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January 4, 1996

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

Subject: Braidwood Nuclear Power Station Units 1 and 2 Reply to a Notice of Violation from Inspection Report Number 50-456/457/95015 NRC Docket Numbers 50-456; 50-457

References: 1) M. J. Farber letter to K. Kaup dated December 8, 1995, transmitting Notice of Violation and Notice of Deviation from NRC Inspection Report 50-456/457/95015

Enclosed is Commonwealth Edison Company's (ComEd) response to the Notice of Violation (NOV) which was transmitted with the letter identified in reference 1. The NOV cited one Severity Level IV violation and one Notice of Deviation (NOD) requiring written response. ComEd's response is provided in the attachments.

The following commitments to the NRC are included in the attachments:

- 1) The Unit 1 handwheels have been removed from the Unit 1 bridge crane so they can be fitted with a tethering type of device. The Unit 2 handwheels will also be secured in the same manner. This action will be completed prior to fuel moves during the next Unit 1 and Unit 2 refueling outages currently scheduled for March 8, 1997, and March 2, 1996, respectively.
- 2) Corrective actions for a station trend, identified to investigate problems associated with foreign material exclusion, will be recommended and implemented as appropriate after completion of the investigation report. This report will be completed by January 31, 1996.
- 3) A clean sweep work window is scheduled during the week of February 5, 1996, to correct identified deficiencies preventing operation of the hypochlorite system for chlorination of the essential service water system. This should resolve deficiencies and ensure system reliability prior to the next lake transition period during Spring 1996.

If your staff has any questions or comments concerning this letter, please refer them to Kevin Bartes, Braidwood Regulatory Assurance Supervisor, at (815) 458-2801, extension 2980.

Karl L. Kaup
Site Vice President
Braidwood Station

KLK/JML/tts
Attachments

cc: H. J. Miller, NRC Regional Administrator - RIII
R. R. Assa, Project Manager - NRR
C. J. Phillips, Senior Resident Inspector
K. A. Strahm, Vice President PWR Operations

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ATTACHMENT I

REPLY TO A NOTICE OF VIOLATION INSPECTION REPORT 50-456/457/95015

VIOLATION (50-456/457/95015-03):

10 CFR 50, Appendix B, Criterion V, states in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

Braidwood Administrative Procedure BwAP 100-21, "Foreign Material Exclusion," Revision 0.1, Section C.2.c required in part that clear plastics not be used in the spent fuel pool area, lanyards be utilized to prevent items from being lost into systems such as the reactor vessel cavity, and that process line openings be protected from foreign material intrusion.

Contrary to the above,

On October 4, the inspectors identified unattended clear plastic within a few feet of the spent fuel pool.

On October 26, the inspectors identified that handwheels used to manually operate the bridge crane were not attached by lanyard to the refuel bridge.

On October 16, the inspectors identified that the 1A diesel generator fuel priming pump suction pipe openings were left unattended without FME barriers.

This is a Severity Level IV violation (Supplement I).

REASON FOR THE VIOLATION:

Fuel Handling personnel were removing underwater filters from the spent fuel pool when the evolution was stopped due to a worker's clear plastic face shield coming loose. The defective shield was replaced and set aside with a bag of materials and work resumed. The workers erred when they did not remove the shield and bag from the area when they temporarily exited the area.

Lanyards had not been required for the handwheels on the refuel bridge crane because BwAP 100-21, states, "Utilize tape and lanyards to prevent small items (i.e. tools, pens, eyeglasses) from being lost into systems (Ex. lanyards tied to tools when working around Reactor Cavity Pool)." The large size of the handwheels prevents them from being lost in the core. In the event that a handwheel was dropped, it would be obvious and subsequently retrieved.

The 1A diesel generator fuel priming pump suction pipe openings were left unattended without FME barriers due to lack of attention to detail on the part of the maintenance crew and their supervisor.

ATTACHMENT I

REPLY TO A NOTICE OF VIOLATION INSPECTION REPORT 50-456/457/95015

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED:

Upon notification by the inspector, Fuel Handling personnel removed the clear plastic face shield and bag of materials from the area around the fuel pool. Fuel Handling personnel were counseled on the importance of cleaning their work areas prior to leaving for any reason. Personnel were cognizant of the restrictions for use of clear plastic in the fuel handling building.

The Unit 1 handwheels have been removed from the Unit 1 bridge crane so they can be fitted with a tethering type of device. The Unit 2 handwheels will also be secured in the same manner. This action will be completed prior to fuel moves during the next Unit 1 and Unit 2 refueling outages currently scheduled for March 8, 1997, and March 2, 1996, respectively. This is being done to prevent potential fuel damage from the impact of a handwheel falling into the core.

Upon notification by the inspector, maintenance personnel placed FME barriers on the diesel generator priming pump pipe openings. Daily crew briefs discussed this event along with other FME issues that were published in the station newsletter and posted in the maintenance shop.

CORRECTIVE STEPS TAKEN TO AVOID FURTHER VIOLATION:

The Fuel Handling Department Training Matrix has been revised to provide annual training to personnel on BwAP 100-21.

FME is a regularly discussed and reinforced during maintenance tailgate sessions. Specifically for diesel generator work, special FME covers are available and utilized. Cleanliness is further emphasized in the precautions and prerequisites sections of the diesel generator inspection procedure. Standard Maintenance Procedure SMP-M-04, "Foreign Material Exclusion," provides the necessary guidance to prevent introduction of foreign materials into plant systems and components. This corporate procedure has been accepted by the station and will be phased in for use as current work packages that reference existing FME procedures are completed.

Mechanical Maintenance has assigned a first line supervisor to the Training Department for a two year rotation to administer their training. FME will be stressed and evaluated during worker training sessions.

Braidwood Station Field Observation Reports completed by maintenance supervisors, document acceptable and unacceptable behavior as observed at the work site. Deficiencies in performance are corrected upon identification. Foreign material exclusion is one of the specific attributes that is evaluated.

A station trend has been identified to investigate problems associated with foreign material exclusion. Additional corrective actions will be identified for implementation as appropriate after completion of the investigation report. This report will be completed by January 31, 1996.

ATTACHMENT I

**REPLY TO A NOTICE OF VIOLATION
INSPECTION REPORT 50-456/457/95015**

DATE WHEN FULL COMPLIANCE WITH IT, BE ACHIEVED:

Full compliance has been achieved. The clear plastic face shield was removed from the fuel pool area on October 4, 1995. The diesel generator fuel priming pump suction line openings were covered on October 16, 1995.

ATTACHMENT II

REPLY TO A NOTICE OF DEVIATION INSPECTION REPORT 50-456/457/95015

DEVIATION (50-456/457/95015-04):

Braidwood Station response to Generic Letter 89-13, dated October 27, 1994, included a commitment to continuously inject sodium hypochlorite into the essential service water system for a five-week period as the cooling lake transitioned through 65 degrees Fahrenheit.

Contrary to the above, during Fall 1995, the cooling lake transitioned through 65 degrees Fahrenheit and sodium hypochlorite was not continuously injected into the essential service water system for a five-week period.

REASON FOR THE DEVIATION:

This Deviation resulted from an insufficient supply of sodium hypochlorite and from failure of the temporary air driven transfer pump.

An insufficient quantity of sodium hypochlorite was caused by deliveries not arriving on site prior to the storage tank emptying which then required the chemical feed system to be shut down. The period of time for system shutdown due to lack of chemical accounted for approximately 60 hours in the five-week period. The Operating Department is responsible for ordering and scheduling delivery of sodium hypochlorite. Coordinating delivery of the chemical has been done by predicting when the tank will empty based on guidance from the System Engineer. However, this has been difficult due to the capacity of the storage tank being approximately equal to the capacity of the delivery truck. As a result, times existed when no chemical was available for injection into the essential service water system during the five-week lake transition period.

Failure of the temporary air driven transfer pump is attributed to operation of the pump using cold, moist supply air. Also, the station was not made aware of a manufacturer's design change that affected the air supply line requirements for the pump, but did not change the pump's model number. The period of time for system shutdown due to failure of the transfer pump accounted for approximately 70 hours in the five-week period. It was understood by Engineering and Operating personnel that this pump would likely need to be replaced and a spare pump was available on site when the associated temporary alteration was installed in September 1995. However, this spare had been returned to the corporate central warehouse sometime later and it was not immediately available when the installed pump failed.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED:

For each instance when the sodium hypochlorite system was shut down during the five-week lake transition, either chemical was on order or the transfer pump was replaced. Once the system was restored, the chlorination continued until the five-week period was completed on November 16, 1995.

Once aware of the need for the spare transfer pump, the Stores Department revised their inventory control system to maintain one pump on site, one in emergency reserve and referenced the commitment to chlorinate as the basis for maintaining the spare equipment in the event that it is needed in the future.

ATTACHMENT II

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CORRECTIVE STEPS TAKEN TO AVOID FURTHER DEVIATION:

The temporary alteration for storing sodium hypochlorite outside along with the temporary air driven transfer pump are no longer in use. Therefore, the single-failure mechanism of the air driven transfer pump no longer exists. It is expected that a new bladder tank that has been installed will make the temporary alteration unnecessary in the future. This bladder tank has a larger volume than the temporary outside tank, so maintaining a sufficient quantity of sodium hypochlorite and coordinating ordering of chemical can be successfully accomplished.

A clean sweep work window is scheduled during the week of February 5, 1996, to correct any identified deficiencies preventing operation of the hypochlorite system for chlorination of the essential service water system. This should resolve any deficiencies and ensure system reliability prior to the next lake transition period during Spring 1996.

A modification to install a new biocide system for treating the service water systems has been approved by the Business Review Committee and is currently awaiting corporate budget approval. This system is scheduled for installation in late Summer 1996, and is anticipated to be operable to meet the Fall 1996 chlorination commitment for the five-week lake transition period. This system will have the capability to inject continuously into the essential service water system year round. Redundant injection pumps for the individual trains of essential service water will prevent the system from being inoperable due to system design limitations. The existing system will be maintained dependent on the completion of the new modification so that the chlorination commitment can still be met.

DATE WHEN CORRECTIVE ACTIONS WILL BE COMPLETED:

The sodium hypochlorite system is currently available and is expected to remain available to meet the commitment to chlorinate essential service water during the five-week lake transition periods.