



Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

June 19, 1989

EDE LTR #89-484

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

Licensee Event Report #89-016-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(ii)(B).

L. J. Gerner for

E.D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/ade

Enclosure

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

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1)

Dresden Nuclear Power Station, Unit 2

Docket Number (2)

0 5 10 10 12 13 17

Page (3)

1 of 0 5

Title (4) High Pressure Coolant Injection Piping Found in Violation of FSAR Design

Criteria Due to Management Deficiency

| 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 | 5 | 1 8 8 9 8 9 | | 0 1 16 | 0 0 | 0 | 6 | 1 9 8 9 | Dresden Station | 0 5 10 10 12 14 19 | |

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

| | | | | | |
|--------------------|-------|--|---|---|--|
| OPERATING MODE (9) | N | <input type="checkbox"/> 20.402(b) | <input type="checkbox"/> 20.405(c) | <input type="checkbox"/> 50.73(a)(2)(iv) | <input type="checkbox"/> 73.71(b) |
| POWER LEVEL (10) | 1 0 0 | <input type="checkbox"/> 20.405(a)(1)(i) | <input type="checkbox"/> 50.36(c)(1) | <input type="checkbox"/> 50.73(a)(2)(v) | <input type="checkbox"/> 73.71(c) |
| | | <input type="checkbox"/> 20.405(a)(1)(ii) | <input type="checkbox"/> 50.36(c)(2) | <input type="checkbox"/> 50.73(a)(2)(vii) | <input type="checkbox"/> Other (Specify in Abstract below and in Text) |
| | | <input type="checkbox"/> 20.405(a)(1)(iii) | <input type="checkbox"/> 50.73(a)(2)(i) | <input type="checkbox"/> 50.73(a)(2)(viii)(A) | |
| | | <input type="checkbox"/> 20.405(a)(1)(iv) | <input checked="" type="checkbox"/> 50.73(a)(2)(ii) | <input type="checkbox"/> 50.73(a)(2)(viii)(B) | |
| | | <input type="checkbox"/> 20.405(a)(1)(v) | <input type="checkbox"/> 50.73(a)(2)(iii) | <input type="checkbox"/> 50.73(a)(2)(x) | |

LICENSEE CONTACT FOR THIS LER (12)

| | | | | | |
|------|--|-----------|------------------|-----------|---------------------------|
| Name | Jerry F. Lizalek, Technical Staff Engineer | Ext. 2421 | TELEPHONE NUMBER | AREA CODE | 8 1 5 9 4 2 - 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 |
|-------|--------|-----------|---------------|---------------------|-------|--------|-----------|---------------|---------------------|
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SUPPLEMENTAL REPORT EXPECTED (14)

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

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

At 1530 hours on May 18, 1989, with Unit 2 operating at 100% rated core thermal power and Unit 3 in the shutdown mode for a scheduled maintenance outage, Station management was notified by the Commonwealth Edison Boiling Water Reactor Engineering Department (BWRED) that the Unit 2 and Unit 3 High Pressure Coolant Injection (HPCI) System turbine steam supply valve 2(3)-2301-3 drain pot piping was in violation of the Final Safety Analysis Report (FSAR) seismic design criteria. The root cause of this event has been attributed to an engineering and technical support management deficiency. These discrepancies were identified during a HPCI piping seismic analysis performed by a consulting firm under BWRED direction as part of an ongoing Quality Assurance Department HPCI Safety System Functional Inspection (SSFI) Program. The safety significance of this event was minimal as engineering analysis indicates that the piping involved would remain operable under all Design Basis Accident (DBA) conditions. Comprehensive improvements to the modification process have been recently implemented in order to preclude this type of event. A previous similar event involving FSAR compliance was reported by LER 88-1/050237.

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

so that the proper NRC notifications could be made and corrective action taken. It is suspected that the BWRED Engineer believed that no notification was necessary since the problem was being corrected with the installation of modification M12-2(3)-84-18. Station Modification Group personnel then reviewed the modification proposal design package, and concluded that the cost and manpower necessary to install the supports outweighed the advantages of modifying the piping. Since the Station had not been notified of any FSAR discrepancy concerning the existing drain pot piping configuration and the modification could not be cost justified, a decision was made to cancel the modification proposals. However, BWRED and the consulting firm were never notified of the cancellation and the cognizant BWRED Engineer was unaware that the proposed supports were never installed.

C. APPARENT CAUSE OF EVENT:

The root cause of this event has been attributed to an engineering and technical support management deficiency. The 1982 Unit 2 Modification M12-2-82-41 which involved installation of the drain pot bypass isolation valves was performed as a Station engineered project without formal thermal and seismic analysis. Similar work was performed on Unit 3 under 1982 Modification package M12-3-82-41 without formal thermal and seismic analysis. These projects were Station engineered because it was believed that the relatively minor weight of the valves to be installed would not significantly affect the existing design configuration margins, and such engineering judgements were acceptable under the existing modification program procedure.

Failure to notify the NRC of the FSAR discrepancy in September 1986 has been attributed to a BWRED management deficiency in that Station management was not promptly notified of the problem. No BWRED procedure existed at the time of this event to guide BWRED personnel concerning potential FSAR discrepancies and NRC notification requirements. Procedure deficiency was also a contributing factor in this event because the existing modification program procedure did not require BWRED notification upon cancellation of a modification. Additionally, the existing modification program did not require comprehensive field walkdowns during the design process and did not include strict controls of Station engineered modifications.

D. SAFETY ANALYSIS OF EVENTS:

Although the Unit 2 and Unit 3 HPCI steam supply valve 2301-3 drain pot piping configuration was determined by analysis in September, 1984 to exceed FSAR design criteria, it was determined by analysis that the piping involved would remain operable under all design basis events. Additionally, failure of the HPCI steam supply valve 2301-3 drain pot piping would not prevent automatic or manual operation of the HPCI system, but could result in elevated radiation levels in the HPCI rooms. Therefore, this event was judged to have minimal safety significance.

E. CORRECTIVE ACTIONS:

Modification M12-2(3)-89-19 has been initiated to install four thermally and seismically analyzed supports on Unit 2 and five on Unit 3. The installations will be performed under Work Requests 84964 and 84965 for Units 2 and 3 respectively. The new supports will bring all the involved piping into compliance with FSAR design criteria.

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| Dresden Nuclear Power Station | 0 5 0 0 0 2 3 7 | 8 9 | - | 0 1 6 | - | 0 0 | 0 4 | OF | 0 5 | |

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A comprehensive review and upgrade of the Commonwealth Edison Nuclear Station Modification Program has also been recently implemented. The upgraded modification program requires comprehensive field walkdowns during the design process and implemented stricter controls upon Station engineered modifications. Notification of BWRED upon cancellation of any modification is also required. In addition, the engineering staff is currently developing a procedure in order to provide improved administrative control regarding the resolution of analyses that involve potential FSAR discrepancies (237-200-89-81001). This procedure will direct engineering personnel to promptly notify Station management of potential FSAR discrepancies so that prompt NRC notification can be performed. These improvements provide much more stringent design/configuration control, and as such will help prevent future recurrence of this type of event.

F. PREVIOUS OCCURRENCES:

Two previous events involving FSAR compliance are listed below.

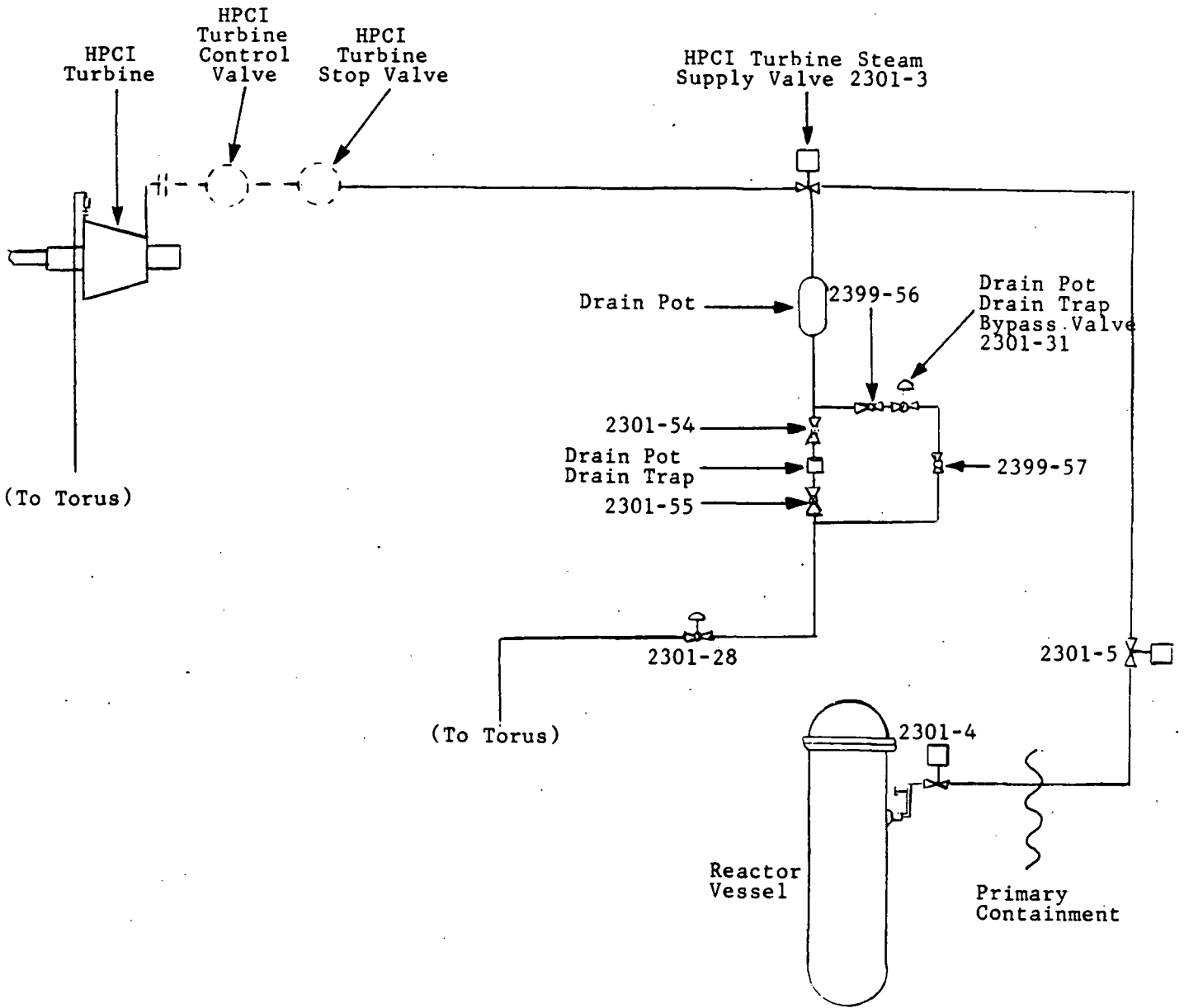
| <u>LER/Docket Number</u> | <u>Title</u> |
|--------------------------|---|
| 87-003/050237 | Primary Containment Structural Steel Connections Outside Final Safety Analysis Report Design Criteria Due to Original Construction Oversight. Primary Containment structural steel did not meet the FSAR due to inadequate connections found between radial and tangential beams. The structural steel connections were repaired under Work Request 60858 and 61165. |
| 88-1/050237 | Diesel Generator Air Start Piping Outside FSAR Stress Allowables Due to Apparent Original Construction Design Deficiency. The air start piping was upgraded to ensure FSAR compliance. |

G. COMPONENT FAILURE DATA:

As no component failures occurred during this event, this section is not applicable.

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SIMPLIFIED HPCI SYSTEM PIPING

Figure 1