESPONSE TO NOTICE OF VIOLATION
INSPECTION REPORT 50-456/93022; 50-457/93022

VIOLATION (456(457)/93022-01):

10 CFR 50, Appendix B Criterion XVI, states, in part, that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

- a. Contrary to the above, a condition adverse to quality had not been promptly corrected. A fire door between the turbine building and the auxiliary building remained inoperable from March 1991 to December 1993.
- b. Contrary to the above from March through December 1993, conditions adverse to quality had not been promptly identified and corrected. The licensee failed to identify, and take prompt corrective action for the high failure rate of emergency lighting units, some of which were needed for operation of safe shutdown equipment.

RESPONSE TO NOTICE OF VIOLATION
INSPECTION REPORT 50-456/93022; 50-457/93022
(EXAMPLE A)

REASON FOR THE VIOLATION:

The fire door was originally opened to compensate for the high differential pressure that exists between the turbine building and the auxiliary building when operating two Auxiliary Building Ventilation (VA) system fans. Operation of four VA fans is necessary to complete the balancing of the VA system. The differential pressure can be properly maintained after the system is balanced satisfactorily. Due to equipment and design problems four fan operation has not been achieved. Because the high differential pressure made opening and closing the door difficult and hazardous to personnel safety, appropriate administrative controls were initiated and the fire door was opened. These administrative controls have remained in place while the VA system issue has continued to be addressed.

Braidwood realizes that the resolution of this issue has taken considerable time. However, we feel it is important to emphasize the following:

The site has worked along with the equipment vendor on the resolution of this issue. A number of items regarding the fans have been resolved, and only upon resolution of these did other items become apparent. Some significant work items accomplished are:

- Auxiliary building differential pressure control dampers removed from discharge of VA exhaust fans, and VA exhaust duct enhanced both to decrease back pressure on exhaust fans.
- Supervisory system installed to provide vibration and temperature monitoring of fan bearings.
- Special procedure performed to collect fan strain gauge, differential pressure, vibration and bearing temperature data.
- Stiffening components added to the A and D exhaust fans.
- Fans rebuilt due to high vibration, bearing failures, blade rubbing, and catastrophic blade failure.

This issue has been tracked in the Braidwood Technical Issues Meetings. Even though the safety significance of this issue has been viewed to be low in comparison to other technical issues, the priority for resolution was raised in the summer of 1993 due to the length of time the issue has been open.

Braidwood is continually making improvements in the Engineering function and in the relationship between Maintenance and Engineering. These improvements will allow for more expeditious resolution of this issue and of similar issues in the future.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED:

Braidwood Station is continuing efforts to resolve the problems preventing operation of four VA system fans. The administrative controls for the open fire door will remain in place until the door can be closed. Although it remains open, the door continues to be capable of performing its intended function. In the event of a fire, the door can be closed by personnel present in the area, which is highly traveled.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATION:

Braidwood Station will continue to expeditiously pursue the resolution of the problems preventing VA system four fan operation. The major milestones to be accomplished include the following: repair of the A and C supply fans; installation of vibration monitoring equipment; operating four fans and monitoring system performance; collecting and evaluating air flow data; and rebalancing as required. This work with the possible exception of re-balancing is expected to be complete in approximately 3 months. Once the entire work is complete the issue of the fire door should be complete. If the work would go beyond this time frame alternatives to allow closure of the fire door will be pursued expeditiously. The NRC will be kept informed of our progress.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

Appropriate administrative controls for the open fire door continue to be in place. The door will be closed once testing is complete and VA system four fan operation is achieved, or upon implementation of some other alternative as discussed above.

RESPONSE TO NOTICE OF VIOLATION
INSPECTION REPORT 50-456/93022; 50-457/93022
(EXAMPLE B)

Braidwood Station respectfully requests that this part of the violation be reconsidered. Additional information has been supplied to Mr. D. Schrum for his review and evaluation. This information includes a report entitled, "CECo Nuclear Station Emergency Lighting Battery Pack Surveillance Testing Report," dated May 18, 1991, and Nuclear Fire Protection Information Transmittal number 91-089 dated June 20, 1991. The first document developed and provided a technical basis for Appendix R safe shutdown emergency lighting battery pack surveillance frequency. The second document provided emergency lighting maintenance and surveillance guidance.

This information was provided by cognizant Braidwood personnel after receipt of the inspection report which identified the emergency lighting concern as part of the violation. We request that Mr. Schrum return to Braidwood Station to further inspect the area of emergency lighting and to meet with cognizant personnel who were not made available during the initial inspection so that further information can be provided.

ATTACHMENT B

RESPONSE TO INSPECTOR FOLLOWUP ITEM
INSPECTION REPORT 50-456/93022; 50-457/93022

INSPECTOR FOLLOWUP ITEM (456(457)/93022-02):

The plant staff stated that a low friction straight stream nozzle and a larger diameter hose would be used to ensure that adequate flow was available from the fire hoses during a fire, but it was determined during the inspection that a larger diameter hose was not available to the fire brigade. Also, the plant had not assessed whether adequate flow would be available if fog nozzles needed to be used for an electrical fire. The licensee could not be certain that the flow would be adequate to protect the fire brigade from the fire or whether the fire brigade would be at risk from electrocution with the use of the straight stream nozzles.

RESPONSE:

The current equipment supplied to the fire brigade and provided at the hose stations is deemed acceptable. During discussions with the inspector, the Station Fire Marshal indicated that Braidwood was evaluating potential enhancements to hose stations above the 426' elevation for instances when the Fire Protection system is being supplied from the Essential Service Water system. One potential enhancement was to supply the fire brigade with 1½" hoses and fog nozzles suitable for the available pressure. While the Fire Marshal continues to evaluate various nozzles for possible use, there are no plans at this time to use larger diameter hoses with alternative nozzles.

The Braidwood fire brigade is trained on using water for electrical fires. The brigade is instructed that when the Fire Protection system is being supplied from the Essential Service Water system, using fog nozzles above the 426' elevation may be ineffective. Therefore, in the event of a fire, the brigade is to first attempt to isolate the electrical supply. If successful, straight stream nozzles can effectively be used. If the electrical supply can not be isolated, the fire brigade is trained to use straight stream nozzles with indirect application to extinguish the electrical fire, or portable carbon dioxide extinguishers and 20 lb. hand held dry chemical extinguishers. Additionally, 150 lb. and 350 lb. wheeled dry chemical extinguishers are also available for use.