



**Nebraska Public Power District**  
*Nebraska's Energy Leader*

NLS2000065  
July 27, 2000

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

Gentlemen:

Subject: Licensee Event Report No. 2000-009  
Cooper Nuclear Station, NRC Docket 50-298, DPR-46

The subject Licensee Event Report Supplement is forwarded as an enclosure to this letter.

Sincerely,

J. A. McDonald  
Plant Manager

/lrd  
Enclosure

cc: Regional Administrator  
USNRC - Region IV

Senior Project Manager  
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector  
USNRC

NPG Distribution

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W. Leech  
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IE22

**LICENSEE EVENT REPORT (LER)**

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

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If 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.

|  |                                      |                           |
|--|--------------------------------------|---------------------------|
| <b>FACILITY NAME (1)</b><br>Cooper Nuclear Station | <b>DOCKET NUMBER (2)</b><br>05000298 | <b>PAGE (3)</b><br>1 OF 5 |
|--|--------------------------------------|---------------------------|

**TITLE (4)**  
Failure to Recognize Entry Condition for Limiting Condition for Operation 3.4.5 Condition D Causes Plant Operation in Violation of Technical Specifications

| EVENT DATE (5) |     |      | LER NUMBER (6) |                   |                 | REPORT DATE (7) |     |      | OTHER FACILITIES INVOLVED (8) |               |
|----------------|-----|------|----------------|-------------------|-----------------|-----------------|-----|------|-------------------------------|---------------|
| MONTH          | DAY | YEAR | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH           | DAY | YEAR | FACILITY NAME                 | DOCKET NUMBER |
| 06             | 28  | 2000 | 2000           | -- 009 --         | 00              | 07              | 27  | 2000 |                               | 05000         |
|                |     |      |                |                   |                 |                 |     |      | FACILITY NAME                 | DOCKET NUMBER |
|                |     |      |                |                   |                 |                 |     |      |                               | 05000         |

|                                |  |  |                   |   |                  |  |   |  |  |  |
|--------------------------------|--|--|-------------------|---|------------------|--|---|--|--|--|
| <b>OPERATING MODE (9)</b><br>1 | <b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)</b> |  |                   |   |                  |  |   |  |  |  |
| <b>POWER LEVEL (10)</b><br>095 | 20.2201(b)   |  | 20.2203(a)(2)(v)  | X | 50.73(a)(2)(I)   |  | 50.73(a)(2)(viii)                             |  |  |  |
|                                | 20.2203(a)(1)  |  | 20.2203(a)(3)(I)  |   | 50.73(a)(2)(ii)  |  | 50.73(a)(2)(x)                                |  |  |  |
|                                | 20.2203(a)(2)(I)   |  | 20.2203(a)(3)(ii) |   | 50.73(a)(2)(iii) |  | 73.71   |  |  |  |
|                                | 20.2203(a)(2)(ii)  |  | 20.2203(a)(4)     |   | 50.73(a)(2)(iv)  |  | OTHER   |  |  |  |
|                                | 20.2203(a)(2)(iii)   |  | 50.36(c)(1)       |   | 50.73(a)(2)(v)   |  | Specify in Abstract below or in NRC Form 366A |  |  |  |
|                                | 20.2203(a)(2)(iv)  |  | 50.36(c)(2)       |   | 50.73(a)(2)(vii) |  |   |  |  |  |

**LICENSEE CONTACT FOR THIS LER (12)**

|   |   |
|---|---|
| <b>NAME</b><br>S. R. Mahler, Assistant Manager Nuclear Licensing and Safety | <b>TELEPHONE NUMBER (Include Area Code)</b><br>(402) 825-5236 |
|---|---|

**COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)**

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX |
|-------|--------|-----------|--------------|--------------------|-------|--------|-----------|--------------|--------------------|
|       |        |           |              |                    |       |        |           |              |                    |
|       |        |           |              |                    |       |        |           |              |                    |

|   |   |    |  |                                      |     |      |
|---|---|----|--|--------------------------------------|-----|------|
| <b>SUPPLEMENTAL REPORT EXPECTED (14)</b>            |   |    |  | <b>EXPECTED SUBMISSION DATE (15)</b> |     |      |
| YES<br>(If yes, complete EXPECTED SUBMISSION DATE). | X | NO |  | MONTH                                | DAY | YEAR |

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

On June 28, 2000, it was noted that the Drywell Floor Drain Sump Flow Transmitter (EIIS Code: IJ) had been made inoperable for the performance of a routine surveillance at the same time that the Drywell Atmospheric Monitoring System was inoperable. Contrary to Technical Specification (TS) 3.4.5 Condition D, "All required leakage detection systems inoperable," which requires immediate entry into LCO 3.0.3, TS 3.4.5 had been entered separately for each system. All Drywell leakage monitoring systems were inoperable for 69 minutes while a scheduled routine loop channel calibration was completed. Drywell Atmospheric Monitoring System, RMV-RR-2 (EIIS Code: FQT), was inoperable during this period due to sample pump failure. With both instrumentation systems inoperable, this results in entering the LCO 3.4.5 Condition D and immediate entry into LCO 3.0.3, Action shall be initiated within 1 hour. The cause was determined to be procedural inadequacy. Operations management has provided procedural intent clarification to all Control Room personnel. Station documents will be revised to detail the requirement to complete an independent verification of LCO entries prior to beginning work.

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|                        |            | 2000           | -- 009 --         | 00              |          |

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

PLANT STATUS

Cooper Nuclear Station (CNS) was in MODE 1, Power Operation at approximately 95% power, at the time of the event.

BACKGROUND

CNS Updated Safety Analysis Report Design Basis requires means for detecting and, to the extent practical, identifying the location of the source of Reactor Coolant System (RCS) leakage. Regulatory Guide 1.45 describes acceptable methods for selecting leakage detection systems.

Limits on leakage from the reactor coolant pressure boundary (RCPB) are required so that appropriate action can be taken before the integrity of the RCPB is impaired. Leakage detection systems for the RCS are provided to alert the operators when leakage rates above normal background levels are detected and also to supply quantitative measurement of leakage rates. The Bases for Limiting Condition for Operation (LCO) 3.4.4, "RCS Operational LEAKAGE," discusses the limits on RCS leakage rates.

Leakage from the RCPB inside the drywell is detected by at least one of two independently monitored variables, such as sump flow and drywell gaseous (noble gas and iodine) and particulate radioactivity levels. The primary means of quantifying leakage in the drywell is the drywell floor drain sump flow monitoring system.

The drywell floor drain sump flow monitoring system monitors the leakage collected in the floor drain sump. This unidentified leakage consists of LEAKAGE from control rod drives, valve flanges or packing, floor drains, the Reactor Equipment Cooling System, and drywell air cooling unit condensate drains, and any leakage not collected in the drywell equipment drain sump. A flow transmitter in the discharge line of the drywell floor drain sump pumps provides flow indication in the control room. The pumps can also be started from the control room.

The 3-channel, drywell atmospheric monitoring system continuously monitors the primary containment atmosphere for airborne particulate and gaseous (noble gas and iodine) radioactivity. The system consists of a sample point located in the building ventilation exhaust vent, a normal range detector and a particulate and iodine collection assembly. The sample is drawn through a probe and then passes through a shielded chamber where radiation is measured. The particulate and iodine collection assembly uses filters in the sample stream. A sudden increase of radioactivity, which may be attributed to RCPB steam or reactor water leakage, is annunciated in the control room. The 3-channel drywell atmosphere particulate and gaseous (noble gas and iodine) radioactivity monitoring system is not capable of quantifying leakage rates, but is sensitive enough to indicate increased leakage rates.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

EVENT DESCRIPTION

On June 28, 2000 at 14:15 (CDT), during routine review of log entries for the shift, it was noted that the Drywell Floor Drain Sump Flow Transmitter, RW-FT-354, had been removed from service at the same time the Drywell Atmospheric Monitoring System was inoperable and that LCO 3.4.5 Condition D should have been entered. LCO 3.4.5 Condition D requires immediate entry into LCO 3.0.3 which in turn requires that "Action shall be initiated within 1 hour to place the unit, as applicable, in: a) MODE 2 within 7 hours; b) MODE 3 within 13 hours; and c) MODE 4 within 37 hours". A Problem Identification Report was written to document the failure to properly identify the requirement to enter LCO 3.4.5 Condition D and subsequent requirement to enter LCO 3.0.3.

On June 22, 2000, the Drywell Atmospheric Monitoring System Sample Pump, RMV-RR-4 (EIIS Code: P), tripped and the Drywell Atmospheric Monitoring System (EIIS Code: IJ) was declared inoperable. Limiting Condition for Operation (LCO) 3.4.5, Condition B, was entered. This action requires: 1) Analyzing grab sample of drywell atmosphere once per 12 hours, and 2) Restoration of the required drywell atmospheric monitoring system to OPERABLE status within 30 days.

On June 28, 2000, at 11:52 (CDT), the Drywell Floor Drain Sump Flow Monitoring System, RW-FTS-354 (EIIS Code: FQT), was declared inoperable for testing in accordance with station surveillance procedures. LCO 3.4.5, Condition A, which requires restoring the drywell floor drain sump flow monitoring system to operable status within 30 days was entered. At 13:01 (CDT) the Drywell Floor Drain Sump Flow Monitoring System was restored to operable and LCO 3.4.5, Condition A was exited.

BASIS OF REPORT

This event is being reported as operation or condition prohibited by the plant's Technical Specifications under 10 CFR 50.73(a)(2)(I) in that the plant failed to recognize and enter LCO 3.4.5 Condition D. Entry into LCO 3.4.5 Condition D requires immediate entry into LCO 3.0.3.

CAUSE

The root cause of the subject condition is inadequate procedure guidance.

A contributing factor was inadequate performance by the Senior Reactor Operator in that he failed to recognize the appropriate LCO entry required for plant conditions at the time.

Operations Instruction (OI) 11 requires that all entries into and exits out of an LCO will be independently verified by a Shift Technical Engineer (STE) or Senior Reactor Operator (SRO). This verification includes verification that

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all appropriate Technical Specifications are referenced, that the LCO Action Statement is entered in the appropriate field and that all verifications, demonstrations and required compensatory actions are taken and are listed on the LCO index, as needed.

The independent verification of entry into LCO 3.4.5 Condition A was performed, but not until approximately 2 hours later. OI 11 does not address the timeliness of the review, other than requiring it to be done after the declaration. When a review is done at the 2 hour point, it is too late to address problems with the declaration if a 1 hour required action is involved.

SAFETY SIGNIFICANCE

Flow transmitter RW-FT-354, Drywell Floor Drain Sump Pump Flow Transmitter, was declared inoperable at 11:52 for the purpose of SP 6.DWLD.302 Drywell Floor Drain Sump 1F Loop Calibration. The flow transmitter was returned to operable at 13:01. During this time frame (69 minutes), the Drywell Floor Drain Sump F Hi Fill-Up Rate, Drywell Floor Drain Sump F Hi-Hi- Level, and Drywell Floor Drain Sump F High Level annunciators were still functional and the pumps were still functional. Therefore RCS leakage could still be determined manually but not automatically as stated in the TS Basis. Therefore, this event is of minimal safety significance. The RCS Leakage Monitoring function was degraded but not unavailable.

RCS leakage detection is not modeled in the CNS Probabilistic Risk Analysis (PRA). It does not initiate any accidents or transients, nor does it alter the frequency of any of these events. It does not provide a barrier to fission products. The only mitigative effect that it may have is to alert the operators of an incipient Loss Of Coolant Accident (LOCA) prior to the high drywell pressure or low reactor water level signals. No credit is afforded in the CNS PRA for operators terminating an incipient LOCA. It is assumed that all incipient LOCAs that can expand into an actual LOCA will do so. Therefore a degraded PCS leak detection function is not risk significant.

CORRECTIVE ACTIONS

Immediate Corrective Actions:

The Senior Reactor Operator was coached by management.

The Operations Supervisor issued an e-mail clarifying the intent of OI 11. As an interim and immediate corrective action for the missed technical specification call, all technical specification entries for planned activities need to be verified by an SRO or STE prior to entry into the LCO condition. The Operations Supervisor followed up the e-mail by discussing the event with the on-coming Shift Supervisors that may not have stood watch since the event.

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Long Term Corrective Action:

CNS will revise appropriate station documents to detail the requirement that a second qualified SRO or individual qualified as STE review the LCO entry prior to planned work.

PREVIOUS EVENTS

Licensee Event Report 97-019 December 22, 1997: Two Reactor Water Sample valves, located in series, were opened on two occasions prohibited by CNS TS. These valves serve as primary containment isolation valves. The cause of this TS violation was a failure in the work scheduling process. The scheduling process was modified to include a review of TS in operabilities versus the weekly schedule. The work control process was also modified to include a review of TS inoperabilities versus the daily Plan of the Day schedule.

