Nebraska Public Power District

Always there when you need us

NLS2010094
November 18, 2010

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Licensee Event Report No. 2010-004-00
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Dear Sir or Madam:

The purpose of this correspondence is to forward Licensee Event Report 2010-004-00.

Sincerely,

Demetrius L. Willis
General Manager of Plant Operations

/jo

Attachment

cc: Regional Administrator w/attachment
USNRC - Region IV

Cooper Project Manager w/attachment
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector w/attachment
USNRC - CNS

SRAB Administrator w/attachment

NPG Distribution w/attachment

INPO Records Center w/attachment

SORC Chairman w/attachment

CNS Records w/attachment

COOPER NUCLEAR STATION
P.O. Box 98 / Brownville, NE 68321-0098
Telephone: (402) 825-3811 / **Fax:** (402) 825-5211
www.nppd.com

IE22
NRR

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 10/31/2013

Estimated burden per response to comply with this mandatory information collection request: 80 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Service Branch (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.

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Cooper Nuclear Station	05000298	1 of 4

4. TITLE
Loss of Safety Function for 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
08	19	2010	2010	- 004 -	00	11	18	2010		05000
									FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE
1

10. POWER LEVEL
100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☒ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☒ 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)*
David W. Van Der Kamp, Licensing Manager	(402) 825-2904

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED
☐ YES *(If yes, complete EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

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

On August 19, 2010, at 10:05 Central Daylight Time, Cooper Nuclear Station Emergency Diesel Generator (EDG) Doors N103 and N104 were propped open for planned maintenance on EDG2. EDG2 was inoperable to support draining of the jacket water system.

Door N103 is rated as a Steam Exclusion Barrier (SEB) door on the Turbine Building side of EDG1 room. With Door N103 propped open, if a main steam line rupture were to occur in the Turbine Building, the steam could enter EDG1 room through the propped open door, which may affect operability of EDG1. This resulted in an unanalyzed condition, as the EDG rooms had not been evaluated or analyzed for a High Energy Line Break. With EDG2 already declared inoperable for planned maintenance, having EDG1 inoperable creates a condition that could have prevented the fulfillment of the safety function of the EDGs.

The root cause of this event was that impairment of Door N103 (a SEB door) for maintenance activities was evaluated using procedural guidance based upon a Probabilistic Risk Assessment (PRA) rather than performing an operability evaluation.

Corrective Actions are established to develop training that explains and clarifies when PRA can be used and when PRA cannot be used.

This event was not risk significant.

PLANT STATUS

Cooper Nuclear Station (CNS) was in Mode 1, Power Operations, at 100% power at the time of discovery.

BACKGROUND

The purpose of the standby (emergency) Alternating Current (AC) power system [EIIS: EK] is to provide a single failure proof source of on-site AC power adequate for maintaining the safe shutdown of the reactor following abnormal operational transients and postulated accidents. This system consists of two independent AC power sources, the Emergency Diesel Generators (EDG) [EIIS: DG].

Each EDG shall be capable of automatic start at any time and capable of continued operation at rated load, voltage, and frequency until manually stopped.

Each EDG is housed in completely independent, separated rooms, together with respective auxiliary systems which are provided independently in all respects for each unit. The rooms are connected by doors [EIIS: DR] which are nonlouvered, steel doors. Each EDG room is designed as a Class I Seismic building.

CNS Technical Specifications require that two EDGs be operable when the plant is in Modes 1, 2, or 3, and that one DG be operable when the plant is in Modes 4 or 5.

EVENT DESCRIPTION

On August 19, 2010, at 10:05, Central Daylight Time (CDT), both EDG Doors N103 and N104 were propped open in support of planned maintenance on EDG2, which had been declared inoperable. The doors were propped open to allow a hose to run from the Turbine Building through EDG1 room and into EDG2 room to support draining of the EDG2 jacket water system.

Door N103 is a Steam Exclusion Barrier (SEB) rated door located on the Turbine Building side of EDG1 room. If a main steam line rupture were to occur in the Turbine Building, the steam could enter EDG1 room through the propped open Door N103.

At the time of the event, Operations determined EDG1 system to be operable based on existing guidance documents. These existing guidance documents allowed for compensatory actions to be put in place to assure operability of EDG1 when Door N103 is left open. As a compensatory measure, per guidance documents in place at that time, a Security Officer was posted on the Turbine Building side of Door N103 to pull the hose and close the door in the event of steam leakage from the Turbine Building. Doors N103 and N104 were closed at 11:10 CDT upon completion of draining EDG2 jacket water system.

Based on initial review of the CNS Environmental Qualification Program Basis Document, Section 3.3.2.4.2, completed on September 21, 2010, the EDG rooms had not been evaluated or analyzed for a High Energy Line Break environment; therefore, with Door N103 propped

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Cooper Nuclear Station	05000298	2010	- 004	- 00	3 of 4

17. NARRATIVE

open, the plant was in an unanalyzed condition that had the potential to degrade plant safety. Consequently, new information concerning the basis for the guidance documents was made available and Operations conservatively determined that by having Door N103 propped open, reasonable assurance was lost that the EDG1 would fulfill its safety function.

Prior to this event, the issue of door impairments had been periodically documented in notifications and conditions reports. However, they were consistently dispositioned using Probabilistic Risk Assessment (PRA) evaluations. Consequently, CNS guidance documents dealing with the temporary impairment of SEB boundary doors were based upon the incorrect method of PRA, which also contained a latent presumption of operability. These guidance documents were then provided to the Operations staff for execution. At anytime work was planned in accordance with these guidance documents, the EDGs were inadvertently inoperable whenever Door N103 was propped open during Modes 1, 2, or 3.

BASIS FOR REPORT

This event is being reported as an operation or condition that resulted in an unanalyzed condition that significantly degraded plant safety per 10 CFR 50.73(a)(2)(ii)(B); and also as an 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 per 10 CFR 50.73(a)(2)(v)(D).

SAFETY SIGNIFICANCE

The safety significance associated with this condition is considered negligible. The potential impact of this condition is limited to pipe breaks outside of containment. Therefore, EDG1 was available to respond to all other events during the short duration in which EDG2 was inoperable and Door N103 was open. There was no other impact to structures, systems or components that were needed to achieve safe shutdown, or mitigate potential accidents, transients and special events described in the Update Safety Analysis Report. The likelihood of occurrence of pipe breaks outside of containment during the time Door N103 was open resulted in a negligible increase to the core damage frequency reflected in the CNS PRA model.

This event is a safety system functional failure.

CAUSE

The root cause of the event was that impairment of Door N103 (a SEB door) for maintenance activities was evaluated using procedural guidance based upon a PRA rather than performing an operability evaluation.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Cooper Nuclear Station	05000298	2010	- 004	- 00	4 of 4

17. NARRATIVE

CORRECTIVE ACTION

The procedure was revised to include specific guidance regarding the operability statements for impaired SEB doors.

The following corrective actions are being tracked in the Corrective Action Program and are not regulatory commitments:

- Training materials will be prepared for Shift Technical Engineers and Senior Reactor Operators use that explains and clarifies when PRA can be used, and when the assessments cannot be used. Additionally, training will be delivered to an identified target population in Engineering to recognize the limitation of using PRA.

- In addition, an evaluation of the effects of a High Energy Line Break on the environment in the EDG rooms will be performed.

PREVIOUS EVENTS

There have been no events reported in the last three years related to SEB doors.

ATTACHMENT 3 LIST OF REGULATORY COMMITMENTS©[4]

Correspondence Number: NLS2010094

The following table identifies those actions committed to by Nebraska Public Power District (NPPD) in this document. Any other actions discussed in the submittal represent intended or planned actions by NPPD. They are described for information only and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
None		