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# ComEd

September 24, 1997

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

Subject: Reply to Notice of Violation  
NRC Inspection Report 50-456(457)/97009  
Braidwood Nuclear Power Station Units 1 and 2  
NRC Docket Numbers 50-456 and 50-457

Reference: G. E. Grant letter to H.G. Stanley dated August 26, 1997, transmitting  
Notice of Violation from Inspection Report 50-456(457)/97009

Results from a six week inspection that ended on June 30, 1997, were documented in the Inspection Report transmitted with the letter specified in the above Reference. In addition, a Notice of Violation (NOV) was also transmitted. This NOV included three Severity Level IV Violations. ComEd's response to these violations is included in the Attachment to this letter.

Braidwood continues to emphasize the importance of procedure adherence to station personnel. Procedure adherence is key to supporting safe plant operations and improving performance. Station personnel recently attended a Human Performance awareness session during which the importance of procedure adherence and maintaining good questioning attitudes were stressed.

The following commitments were made in the attached response:

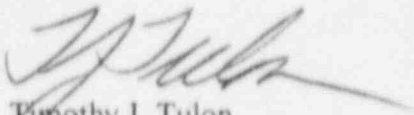
- A review of Maintenance Rule performance criteria will be conducted to ensure the criteria are appropriate for the components in the Maintenance Rule program. Revisions will be made as necessary.
- BwOP CV-24 will be reviewed for adequacy. The procedure will be revised to reference procedure BwAP 340-9 for draining evolutions. This revision will be completed by October 15, 1997, and appropriate training will be provided to Operations personnel.

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G PDR



Braidwood Station will conduct a review of the containment penetration configurations and the corresponding surveillances and administrative controls to ensure that those valves required to be surveyed per Technical Specification 4.6.1a are included in the appropriate procedures, and that those valves excluded from the Technical Specification requirement are subjected to the appropriate administrative controls.

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



Timothy J. Tulon  
Site Vice President  
Braidwood Nuclear Generating Station

Attachment

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cc: A.B. Beach, NRC Regional Administrator, Region III  
G.F. Dick, Jr., Project Manager, NRR  
C.J. Phillips, Senior Resident Inspector  
F. Niziolek, Division of Engineering, Office of Nuclear Safety, IDNS

## ATTACHMENT 1

### REPLY TO NOTICE OF VIOLATION

VIOLATION (50-456(457)/97009-02)

1. 10 CFR 50.65(a)(1) requires, in part, that the holders of an operating license monitor the performance or condition of structures, systems, and components against licensee-established goals, in a manner sufficient to provide reasonable assurance that such structures, systems, and components, within the scope of the rule, are capable of fulfilling their intended functions. When the performance or condition of a structure, system, or component does not meet established goals, appropriate corrective action shall be taken.

10 CFR 50.65(a)(2) specifies, in part, that monitoring as specified in 10 CFR 50.65 paragraph (a)(1) is not required where it has been demonstrated that the performance or condition of a structure, system, or component is being effectively controlled through the performance of appropriate preventive maintenance, such that the structure, system, or component remains capable of performing its intended function.

Contrary to 10 CFR 50.65(a)(2), the inspectors identified that as of July 10, 1996, at which time the licensee elected not to monitor the performance or condition of the post accident neutron monitoring system against licensee-established goals pursuant to the requirements of Section (a)(1), the licensee had not demonstrated that the performance or condition of the post accident neutron monitoring system was being effectively controlled through the performance of appropriate preventive maintenance. This was evidenced by recurrent and sustained periods between July 10, 1993, and July 10, 1996, where the post accident neutron monitoring system was out-of-service and unable to perform its designated function.

### REASON FOR VIOLATION

During the week of March 16, 1997, while reviewing the performance criteria for the Post Accident Neutron Monitors (PANMs), it was identified that the data source utilized for monitoring unavailability was incorrect in that unavailability was to be tracked by a Limiting Condition for Operation Action Requirement (LCOAR). The LCOAR referenced for the PANMs would not have been entered in the event the PANMs became unavailable. This error was not detected by station personnel during initial reviews. As a result of this discovery, a Problem Identification Form (PIF) was submitted to investigate the concern and identify appropriate corrective actions. A review of maintenance history revealed that the PANMs had experienced several failures. The corresponding repair activities resulted in excessive unavailability of these monitors. Based on this information it was determined that the PANMs should have been classified as (a)(1).

### CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

Upon discovering that the established unavailability monitoring data source for the PANMs was incorrect, a PIF was submitted. The station identified a means to track component unavailability and also revised the performance criteria to specifically

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target the PANMs. On June 6, 1997, Administration Action Requirement (AAR) 1/2BwOS NR 2-1a was approved to track unavailability. 1/2BwOS 3.3.6-1, "Accident Monitoring Instrumentation Monthly Channel Checks Surveillance", has been revised to provide direction for entry into the AAR. Additionally, the monitors were placed in the (a)(1) status on August 1, 1997.

Once the monitors were put in the (a)(1) status, new performance criteria were developed and approved by the station's Plant Operational Review Committee (PORC). In addition, a corrective action plan to restore the reliability of the PANMs was developed and approved. This plan includes goals to be used to monitor the effectiveness of the corrective actions.

ACTIONS TO BE TAKEN TO PREVENT RECURRENCE

A Maintenance Rule Self Assessment was conducted during the week of September 15, 1997. The scope of this audit was to evaluate the adequacy of the station's Maintenance Rule program against the requirements stated in 10CFR50.65. Specific areas of improvement were identified during this audit and resolution plans are being developed to appropriately address the concerns.

In addition, a review of Maintenance Rule performance criteria will be conducted to ensure the criteria are appropriate for the systems in the Maintenance Rule program. Revisions will be made as necessary.

DATE WHEN FULL COMPLIANCE WAS ACHIEVED

Full compliance was achieved when the appropriate performance criteria were established for the PANMs and these monitors were placed in (a)(1) status by the Plant Operations Review Committee (PORC).

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2. Technical Specification 6.8.1.a states, in part, that procedures shall be established, implemented, and maintained covering the activities referenced in Appendix A, of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33, Appendix A, Section 3.n. discusses the need for instructions to drain the chemical and volume control system. The boric acid storage tanks are part of the chemical and volume control system.

Contrary to the above, as of June 9, 1997, procedure BwOP CV-24, "Draining The CV System," Revision 0E1, used to drain the chemical and volume control system, was inadequately established in that it did not include instructions to drain the boric acid storage tanks. The failure to have an adequate procedure for this evolution resulted in the Unit 1 boric acid storage tank being drained to the floor of the boric acid storage tank room.

### REASON FOR THE VIOLATION

On Monday, June 9, 1997, the Unit 1 Boric Acid Storage Tank (BAST) was being drained to support Maintenance work activities. The drain valve was opened at approximately 0330. At 0530, four inches of water was found on the floor in the Unit 1 BAST room. Maintenance immediately contacted Operations and an Operator was dispatched to close the drain valve. Approximately 1900 gallons of borated water had spilled.

Borated water was to be drained to the "Auxiliary Building Equipment Drain System" (WE) as indicated on P&ID M-65 sheet 5B. Station personnel were unaware that the drain line used during the evolution went to a 1 ft. x 1 ft. x 1 ft. dry sump (which did not contain an installed sump pump) as indicated on M-82 sheet 9. As a result, the water collected in the BAST room and leaked through the floor seal on the 1B Auxiliary feedwater Diesel Exhaust pipe penetration (2AB-10860) located directly above the 2B Auxiliary Feed Pump. LCOAR 7.1.2-1A was entered at 0704 for the 2B Auxiliary Feed Pump. A recovery team was established to assess damage and determine operability issues of equipment.

Following an investigation of the event, it was determined that during the pre-job brief for the evolution, no reference was made to the procedures and no procedures were used during the draining of the BAST. Procedure BwOP CV-24, "Draining the CV System", should have been reviewed. It was also determined that this procedure would not have provided adequate guidance to perform drain evolutions on the CV System. The root cause evaluation conducted after the event concluded that steps within procedure BwAP 340-9, "Venting and Draining of Components and Systems", could have mitigated the event. This procedure, however, was not utilized.

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CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

Once the problem was recognized, the drain evolution was secured and clean up efforts were initiated. In addition, a Root Cause investigation was performed.

On June 11, 1997, a special Plant Operating Review Committee (PORC) meeting was held to review the completed actions taken in response to this event. This committee approved the specified actions. At 1527, the LCOAR for the 2B Auxiliary Feed Pump was exited.

CORRECTIVE ACTIONS TAKEN TO PREVENT RECURRENCE

BwOP CV-24 will be reviewed for adequacy. The procedure will be revised to reference procedure BwAP 340-9 for draining evolutions and appropriate training will be provided to Operations personnel.

The Operating managers and crew involved in this event were counseled on the importance of proper procedure usage and application of self check principles.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance will be achieved when procedure BwOP CV-24, "Draining the CV System", is revised to include references to procedure BwAP 340-9, "Venting and Draining of Components and Systems". This revision will be completed by October 15, 1997.

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3. Technical Specification 4.6.1.1.a, states, in part, that primary containment integrity shall be demonstrated at least once per 31 days by verifying that all penetrations not capable of being closed by operable containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions.

The Technical Specification 4.6.1.1.a surveillance test requirement is implemented by 1(2)BwOS 6.1.1.a-1, "Unit One (Two) Primary Containment Integrity Verification Of Isolation Devices Outside Containment," Revision 7E2.

Contrary to the above, on October 4, 1996, the licensee identified that the instrument vent and drain valves for pressure indicators 1(2)PI-929, which were required to be closed to maintain containment integrity, were not listed in surveillance test procedure 1(2)BwOS 6.1.1.a-1, "Unit One (Two) Primary Containment Integrity Verification Of Isolation Devices Outside Containment," Revision 7E2 and had not been verified closed on a 31-day frequency.

### REASON FOR THE VIOLATION

On October 4, 1996, an operator who had recently spent time at Byron Station identified that the Braidwood Outside Containment Isolation Valve surveillance (1/2BwOS 6.1.1.a-1) differed from the similar Byron surveillance. The Byron surveillance included a vent and drain valve on Safety Injection Test line local pressure indicator 1/2PI-929. These valves are not shown on any P&ID but are associated with 1/2PI-929 which is shown on P&ID-61, Sheet 6, C-2 for Unit 1 and M-136, Sheet 6, C-7 for Unit 2.

Following this discovery, an investigation was conducted. Braidwood Station believes that the surveillance procedure in place at the time of the discovery satisfied the surveillance requirement. This belief is based on the following:

- The surveillance requirement excludes those penetrations capable of being closed by an operable, automatic isolation valve. The penetration in question is isolated by automatic containment isolation valves.
- The branch line containing the isolation valve in question is downstream of an automatic isolation valve.
- The affected line contains a pressure gauge with a 0 - 3000 psi range, which is well above peak accident pressure of approximately 45 psi.
- The penetration in question is the fill line for the SI accumulators, and is used for reactor coolant boundary isolation valve leakage testing. This penetration is not used during accident mitigation.
- In order for a release to be realized from the affected branch lines, multiple failures beyond the single failure criterion are required. The penetration would have to be

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placed in communication with the containment atmosphere, the upstream automatic isolation valve would have to fail to automatically or manually close, and the pressure gauge would be required to fail. This combination of failures is beyond those required to be postulated.

- Confidence in the overall integrity of the affected penetration is routinely demonstrated through the performance of Type A and Type C leakage testing.
- The Byron / Braidwood UFSAR specifically delineates that the normally closed isolation valves in vent, drain, and branch lines are controlled through administrative controls.

Braidwood Station acknowledges that the provisions stated in the UFSAR were not satisfied in that no administrative controls were established to govern the position of the isolation valves in the branch line. The failure to implement administrative controls for these valves is attributed to the fact that the original procedure did not specify the subject valve for inclusion in the administrative control. The reason for this failure cannot be determined due to the time which has elapsed since the procedure was written.

### CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

When the question was identified, Braidwood Station conservatively entered Technical Specification 4.0.3 and expeditiously surveyed the valves. Additionally, administrative controls were applied and a procedure revision was requested to address the valves in the monthly verification.

Subsequent evaluation, including the rationale listed above, has concluded that the subject valves are not required to be surveyed per the Technical Specification, but do require positive administrative controls per the provisions of the UFSAR.

### CORRECTIVE ACTIONS TAKEN TO PREVENT RECURRENCE

Braidwood Station will conduct a review of the containment penetration configurations and the corresponding surveillances and administrative controls to ensure that those valves required to be surveyed per Technical Specification 4.6.1.a are included in the appropriate procedures, and that those valves excluded from the Technical Specification requirement are subjected to the appropriate administrative controls.

Additionally, if the NRC determines that the surveillance requirement as stated in the Technical Specifications is inadequate to implement the staff position on acceptable



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surveillance of containment penetrations, Braidwood Station will pursue a License Amendment to revise the requirement to conform to the staff position.

DATE WHEN FULL COMPLIANCE WAS ACHIEVED

Full compliance was achieved when positive administrative controls were established for the valves in question.