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January 5, 2004
BW040001

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

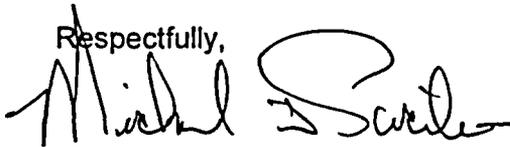
Braidwood Station, Unit 2
Facility Operating License No. NPF-77
NRC Docket No. STN 50-457

Subject: Submittal of Licensee Event Report Number 2003-003-00, "Inadvertent Auxiliary Feed Water Engineered Safety Feature Actuation Due to Placing a Clearance Order Ahead of the Outage Schedule"

The enclosed Licensee Event Report (LER) is being submitted in accordance with 10 CFR 50.73, "Licensee event report system", paragraph (a)(2)(iv)(A). 10 CFR 50.73(a) requires an LER to be submitted within 60 days after discovery of the event; therefore, this report is being submitted by January 5, 2003.

Should you have any questions concerning this submittal, please contact Kelly Root, Regulatory Assurance Manager, at (815) 417-2800.

Respectfully,



Michael J. Pacilio
Site Vice President
Braidwood Station

Enclosure: LER Number 2003-003-00

cc: Regional Administrator - Region III
NRC Braidwood Senior Resident Inspector

IE 22

Estimated burden per response to comply with this information collection request: 50.0 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bj1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NOEB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME Braidwood, Unit 2	2. DOCKET NUMBER STN 05000457	3. PAGE 1 of 3
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4. TITLE
Inadvertent Auxiliary Feed Water Engineered Safety Feature Actuation Due to Placing a Clearance Order Ahead of the Outage Schedule

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
11	04	2003	2003-003-00			1	5	2004	FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE	5	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)								
10. POWER LEVEL	0	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)					
		<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)					
		<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 73.73(a)(2)(viii)(B)					
		<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 73.73(a)(2)(ix)(A)					
		<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)					
		<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)					
		<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)					
		<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER					
		<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> OTHER	Specify in Abstract below or in NRC Form 366A				

12. LICENSEE CONTACT FOR THIS LER

NAME Gary Dudek, Operations Manager	TELEPHONE NUMBER (Include Area Code) (815) 417-2200
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO eptx	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED				15. EXPECTED SUBMISSION DATE		
Yes (If yes, complete EXPECTED SUBMISSION DATE).	X	NO		MONTH	DAY	YEAR

16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On November 4, 2003 at 2132 the Unit 2 auxiliary feedwater (AF) system received an inadvertent engineered safety feature (ESF) actuation signal while in cold shutdown due to the concurrent de-energization of two 6.9 KV buses, i.e., undervoltage on 2/4 reactor coolant pump (RCP) buses. Following the shutdown of the last remaining RCP, the 6.9 KV buses were de-energized earlier than planned in the outage schedule. While the 6.9 KV buses were being de-energized, anticipated transient without scram (ATWS) mitigation system (AMS) testing was in progress. This test requires that the A and B train AF pump auxiliary lube oil pumps remain energized. Normally the 6.9 KV buses are not de-energized until after AMS testing is complete and the AF pump auxiliary lube oil pumps de-energized. However, with the AF pump auxiliary lube oil pumps still energized, the de-energization of the 6.9 KV buses resulted in an AF actuation signal. This signal resulted in the unplanned, automatic start of both A and B train AF pump auxiliary lube oil pumps and the unplanned, automatic opening of both A and B train AF pump discharge valves. The root causes for the event were: 1) overconfidence by the outage electrical team coordinator which led to his decision to hang the 6.9 KV bus clearance orders (C/O) ahead of schedule (note that there was no process in place to control advancing the schedule activities) and 2) a procedure did not exist for de-energizing the 6.9 KV buses. The corrective actions to prevent recurrence are to develop a procedure to remove the 6.9 KV buses from service with appropriate precautions and limitations to prevent this event from occurring again, and to develop a process for changing outage schedule activities with proper oversight.

This report is being made in accordance with 10 CFR 50.73(a)(2)(iv)(A).

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Braidwood, Unit 2	STN 05000457	2003	003	00	2 of 3

A. Plant Operating Conditions Before The Event:

Unit: 2 Event Date: November 4, 2003 Event Time: 2132

MODE: 5 Reactor Power: 0 percent

Reactor Coolant System [AB]: Unit 2 was in cold shutdown operations during the 10th refueling outage (i.e., A2R10).

No structures, systems or components were inoperable at the start of the event that contributed to the event.

B. Description of Event:

There were no additional systems or components inoperable at the beginning of this event that contributed to the severity of the event.

At 1641 on November 4, 2003, AMS testing was in progress. To support the test, the AF [BA] system was set up as follows: the auxiliary lube oil pumps for the 2A and 2B AF pumps were energized (i.e., breakers ON), the breaker for the 2A AF pump was racked to TEST and in the open position with the main control board control switch in normal after trip position. The test verifies the starting of the auxiliary lube oil pumps and the opening of the AF pump discharge valves 2AF004A/B.

Hanging of the C/O for the 6.9 KV buses and the expected response of the reactor protection system were discussed during the shift briefing. Moving the C/O placements on the 6.9 KV buses up in the schedule was not discussed during the briefing. The AMS testing in progress was also discussed during the briefing.

The final running RCP was secured at 1915 on November 4, 2003, earlier than planned in the outage schedule. The operations electrical team coordinator reviewed the outage schedule and saw a window of opportunity to de-energize all four 6.9 KV buses earlier than planned in the outage schedule. Based on past outage practices, when the last RCP was stopped, this action was a trigger for starting 6.9 KV bus outages.

The electrical team coordinator performed a pre-job briefing for hanging the C/Os for 6.9 KV buses 256 and 258. During the pre-job briefing, the reactor protection system response was discussed but the AF system response was not. The electrical team coordinator was aware of the AMS testing in progress, however was not focused on the potential impact of the AMS testing on the AF system alignment. The AMS test procedure did not account for the incompatibility of the AMS testing and the de-energizing of the 6.9 KV buses. The 6.9 KV bus C/Os were discussed during the shift briefing earlier and was expected to have minimal impact on the plant since all loads on the 6.9 KV buses were shutdown.

At 2129 on November 4, 2003, the C/O for bus 256 was hung and bus 256 was de-energized. At 2132, while hanging the C/O for bus 258, an actuation signal to the Unit 2 AF system was initiated. The 2A and 2B AF pump auxiliary lube oil pumps auto-started. The 2A and 2B AF pump discharge valves automatically opened. At 2140 on November 4, 2003, power was restored to bus 258 and the AF system was restored to its AMS test lineup.

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C. Cause of Event

There were two root causes for the event. The first was overconfidence by the outage electrical team coordinator which led to his decision to hang the 6.9 KV bus C/Os ahead of schedule. There was no process in place to control advancing the schedule activities. The second was that a procedure did not exist for de-energizing the 6.9 KV buses.

D. Safety Consequences:

The AF system has no safety function in cold shutdown. Both the 2A and 2B AF pumps were disabled and incapable of injecting water into the steam generators. The AF system has no direct connection to the RCS and would not result in an RCS boron dilution event. Since the AF system is composed of non-contaminated water, no release of offsite radiation would occur. This event has no safety significance.

This event did not result in a safety system functional failure.

E. Corrective Actions:

The corrective actions to prevent recurrence are to develop a procedure to remove the 6.9 KV buses from service with appropriate precautions and limitations, and to develop a process to change outage schedule activities with proper oversight. Another corrective action is to provide a logic tie in the outage schedule between the AMS testing and the de-energization of the 6.9 KV buses.

F. Previous Occurrences:

There have been no occurrences of inadvertent ESF within the past three years.

G. Component Failure Data:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model</u>	<u>Mfg. Part Number</u>
N/A	N/A	N/A	N/A