# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8804060269 DOC.DATE: 88/03/31 NOTARIZED: NO DOCKET #
FACIL:50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylva 05000388
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SUBJECT: LER 88-003-00:on 880305,unanticipated ESF actuation caused by spurious pressure signal.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR 1 W/8 ENCL 1 SIZE: 4
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc. ltr.

NOTES:LPDR 2 cys Transcripts. 05000388

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| INTERNAL: | ACRS MICHELSON | 1 | 1 | ACRS MOELLER | 2 | 2 |
| | AEOD/DOA | 1 | 1 | AEOD/DSP/NAS | 1 | 1 |
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| | REG FILE 02 | 1 | 1 | RES TELFORD,J | 1 | 1 |
| | RES/DE/EIB | 1 | 1 | RES/DRPS DIR | 1 | 1 |
| | RGN1 FILE 01 | 1 | 1 | | | |
| EXTERNAL: | EG&G GROH,M | 4 | 4 | FORD BLDG HOY,A | 1 | 1 |
| | H ST LOBBY WARD | 1 | 1 | LPDR | 2 | 2 |
| | NRC PDR | 1 | 1 | NSIC HARRIS,J | 1 | 1 |
| | NSIC MAYS,G | 1 | 1 | | | |
| NOTES: | | 2 | 2 | | | |

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RIDS/ADDS RIDS/ADDS

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) |
|---|---|---|
| Susquehanna Steam Electric Station - Unit 2 | 0 5 0 0 0 3 8 8 | 1 OF 0 3 |

TITLE (4)

Unanticipated ESF Actuation caused by spurious pressure signal

| 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 3 | 0 5 | 8 8 | 8 8 | 0 0 3 | 0 0 | 0 3 | 3 1 | 8 8 | | 0 5 0 0 0 |
| | | | | | | | | | | 0 5 0 0 0 |

| OPERATING MODE (9) | 3 | 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) | X 50.73(a)(2)(iv) | 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)(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 |
|---|---|
| Robert G. Sheranko, Sr. Results Engr. - Compliance | AREA CODE 7 1 7 5 4 2 - 3 8 5 6 |

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 March 5, 1988, Unit 2 experienced an unanticipated ESF actuation. With the unit in Hot Shutdown, preparations were being made to place the Residual Heat Removal System into the Shutdown Cooling Mode. At approximately 1715, operations personnel observed that the F009 valve, the RHR shutdown cooling suction inboard isolation valve, had closed. At 1750, the F009 valve was opened and preparations to place shutdown cooling into operation were resumed.

Automatic closure of the F009 valve was caused by a spurious reactor pressure signal. Surveillance tests which trip the reactor recirculation pump RPT breakers were in progress at the time of the valve closure. It is postulated that the trip of the 'A' Reactor Recirculation Pump caused a pressure perturbation which actuated the reactor pressure switch causing the F009 valve to close.

The subject reactor pressure switch and suction flow switch were checked. The pressure switch was found to be properly calibrated. The suction flow switch would not trip within its operating range and was calibrated to perform properly.


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

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

DESCRIPTION OF EVENT

On March 5, 1988, Unit 2 experienced an unanticipated ESF actuation. With the unit in Hot Shutdown, preparations were being made to place the Residual Heat Removal System (RHR) (EIIS: BO) into the Shutdown Cooling Mode. The unit was being shut down to commence its second refueling and inspection outage. Unit 1 was in Cold Shutdown.

In anticipation of placing the 'A' loop of RHR in Shutdown Cooling, the system was aligned for flushing per system operating procedure OP-249-002, "RHR Operation In Shutdown Cooling Mode." At approximately 1645, the Shutdown Cooling Suction Outboard and Inboard Isolation Valves, F008 and F009, respectively, were opened. At approximately 1715, operations personnel observed that the F009 valve had closed. Discussions among operations personnel concluded that no operator action to close the valve had been taken and that no pertinent alarms had been received since the valve had been opened. Review of plant conditions concluded that no valid Shutdown Cooling isolation conditions existed and that the valve closure was caused by a spurious signal. At 1750, the F009 valve was opened and the loop flush was resumed.

CAUSE OF EVENT

Automatic closure of the F009 valve without accompanying additional plant responses or alarm annunciations could have been caused by two signals: reactor pressure greater than 98 psig or high RHR shutdown cooling suction flow. Since shutdown cooling flows had not yet been established, it is very unlikely that the suction flow switch actuated; therefore it is postulated that a spurious reactor pressure signal caused the F009 valve to close. This postulation is supported by the fact that surveillance tests SM-264-005 and 006, which trip the reactor recirculation pump RPT breakers, were in progress at the time of the valve closure. It is postulated that the trip of the 'A' Recirculation Pump caused a pressure perturbation which actuated the reactor pressure switch causing the F009 valve to close.

| FACILITY NAME (1) | DOCKET NUMBER (2) | LER NUMBER (6) | | | PAGE (3) |
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

ANALYSIS OF EVENT

This event was determined to be reportable per 10CFR50.73 (a) (2) (iv) in that the Unit experienced an unanticipated Engineered Safety Feature actuation when the F009 valve, which is a primary containment isolation valve, closed.

There were no safety implications to the public during the occurrence. The F009 valve performs two functions: one of containment isolation and one of providing a flowpath for shutdown cooling. Concerning the first function, the valve closed which is its safety position for containment isolation. Concerning its second function, shutdown cooling had not been established at the time of isolation. Nor would there have been any safety implications to the public if the occurrence took place during any other initial condition of Shutdown Cooling since an alternate method for decay heat removal is available using the Control Rod Drive (EIIS Code: CD) and Reactor Water Cleanup (EIIS Code: CE) systems. The F009 valve is only used in the Shutdown Cooling mode and thus would not affect RHR operation in any other mode.

CORRECTIVE ACTIONS

The subject reactor pressure switch and suction flow switch were checked. The pressure switch was found to be properly calibrated. The suction flow switch would not trip within its operating range and was calibrated to perform properly.

ADDITIONAL INFORMATION

Failed Component: None.

Previous Similar Events: A similar event had been reported in LER 85-006-00.

Pennsylvania Power & Light Company
Two North Ninth Street • Allentown, PA 18101 • 215/770-5151

March 31, 1988

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 88-003-00
FILE R41-2
PLAS- 310

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

Attached is a Licensee Event Report 88-003-00. This event was determined reportable per 10CFR50.73(a)(2)(iv) in that the unit experienced an unanticipated Engineered Safety Feature actuation when a Primary Containment Isolation System valve closed.

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TSR/mjm

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