

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8708250195 DOC. DATE: 87/08/20 NOTARIZED: NO DOCKET #
 FACIL: 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv 05000388
 AUTH. NAME AUTHOR AFFILIATION
 RYDER, T. S. Pennsylvania Power & Light Co.
 BYRAM, R. G. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-009-01: on 850212, reactor water level switches
 discovered out of calibr. Caused by instrument drift.
 Instruments recalibrated within final tolerance values of
 SI-280-305. W/8 - ltr.

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

NOTES: 1cy NMSS/FCAF/PM. LPDR 2cys Transcripts. 05000388

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| | PD1-2 LA | 1 1 | PD1-2 PD | 1 1 |
| | THADANI, M | 1 1 | | |
| INTERNAL: | ACRS MICHELSON | 1 1 | ACRS MOELLER | 2 2 |
| | AEOD/DOA | 1 1 | AEOD/DSP/NAS | 1 1 |
| | AEOD/DSP/ROAB | 2 2 | AEOD/DSP/TPAB | 1 1 |
| | DEDRO | 1 1 | NRR/DEST/ADS | 1 0 |
| | NRR/DEST/CEB | 1 1 | NRR/DEST/ELB | 1 1 |
| | NRR/DEST/ICSB | 1 1 | NRR/DEST/MEB | 1 1 |
| | NRR/DEST/MTB | 1 1 | NRR/DEST/PSB | 1 1 |
| | NRR/DEST/RSB | 1 1 | NRR/DEST/SGB | 1 1 |
| | NRR/DLPQ/HFB | 1 1 | NRR/DLPQ/QAB | 1 1 |
| | NRR/DOEA/EAB | 1 1 | NRR/DREP/RAB | 1 1 |
| | NRR/DREP/RPB | 2 2 | NRR/PMAS/ILRB | 1 1 |
| | REG FILE 02 | 1 1 | RES DEPY GI | 1 1 |
| | RES TELFORD, J | 1 1 | RES/DE/EIB | 1 1 |
| | RGN1 FILE 01 | 1 1 | | |
| EXTERNAL: | EG&G GROH, M | 5 5 | H ST LOBBY WARD | 1 1 |
| | LPDR | 2 2 | NRC PDR | 1 1 |
| | NSIC HARRIS, J | 1 1 | NSIC MAYS, G | 1 1 |

NOTES: 3 3

LICENSEE EVENT REPORT (LER)

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|------------------------------------------------------------------|--------------------------------------|----------------------|
| 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)
Reactor Water Level Switches Out of Calibration

| 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 | 2 | 1 2 8 5 | 8 5 | 0 0 9 | 0 1 | 0 8 | 2 0 | 8 7 | | | 0 5 0 0 0 |
| THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11) | | | | | | | | | | | |

| | | | | | |
|-------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| OPERATING MODE (9) 1 | POWER LEVEL (10) 1 0 0 | 20.402(b) 20.405(a)(1)(i) 20.405(a)(1)(ii) 20.405(a)(1)(iii) 20.405(a)(1)(iv) 20.405(a)(1)(v) | 20.405(c) 50.38(c)(1) 50.38(c)(2) 50.73(a)(2)(i) 50.73(a)(2)(ii) 50.73(a)(2)(iii) | 50.73(a)(2)(iv) 50.73(a)(2)(v) <input checked="" type="checkbox"/> 50.73(a)(2)(vii) 50.73(a)(2)(viii)(A) 50.73(a)(2)(viii)(B) 50.73(a)(2)(ix) | 73.71(b) 73.71(c) OTHER (Specify in Abstract below and in Text, NRC Form 366A) |
|-------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|

LICENSEE CONTACT FOR THIS LER (12)

| | |
|-------------------------------------------------|------------------------------------|
| NAME T. S. Ryder - Power Production Engineer | TELEPHONE NUMBER |
| | AREA CODE 7 1 7 5 4 2 7 3 2 3 5 |

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 |
|-------|--------|-----------|--------------|---------------------|-------|--------|-----------|--------------|---------------------|
| X | J C | L I S | B 0 8 0 | N | | | | | |
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SUPPLEMENTAL REPORT EXPECTED (14)

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|--------------------------------------------------------------------------|----------------------------------------|-------------------------------|
| <input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) | <input checked="" type="checkbox"/> NO | EXPECTED SUBMISSION DATE (15) |
| | | MONTH DAY YEAR |

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

On February 12, 1985, during the performance of a scheduled surveillance, the setpoints for three reactor water level switches were found to be outside the acceptance criteria. Two of the switches actuate the Reactor Auto-Scram Trip Logic Channels "A2" and "B2" in the Reactor Protection System on low reactor vessel water level. The fact that the setpoints for the switches were outside of the acceptance criteria has been attributed to instrument drift. The instruments were recalibrated within final tolerance in accordance with the surveillance procedure and no abnormalities were noted.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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| | | 8 5 - | 0 0 9 - | 0 1 | 0 2 | OF | 0 3 |

TEXT (If more space is required, use additional NRC Form 368A's) (17)

During the performance of "18 Month Calibration of Reactor Vessel Water Level Channels LIS-B21-N024A,B,C, and D (SI-280-305)" on February 12, 1985, switch 2B of LIS-B21-N024A, switch 1A of LIS-B21-N024C, and switch 1A of LIS-B21-N024D were found outside of the acceptance criteria setpoints. All three of these instruments are Barton Model 288A level indicating switches. Switch 2B of LIS-B21-N024A actuates Division I Reactor Core Isolation Cooling (RCIC) high water level trip. Switch 1A of LIS-B21-N024C actuates Reactor Auto-Scram Trip Logic Channel "A2" in the Reactor Protection System (RPS), and switch 1A of LIS-B21-N024D actuates Reactor Auto-Scram Trip Logic Channel "B2" in the RPS on low reactor water level. Switch 1A of LIS-B21-N024C and switch 1A of LIS-B21-N024D also indirectly actuate some Division II isolation functions on low reactor water level through the logic of the RPS and Nuclear Steam Supply Shutoff System (NSSSS).

In the event of decreasing reactor water level, a reactor scram would still have occurred at a level within the Technical Specification value, even though the setpoints for switch 1A of LIS-B21-N024C and switch 1A of LIS-B21-N024D were less conservative than the Technical Specification allowable value of 11.5 inches. Switch 1A of LIS-B21-N024A and switch 1A of LIS-B21-N024B would have actuated Reactor Auto-Scram Trip Logic Channels "A1" and "B1", respectively, resulting in a scram due to RPS logic arrangement. The Division II isolation functions from NSSSS to the Outboard RHR Discharge Isolation Valve to Radwaste and the B Loop RHR LPCI Injection Valve require a trip input from both LIS-B21-N024C and LIS-B21-N024D in order to actuate. These functions would not have occurred until the reactor vessel level decreased to 9.6 inches indicated level which was the as found setpoint of switch 1A of LIS-B21-N024D. The corresponding Division I isolation functions would have occurred at the level required by Technical Specifications since their trip signal originates at LIS-B21-N024A and LIS-B21-N024B.

The cause of the setpoints being outside of the acceptance criteria has been determined to be instrument drift. This is the first instance of these three particular switches being out of calibration. The instruments were recalibrated within final tolerance values of SI-280-305 and no problems were encountered. Susquehanna Steam Electric Station (SSES) has experienced setpoint drift on Barton Model 288A instruments in the past. A study was completed which analyzed the performance of the Barton Model 288A instruments in use at both units of SSES in an attempt to identify any generic deficiencies in the switch. The results of this study were to increase the tolerance of the as-found setpoints for Barton 288 switches from 2 percent of span to 3.25 percent of span and to increase the frequency of calibration of these devices as appropriate. These two actions have reduced the occurrence of the setpoint drift.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | |
| | | 8 5 | - 0 0 9 | - 0 1 | 0 3 | OF 0 3 |

TEXT (If more space is required, use additional NRC Form 368A's) (17)

In order to observe the stability of the setpoint for switch 2B of LIS-B21-N024A, switch 1A of LIS-B21-N024C, and switch 1A of LIS-B21-N024D, the 18 Month Calibration surveillance was successfully performed in lieu of the first monthly channel functional check surveillance.



Pennsylvania Power & Light Company

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August 20, 1987

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

SUSQUEHANNA STEAM ELECTRIC STATION
LICENSEE EVENT REPORT 85-009-01
FILE R41-2
PLAS- 276

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

Attached is updated Licensee Event Report 85-009-01. This event was determined reportable per 10CFR50.73(a)(2)(vii), in that two channels of reactor vessel level instrumentation were inoperable due to instrument setpoint drift. The update is provided to report the results of a study which was completed on the Barton Model 288A instruments in use at Susquehanna Units 1 and 2.

R.G. Byram
Superintendent of Plant-Susquehanna

TSR/cmw

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