REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8707080084 DOC. DATE: 87/07/02 NOTARIZED: NO DOCKET #
FACIL: 50-261 H. B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261
AUTH. NAME AUTHOR AFFILIATION
SAYRE, D. Carolina Power & Light Co.
MORGAN, R. E. Carolina Power & Light Co.
RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-011-00: on 870603, original svc water supply pump nozzle loads could exceed those allowed for continous operation during design basis earthquake. Caused by personnel error. Nozzle loadings values reduced. W/870702 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 3
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

# LICENSEE EVENT REPORT (LER)

| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
|---|---|---|
| H. B. Robinson Steam Electric Plant, Unit No. 2 | 0 5 0 0 0 2 6 1 | 1 OF 0 2 |

TITLE (4)
SW Pump Nozzle Loads

| 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 6 | 0 3 | 8 7 | 8 7 | -- 0 1 1 | - 0 0 | 0 7 | 0 2 | 8 7 | | 0 5 0 0 0 |
| | | | | | | | | | | 0 5 0 0 0 |

| OPERATING MODE (9) | N | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11) | | | | | |
|---|---|---|---|---|---|---|---|
| POWER LEVEL (10) | 0 0 0 | 20.402(b) | 20.405(c) | 50.73(a)(2)(iv) | 73.71(b) | | |
| | | 20.405(a)(1)(i) | 50.36(c)(1) | X 50.73(a)(2)(v) | 73.71(c) | | |
| | | 20.405(a)(1)(ii) | 50.36(c)(2) | 50.73(a)(2)(vii) | OTHER (Specify in Abstract below and in Text, NRC Form 366A) | | |
| | | 20.405(a)(1)(iii) | 50.73(a)(2)(i) | 50.73(a)(2)(viii)(A) | | | |
| | | 20.405(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(viii)(B) | | | |
| | | 20.405(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(x) | | | |

LICENSEE CONTACT FOR THIS LER (12)

| NAME | TELEPHONE NUMBER |
|---|---|
| Don Sayre, Senior Specialist - Regulatory Compliance | AREA CODE 8 0 3 — 3 8 3 - 1 2 4 2 |

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

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS | | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B | B I | N Z L | J 1 0 5 | N | | | | | | | |
| | | | | | | | | | | | |

| 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)

On June 3, 1987, with Unit 2 in cold shutdown, it was determined that the original Service Water (SW) supply pump nozzle loads could exceed those allowed for continuous operation during a Design Basis Earthquake. Additional seismic restraints have been added to the SW supply lines at the Unit 2 Intake Structure to reduce these nozzle loads.

The additional seismic restraints have been analyzed and found acceptable by both the pump manufacturer and CP&L engineering.

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☆U.S.GPO:1984-0-454-481/18759

NRC Form 366A (9-83)

**LICENSEE EVENT REPORT (LER) TEXT CONTINUATION**

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO 3150-0104
EXPIRES 8/31 85

| FACILITY NAME (1) | DOCKET NUMBER (2) | LER NUMBER (6) | | | PAGE (3) |
|---|---|---|---|---|---|
| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | |
| H. B. Robinson S. E. Plant, Unit No. 2 | 0 5 0 0 0 2 6 1 | 8 7 | — 0 1 1 | — 0 0 | 0 2 OF 0 2 |

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

EVENT DESCRIPTION

On June 3, 1987, with Unit 2 in cold shutdown for a refueling outage, it was determined that the original nozzle loads for the four SW supply pumps could exceed those allowed for continuous operation during a Design Basis Earthquake. Design calculations have performed for the SW supply lines at the Unit 2 Intake Structure and new seismic restraints installed to reduce the nozzle loads.

In response to an earlier NRC inspection at Unit 2, CP&L had provided the following information on the status of actions taken on the nozzle loads (RNPD/86-937; dated March 17, 1986):

> "The as-built stress analyses performed to meet the Bulletin requirements ensure that piping and restraints adjacent to equipment nozzle interfaces are within specified allowable stress limits for seismic and other applicable loading conditions. Consequently, allowable nozzle loads should be satisfied by these limits. This is the method used during original design analyses, i.e., ensuring pipe stresses at interface are within allowables. The newly calculated nozzle loads were evaluated against a generic set of nozzle loads developed by the A/E for use in situations where such vendor acceptance standards are not available. Individual design calculations will be performed for a sampling of certain nozzle loads which exceed these generic values in order to determine the specific local stresses and to verify acceptability of this approach. Since this effort goes beyond the scope of the original design analysis methods, it is being viewed as an issue separate from the Bulletin requirements, but, nonetheless, will be resolved."

The design calculations performed for the added seismic restraints were submitted to the SW supply pump manufacturer for confirmation of acceptability. Based on their analysis and concurrence by CP&L engineering, the adequacy of the original seismic restraint configuration for the SW pump nozzle loads during a Design Basis Earthquake was determined questionable. The installation of the additional restraints, however, reduced the nozzle loads to acceptable values.

The NRC was notified of a non-emergency event (four hour) on June 3, 1987, in accordance with 10 CFR 50.72.

CAUSE

The A/E failed to confirm the adequacy of original Design Basis Earthquake nozzle loadings for the SW supply pumps.

CORRECTIVE ACTION

The Design Basis Earthquake nozzle loadings on the four SW supply pumps have been reduced to acceptable values by the installation of additional seismic restraints on the SW supply lines at the Unit 2 Intake Structure.

CP&L
Carolina Power & Light Company

ROBINSON NUCLEAR PROJECT DEPARTMENT
POST OFFICE BOX 790
HARTSVILLE, SOUTH CAROLINA 29550

JUL. 0 2 1987

Robinson File No: 13510C

Serial: RNPD/87-2998
(10 CFR 50.73)

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
LICENSEE EVENT REPORT 87-011

Dear Sir:

The enclosed Licensee Event Report (LER) is submitted in accordance with the Licensee Event Report System of 10 CFR 50.73. The format of the LER follows the recommendations of NUREG-1022, September 1983.

Very truly yours,

R. E. Morgan
General Manager
H. B. Robinson S. E. Plant

DAS:leh

Enclosure

cc: J. N. Grace
H. E. P. Krug
INPO

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