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 Plant, Unit No. 2 | 0 5 0 0 0 2 6 1 | 1 OF 0 2 |

TITLE (4)
Reactor trip due to voltage spike on instrument bus.

| 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 0 0 0 |
| 0 1 | 0 8 | 8 5 | 8 5 | — 0 0 3 | — 0 0 | 0 2 | 0 7 | 8 5 | | 0 5 0 0 0 |

| OPERATING MODE (9) | | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11) | | | |
|---|---|---|---|---|---|
| | | 20.402(b) | 20.405(c) | X 50.73(a)(2)(iv) | 73.71(b) |
| POWER LEVEL (10) | 0 0 0 | 20.405(a)(1)(i) | 50.36(c)(1) | 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 |
|---|---|
| | AREA CODE |
| Carson L. Wright | 8 0 3 — 3 8 3 - 4 5 2 4 |

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 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| 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 January 8, 1985, at 1054 hours, a reactor startup was in progress. A vendor's technical representative was troubleshooting the Digital Metal Impact Monitoring System (DMIMS) when he accidently introduced a low voltage spike on instrument busses 4 and 9. This instrument spike momentarily cleared the "greater than 10% turbine load" permissive P-7. This permissive allows the turbine to be tripped at <10% turbine load without tripping the reactor. With the turbine shut down and a turbine trip signal present, a momentary clearing of permissive P-7 caused a reactor trip.

The low voltage spike was caused by grounding the DMIMS through an oscilloscope to a Plant electrical receptacle. A Plant I&C Technician was present at the time of the incident. The Technician had not checked the vendor's equipment prior to its use. Corrective action was to remove the DMIMS from the vital bus temporarily while repairs and investigations into the cause of the spike were complete. The I&C Technician was directed to take a more active role in controlling the serviceman's activities and verifying proper practices. This LER will be reviewed by I&C Technicians by February 28, 1985.




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

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

A reactor startup was in progress. On January 8, 1985, at approximately 1054 hours, technicians working on the DMIMS inadvertently introduced a low voltage spike in instrument buses 4 and 9. This caused a momentary change in status of permissive P-7. This permissive allows the turbine to trip at less than 10% turbine load without a subsequent reactor trip. The turbine was not yet on the line, so a turbine trip signal was present. The reactor tripped due to the presence of a turbine trip signal in coincident with the clearing of permissive P-7 which falsely indicated that the turbine load was >10%.

Inspection of DMIMS was in progress by the vendor at the request of the Plant Engineer in charge of the equipment installation. An I&C Technician was also present at the request of the same Engineer but had not been asked to take charge of the job.

The low voltage spike in the instrument bus was introduced by vendor troubleshooting the DMIMS power supply with an oscilloscope to look at the wave shape. When checking a power supply and the hot and ground leads can not be determined it is common practice to use a 3 to 2 prong isolator between the oscilloscope plug and the Plant receptacle. If the ground probe of the oscilloscope is inadvertently connected to the hot lead of the power supply being checked, the hot lead will not be able to ground through the oscilloscope to the Plant receptacle. Without the use of an isolator the inadvertent grounding of the power supply to a circuit through an oscilloscope could cause a low voltage surge in the circuit.

The low voltage spike in the instrument bus was introduced by a vendor serviceman troubleshooting this DMIMS power supply with an oscilloscope which was improperly isolated from ground.

The low voltage spike in instrument buses 4 and 9 caused the momentary dropout of permissive relay P-7. The surge occurred when the probes of a grounded oscilloscope were connected to the power supply of the DMIMS circuit.

Troubleshooting in the DMIMS was stopped. The error in the use of the grounded oscilloscope in this application was identified and corrected. The problem which initiated the use of the oscilloscope was resolved without further use of a grounded oscilloscope checking the DMIMS power supply. As an additional preventive measure, the cabinet power was removed from vital bus sources temporarily while completing repairs.

Corrective actions included a discussion with this vendor serviceman to ensure that further work on the DMIMS was accomplished utilizing proper troubleshooting practices. Additionaly, this I&C Technician was directed to take a more active role in controlling the serviceman's activities verifying these proper practices. As a precautionary measure, the DMIMS power supply was also temporarily removed from the instrument busses during the remainder of the troubleshooting. This LER will be reviewed by I&C Technicians by February 28, 1985.

CP&L

Carolina Power & Light Company

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

February 7, 1985

Robinson File No: 13510C

Serial: RNPD/85-228

United States Nuclear Regulatory Commission
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 85-003

Dear Sir:

In accordance with 10CFR50.73, Licensee Event Report, the enclosed Licensee Event Report is submitted. This report fulfills the requirements for a written report within (30) days of a reportable event and is in accordance with the format set forth in NUREG-1022, September, 1983.

Very truly yours,

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

CLW/wp

Enclosure

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

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