

PRIORITY 1

(ACCELERATED RIDS PROCESSING)

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9511030032 DOC. DATE: 95/10/30 NOTARIZED: NO DOCKET #
 FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylvania 05000388
 AUTH. NAME AUTHOR AFFILIATION
 CODDINGTON, C.T. Public Service Electric & Gas Co. of New Jersey
 STANLEY, H.G. Public Service Electric & Gas Co. of New Jersey
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 95-012-00: on 951001, unplanned ESF actuation occurred.
 Operations personnel restored RPS to normal source of power
 prior to resetting RPS trip logic. W/951030 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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October 30, 1995

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SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 95-012-00
PLAS - 650 FILE R41-2

Docket No. 50-388
License No. NPF-22

Attached is Licensee Event Report 50-388/95-012-00. This event was determined to be reportable per 10CFR50.73(a)(2)(iv) in that an unplanned Engineered Safety Feature (ESF) Reactor Protection System logic actuation occurred due to a momentary loss of voltage on the 'B' RPS alternate supply during the Unit 2 seventh refueling and inspection outage.


H.G. Stanley
VP - Nuclear Operations

CTC/dmd

cc: Mr. T. T. Martin
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PDR ADCK 05000388
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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

| | | | | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|-----------------------------|--|--|--|
| FACILITY NAME (1) Susquehanna Steam Electric Station - Unit 2 | | | | | | DOCKET NUMBER(2) 0 5 0 0 0 3 8 8 | | | | PAGE (3) 1 OF 0 3 | | | |
|---|--|--|--|--|--|--|--|--|--|-----------------------------|--|--|--|

TITLE (4)
Unplanned ESF Actuation

| 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) | | | | | | | | | | | | |
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|----------------------------------|-------------------|---|--|-----------------|--|--|--|--|--|--|--|--|
| OPERATING MODE (9) 5 | | 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) | | | <input checked="" type="checkbox"/> 50.73(a)(2)(v) | | | 73.71(b) | | |
| | 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)(v) | | | OTHER (Specify in Abstract below and in Text, NRC Form 366A) | | |
| | 20.405(a)(1)(iii) | | | 50.72(a)(2)(i) | | | 50.73(a)(2)(v)(A) | | | | | |
| | 20.405(a)(1)(iv) | | | 50.73(a)(2)(i) | | | 50.73(1)(2)(v)(B) | | | | | |
| | 20.405(a)(1)(v) | | | 50.73(a)(2)(ii) | | | 50.73(a)(2)(v) | | | | | |

| | | | | | | | | | |
|--|--|--|--|--|--|--|------------------------------|--|--|
| (LICENSEE CONTACT FOR THIS LER (12)) | | | | | | | | | |
| NAME Cornelius T. Coddington - Sr. Project Engineer, Nuclear Licensing | | | | | | | TELEPHONE NUMBER | | |
| | | | | | | | AREA CODE | | |
| | | | | | | | 7 1 7 5 4 2 - 3 2 8 9 | | |

| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13) | | | | | | | | | | | |
|--|--------|-----------|--------------|---------------------|--|-------|--------|-----------|--------------|---------------------|--|
| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPROS | | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPROS | |
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| SUPPLEMENTAL REPORT EXPECTED (14) | | | | | | | EXPECTED SUBMISSION DATE (15) | | MONTH | DAY | YEAR |
| <input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) | | | | | | | <input checked="" type="checkbox"/> NO | | | | |

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

At 0128 hours on October 1, 1995, with Unit 2 in Condition 5 (Refueling) at 0% power in its seventh refueling and inspection outage, an unplanned Engineered Safety Feature (ESF) actuation of the Reactor Protection System (RPS) logic occurred due to a momentary loss of voltage on the 'B' RPS alternate power supply. A half scram and numerous actuations and isolations occurred when RPS power was momentarily interrupted. The RPS and plant equipment functioned as designed; however, the alternate supply EPA breaker did not open since the duration of the loss of voltage was within the hold-up time of the EPA card. The cause of the momentary loss of voltage has not been identified and an investigation is continuing. No failed components nor abnormal indications of the power source components were identified during investigation of the event. As part of the investigation, voltage to the RPS alternate power supply is being monitored to detect any voltage perturbations. After completion of the investigation, corrective actions will be identified as appropriate. There was no safety consequence or compromise to the public health and safety as a result of the unplanned ESF logic actuation.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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| FACILITY NAME (1) Unit 2 Susquehanna Steam Electric Station | DOCKET NUMBER (2) 0 5 0 0 0 3 8 8 | LER NUMBER (6) | | | | | | PAGE (3) | | |
| | | YEAR | | SEQUENTIAL NUMBER | | REVISION NUMBER | | | | |
| | | 9 5 | — | 0 1 2 | — | 0 0 | 2 | OF | 3 | |

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

EVENT DESCRIPTION

At 0128 hours on October 1, 1995, with Unit 2 in Condition 5 (Refueling) at 0% power during its seventh refueling and inspection outage, an unplanned Engineered Safety Feature (ESF) actuation of the Reactor Protection System (RPS; EIIS Code: JC) logic occurred due to a momentary loss of voltage on the 'B' RPS alternate power supply. A half scram and numerous actuations and isolations occurred when RPS power was momentarily interrupted. The RPS and plant equipment functioned as designed in response to a loss of voltage. The alternate supply EPA breaker did not open since the duration of the loss of voltage was within the hold-up time of the EPA card. The major actuations were as follows:

- 1) Reactor Building HVAC (EIIS Code: VA) Zone III isolated.
- 2) Residual Heat Removal (RHR) (EIIS Code: BO) Shutdown Cooling Isolation valves isolated.
- 3) Both trains of Standby Gas Treatment System (EIIS Code: BH) auto initiated.
- 4) "A" Control Room Emergency Outside Air Supply System (EIIS Code: VI) auto initiated.
- 5) Cooling water isolation valves to the Reactor Recirc Pump B (EIIS Code: CC) closed.

Other equipment was checked and found to have been out of service in support of outage activities. Valves that did not move were either previously de-energized or already closed.

Following the actuation, RPS was restored to the normal source of power prior to resetting the half scram.

CAUSE OF EVENT

The cause of the momentary loss of power to the 'B' RPS alternate supply has not been determined. No equipment malfunctions or failures were identified.

REPORTABILITY/ANALYSIS

This event was determined to be reportable under 10CFR50.73(a)(2)(iv) in that unplanned actuations of Engineered Safety Features (ESF) occurred when RPS logic actuated from a momentary loss of voltage.

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50 0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | | | | | |
| | | 9 5 — | 0 1 2 — | 0 0 | 3 | OF | 3 | | | |

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

The RPS is designed such that a loss of voltage to the RPS buses results in plant systems aligning to safety positions. Since the RPS and plant equipment functioned properly and per design, there were no safety consequences or compromises to the health or safety of the public.

In accordance with the guidance provided in NUREG 1022, Supplement 1, item 14.1, the required submission date for this report was determined to be October 31, 1995.

CORRECTIVE ACTIONS

Operations personnel restored RPS to the normal source of power prior to resetting the RPS trip logic. An investigation was conducted to identify the source of the loss of voltage associated with the RPS actuation; however, a specific source has not been identified. Also, 'B' RPS alternate power supply components were tested and visually inspected. No failed components or abnormal plant operations were identified during the investigation.

As part of the continuing investigation, the following actions are being taken:

- installation of a voltage monitor on the RPS 'B' alternate power supply,
- evaluation of the voltage monitor readings to determine any corrective actions, and
- evaluate power component switching operations at the time of the event.

ADDITIONAL INFORMATION

Past Similar Events:

- Docket No. 50-387: LER 83-172
 LER 86-023
 LER 86-029
 LER 87-024
 LER 90-005
 LER 91-004
 LER 91-007
 LER 92-001
 LER 92-007
- Docket No. 50-388: LER 88-005
 LER 90-007

Failed Component: None