



Commonwealth Edison

Dresden Nuclear Power Station

R.R. #1

Morris, Illinois 60450

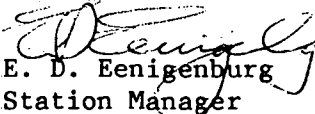
Telephone 815/942-2920

July 17, 1991

EDE LTR #91-440

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

Licensee Event Report #91-012, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(ii)(B).


E. D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/dwh

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
File/NRC
File/Numerical

(ZDVR/266)

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

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|---|--|-----------------------------|
| Facility Name (1) Dresden Nuclear Power Station, Unit 2 | Docket Number (2) 0 15 10 10 10 12 13 17 | Page (3) 1 of 0 3 |
| Title (4) HPCI Turbine Exhaust Line Outside FSAR Stress Allowables Due to Degraded Support | | |

| 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 Names | Docket Number(s) |
| 0 16 | 2 17 | 9 1 | 9 1 | 0 1 12 | 0 1 0 | 0 17 | 1 9 | 9 1 | N/A | |
| | | | | | | | | | N/A | |

OPERATING MODE (9) N THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

| | | | | |
|----------------------------------|--|--|---|---|
| POWER LEVEL (10) 0 5 2 | 20.402(b) _____ 20.405(a)(1)(i) _____ 20.405(a)(1)(ii) _____ 20.405(a)(1)(iii) _____ 20.405(a)(1)(iv) _____ 20.405(a)(1)(v) _____ | 20.405(c) _____ 50.36(c)(1) _____ 50.36(c)(2) _____ 50.73(a)(2)(i) _____ 50.73(a)(2)(ii) <input checked="" type="checkbox"/> _____ 50.73(a)(2)(iii) _____ | 50.73(a)(2)(iv) _____ 50.73(a)(2)(v) _____ 50.73(a)(2)(vii) _____ 50.73(a)(2)(viii)(A) _____ 50.73(a)(2)(viii)(B) _____ 50.73(a)(2)(x) _____ | 73.71(b) _____ 73.71(c) _____ Other (Specify in Abstract below and in Text) |
|----------------------------------|--|--|---|---|

LICENSEE CONTACT FOR THIS LER (12)

| | |
|--|---|
| Name Gerald Whitman Technical Staff ISI Coordinator | TELEPHONE NUMBER AREA CODE 8 1 5 Ext. 2351 9 14 12 -12 19 12 10 |
|--|---|

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

| CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPRDS | | CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPRDS | |
|-------|--------|-----------|---------------|---------------------|--|-------|--------|-----------|---------------|---------------------|--|
| X | B J | S P T | X X X X | N | | | | | | | |

SUPPLEMENTAL REPORT EXPECTED (14)

| | |
|--|--|
| Yes (If yes, complete EXPECTED SUBMISSION DATE) X NO | Expected Submission Date (15) Month / Day / Year |
|--|--|

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

On June 27, 1991, with Unit 2 at 52% power, the Technical Staff Inservice Inspection (ISI) Coordinator determined that a High Pressure Coolant Injection (HPCI) turbine exhaust line had been outside FSAR stress allowables during the previous operating cycle due to a degraded support. The degraded support had been found during refuel outage ISI inspections and had been repaired prior to startup. Corrective actions included application of a coating to prevent future support corrosion of this type and ISI program enhancement. Safety significance was minimal as engineering review concluded that the condition did not pose an operability concern. A previous event involving a degraded support found during the refuel outage was reported by LER 90-16/050237.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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| | | Year | /// | Sequential | /// | Revision | | | | | | | | |
| | | | | Number | | Number | | | | | | | | |
| Dresden Nuclear Power Station | 0 5 0 0 0 2 3 7 | 9 1 | - | 0 1 2 | - | 0 0 | 0 2 | OF | 0 3 | | | | | |

TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2527 MWt rated core thermal power

Nuclear Tracking System (NTS) tracking code numbers are identified in the text as (XXX-XXX-XX-XXXXX)

EVENT IDENTIFICATION:

HPCI [BJ] Turbine Exhaust Line Outside FSAR Stress Allowables Due to Degraded Support

A. CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: June 27, 1991 Event Time: 1500 Hours

Reactor Mode: N Mode Name: Run Power Level: 52%

Reactor Coolant System (RCS) Pressure: 947 psig

B. DESCRIPTION OF EVENT:

On October 3, 1990, with Unit 2 in its cycle 12 refuel outage, visual Inservice Inspection (ISI) of High Pressure Coolant Injection (HPCI) support M-3212-05 revealed significant corrosion on the support base plate and on the exposed portions of the concrete expansion anchors. This support consists of a six inch pipe stanchion welded directly to HPCI turbine exhaust line 2-2306-24". A base plate welded to the bottom of the stanchion rests on a base plate attached to the floor. This support is located in the HPCI steam tunnel, and had apparently been exposed to standing water in the area of the baseplate.

Due to the significant corrosion observed, a Discrepancy Record describing the conditions found was initiated on October 7, 1990 and sent to the engineering support group for evaluation. Additionally, the ISI sample scope was expanded to include HPCI turbine exhaust line support M-3212-06, which was the only other support located on the floor of the HPCI steam tunnel. Corrosion was also found on this support, and a Discrepancy Record was initiated concerning it on October 7, 1990.

On December 13, 1990, the engineering evaluation concerning support M-3212-06 was received by the station. The evaluation concluded that this support met all FSAR criteria, but recommended that a quality protective coating be applied to prevent future corrosion. The corrosion was then removed and the support was prepped and coated prior to startup from the refuel outage under Work Request (WR) 96067.

On December 18, 1990, the engineering evaluation performed on support M-3212-05 was received by the station. The evaluation recommended repairs to meet FSAR criteria, but stated that the as-found condition had not posed an operability concern. The ISI Coordinator initiated the recommended corrective actions but did not fully comprehend the effect of the condition on the piping system until performing further review of the Discrepancy Record and consulting further with engineering representatives on June 27, 1991. At 1500 hours on June 27, 1991, with Unit 2 at 52% power, it was confirmed that HPCI turbine exhaust line 2-2306-24" had been outside FSAR code allowables during the previous operating cycle due to the as-found condition of support M-3212-05.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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| Dresden Nuclear Power Station | 0 5 0 0 0 2 3 7 | 9 1 | - | 0 1 2 | - | 0 0 | | 0 3 | OF | 0 3 |

TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

C. APPARENT CAUSE OF EVENT:

This report is submitted in accordance with 10CFR50.73(a)(2)(ii)(B), which requires the reporting of any event or condition that results in the nuclear power plant being outside the design basis. The root cause of the support degradation was attributed to corrosion induced by standing water in the HPCI steam tunnel. Review of this event also concluded that the ISI program needed enhancements in the area of timely evaluation of reportability requirements.

D. SAFETY ANALYSIS OF EVENT:

This support configuration was intended to allow free sliding between the stanchion plate and the baseplate. The corrosion effectively increased the coefficient of friction between the plates, thereby increasing the friction force at the bottom of the stanchion caused by thermal expansion of the piping and resulting in an increased force moment to the HPCI turbine exhaust line. An engineering analysis of the as-found condition of the support and affected piping system concluded that the increased moment transferred to the pipe caused a local pipe overstress. However, this overstress would have been very localized and was within operability limits for all design basis events. Therefore, the safety significance of this event was minimal.

E. CORRECTIVE ACTIONS:

Support M-3212-05 was repaired under WR 96882 by removing the corrosion from the existing baseplate, installing a new stanchion plate and greasing the sliding surface to minimize the coefficient of friction between the stanchion plate and the baseplate. A protective coating was also applied to the support to prevent future corrosion. Existing corrosion was removed and a protective coating was also applied to support M-3212-06. All these activities were completed prior to startup from the refuel outage.

Additionally, in order to expedite the identification of these type of events, a revision was initiated by the ISI Coordinator to Dresden Administrative Procedure (DAP) 11-8 (ISI Program for ASME Class 1,2, and 3 Pressure Retaining Components and their Supports). This revision will provide enhanced guidance on review of this type of concern and prompt determination of reportability, and will be implemented for use during the upcoming Unit 3 refuel outage (237-200-91-11001).

F. PREVIOUS OCCURENCES:

LER/Docket Numbers Title

90-016/050237 Violation of FSAR Design Criteria Due to Management Deficiency

This event involved a damaged Standby Liquid Control system [BR] support that should have been removed during the IEB 79-14 program and discovery of a flanged connection that had not been properly identified during the IEB 79-14 walkdowns. Operability was not compromised, and corrective action included removal of the damaged support and installation of two new supports.

G. COMPONENT FAILURE DATA:

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

An industry-wide NPRDS search was inconclusive as piping/supports are not included in the NPRDS data