



February 11, 2013
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10 CFR 50.73

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

Braidwood Station, Unit 1
Facility Operating License No. NPF-72
NRC Docket No. STN 50-456

Subject: Licensee Event Report 2012-005-00 – Incorrect Procedure Guidance Due to a Lack of Technical Rigor Resulted in Unplanned Inoperability of the 1A and 1B Emergency Diesel Generators

The enclosed Licensee Event Report (LER) is being submitted in accordance with 10 CFR 50.73, "Licensee Event Report System."

There are no regulatory commitments contained in this letter. Should you have any questions concerning this submittal, please contact Mr. Chris VanDenburgh, Regulatory Assurance Manager, at (815) 417-2800.

Respectfully,

Daniel J. Enright
Site Vice President
Braidwood Station

Enclosure: LER 2012-005-00

cc: NRR Project Manager – Braidwood Station
Illinois Emergency Management Agency – Division of Nuclear Safety
US NRC Regional Administrator, Region III
US NRC Senior Resident Inspector (Braidwood Station)
Illinois Emergency Management Agency – Braidwood Representative

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an 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.

1. FACILITY NAME Braidwood Station, Unit 1	2. DOCKET NUMBER 05000456	3. PAGE 1 of 3
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4. TITLE
Incorrect Procedure Guidance Due to a Lack of Technical Rigor Resulted in Unplanned Inoperability of the 1A and 1B Emergency Diesel Generators

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
12	13	2012	2012	005	00	02	11	2013	N/A	N/A
									FACILITY NAME	DOCKET NUMBER
									N/A	N/A

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)									
	<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)						
10. POWER LEVEL 100	<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"/> 50.73(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"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input 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 checked="" type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
Chris VanDenburgh, Regulatory Assurance Manager	(815) 417-2800

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	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 <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE		
	MONTH	DAY	YEAR
	N/A	N/A	N/A

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

On December 13, 2012, it was questioned whether both emergency diesel generators (DGs) would be considered inoperable if one diesel oil storage tank (DOST) room water tight door was impaired because the door between the DOST rooms was not water tight. The Plant Barrier Impairment Program procedure contained a pre-evaluated compensatory action for impairment of one of the DOST room water tight doors, which required declaring only the affected emergency diesel generator (DG) inoperable. A subsequent technical review determined that the compensatory note was incorrect and that both DOST rooms would be vulnerable to flooding with the water tight door for one DOST room impaired. A review of prior plant barrier impairments identified one instance in the previous three years where only one DG was declared inoperable while the corresponding water tight door was impaired.

The cause of the event was determined to be inadequate technical rigor, which led to improper compensatory measures being included in the Plant Barrier Impairment Program procedure. The corrective action was to revise the procedure to consider both trains of the affected unit's DGs inoperable when either DOST water tight door was impaired.

LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET

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Braidwood Station, Unit 1	05000456	YEAR	SEQUENTIAL NUMBER	REV NO.	2	OF
		2012	- 005	- 00		

NARRATIVE

A. Plant Operating Conditions Before the Event:

Event Date: December 13, 2012

Unit: 1 MODE: 1 Reactor Power: 100 percent

Unit 1 Reactor Coolant System [AB]: Normal operating temperature and pressure

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

B. Description of Event:

On December 13, 2012, a question was asked regarding the pre-evaluated compensatory action note in the Plant Barrier Impairment Program procedure for the diesel oil storage tank (DOST) room water tight doors. One of the options for an impaired DOST room water tight door was to declare the affected emergency diesel generator (DG) [EK] inoperable and enter the applicable Technical Specification (TS) Limiting Condition for Operation Action Requirement. Because the access door between a unit's two DOST rooms is not water tight, it was questioned whether both DG trains on that unit would be inoperable due to an impaired water tight door.

A review determined that both DOST rooms for the affected unit would be vulnerable to flooding with the water tight door for one DOST room impaired and that the option in the compensatory note should have considered both DG trains to be inoperable. An evaluation of completed plant barrier impairments (PBIs) during the previous three years was performed to determine if the option for declaring one DG inoperable while the corresponding water tight door was impaired was used. One instance was identified where the option may have been used while the DGs were required to be operable. On September 11, 2012 from 0804 hours to 1300 hours, a PBI was in effect for the water tight door for the Unit 1 Train B DOST (i.e., door SD-192) while the Unit 1 Train B DG was out-of-service for maintenance.

If both the 1B and 1A DGs were considered inoperable during the time the PBI was in effect, on September 11, 2012, at 0804 hours, TS 3.8.1, "AC Sources – Operating," Condition F should have been entered, with the associated Required Action to restore one DG to operable status in two hours. At 1004 hours, with the Condition F Required Action not met, Condition G should have been entered, with the associated Required Action to be in Mode 3 within six hours (i.e., 1604 hours) and in Mode 5 within 36 hours (i.e., 2204 hours on September 12, 2012). On September 11, 2012, at 1300 hours, when DOST door SD-192 was restored to a normal condition, TS 3.8.1 Conditions F and G would have been exited. Since TS 3.8.1 Condition G allows six hours to shut down Unit 1 and the unit was in Condition G for less than six hours, there was not a condition prohibited by the plant's TS.

Because using the PBI option on the DOST water tight doors would have rendered both the 1A and 1B DGs inoperable, this event is reportable under 10 CFR 50.73(a)(2)(v)(D), any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident.

C. Cause of Event

A historical review of the procedure guidance for compensatory actions determined that the compensatory actions developed between 1986 and 2012 did not adequately recognize and address the risk of having a single DOST room watertight door impaired. Additionally, there were multiple historical missed opportunities to recognize the risk and develop the appropriate compensatory actions.

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NARRATIVE

Therefore, the most probable cause of the event was determined to be inadequate technical rigor, which led to an improper compensatory measure being included in the Plant Barrier Impairment Program procedure.

D. Safety Consequences:

This condition had no actual safety consequences impacting plant or public safety.

Because using the PBI option on the DOST water tight doors would have rendered both the 1A and 1B DGs inoperable, this event is considered a condition that could have prevented the fulfillment of a safety function.

From a risk perspective, the loss of function would only occur if the turbine building was flooded to the DOST level through a major circulating water system [KE] line break coincident with other accidents or failures that require emergency diesel generator availability. The probability of a scenario with multiple concurrent initiators or failures is assumed to be low. Furthermore, the risk impact of an impaired DOST water tight door affecting both the 1A and 1B DGs is minimized given the short amount of time spent in the impaired configuration. The potential impact of an impaired flood barrier for either the Unit 1 Train A or Train B DOST room is considered to be of low safety significance due to the low probability associated with multiple concurrent accidents or failures and a limited amount of time in the impaired configuration.

The worst case scenario, (i.e., a complete flooding of the turbine building with a loss of both Unit 1 DGs combined with a Loss of Offsite Power resulting from the trip of the units), represents the equivalent of a station blackout. Braidwood Station is able to withstand and recover from a station blackout of four hours in accordance with the requirements of Regulatory Guide 1.155, "Station Blackout." In the event of a station blackout, either one of the two Unit 2 DGs can serve as an alternate a-c power source for Unit 1. The alternate a-c power source is available within 10 minutes of the onset of the station blackout event and has sufficient capacity and capability to operate equipment necessary to safely shutdown both Unit 1 and Unit 2 and maintain the units in a safe shutdown condition. During the subject event, both Unit 2 DGs were operational and available to provide an alternate a-c power source to Unit 1.

E. Corrective Actions:

Corrective actions include revising the option in the compensatory action note for the Plant Barrier Impairment Program procedure for the DOST water tight doors to consider both trains of the affected unit's DGs inoperable (this action is complete).

F. Previous Occurrences:

No previous, similar Licensee Event Reports were identified at the Braidwood Station.

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