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FACIL:50-281 Surry Power Station, Unit 2, Virginia Electric & Powe 05000281
AUTH.NAME AUTHOR AFFILIATION
KANSLER,M.R. Virginia Power (Virginia Electric & Power Co.)
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-001-00:on 920130,charging pump 2-CH-P-1A declared inoperable due to oil leak & ventilation damper for charging pump B cubicle failed to open.Caused by mechanical failure/personnel error.Pump repaired.W/920226 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:1cy NMSS/IMSB/PM. 05000281

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Virginia Electric and Power Company
Surry Power Station
P. O. Box 315
Surry, Virginia 23883

February 26, 1992

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

Serial No.: 92-139
Docket No.: 50-281
License No.: DPR-37

Gentlemen:

Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report for Unit 2.

REPORT NUMBER

92-001-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be reviewed by the Corporate Management Safety Review Committee.

Very truly yours,

M. R. Kansler
Station Manager

Enclosure

cc: Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30323

020061



IE22
1/1

NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH 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.

# LICENSEE EVENT REPORT (LER)

| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
|---|---|---|
| Surry Power Station, Unit 2 | 0 5 0 0 0 2 8 1 | 1 OF 0 4 |

TITLE (4) Less Than One Operable Charging Pump Due to Mechanical Failure and Personnel Error

| 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 | 3 0 | 9 2 | 9 2 | 0 0 1 | 0 0 | 0 2 | 2 6 | 9 2 | | 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) | 1 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) | 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) | X 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 |
|---|---|
| M. R. Kansler, Station Manager | AREA CODE 8 0 4 3 5 7 - 3 1 8 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 |
|---|---|---|---|---|---|---|---|---|---|
| B | C B | P | B 5 8 0 | Y | | | | | |
| A | V F | D M P | R 1 0 2 | 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 January 30, 1992 at 1345 hours, with Unit 1 at 98% power and Unit 2 at 100% power, Unit 2 Charging Pump 2-CH-P-1A was declared inoperable due to an oil leak. A 24 hour clock to hot shutdown was initiated in accordance with Technical Specification 3.3.B.2 due to less than two charging pumps operable. The "C" charging pump was being maintained in the "Pull to Lock" position in accordance with Operating Procedures. At 1515, the standby charging pump "B" was started. While performing post start checks, it was noted that ventilation damper 2-VS-MOD-201B for the "B" charging pump cubicle had failed to open as designed. Proper damper alignment is required for long term pump operability. Therefore, at 1520 the "B" charging pump was declared inoperable. Due to less than one operable charging pump, this occurrence was considered to be a condition not allowed by the Technical Specifications and a six hour clock was entered in accordance with Technical Specification 3.0.1. Since at least one charging pump was capable of performing its automatic function, it was concluded that no actual or potential consequences to public health and safety were created by the event. This report is required by 10CFR50.73(a)(2)(i)(B).

## 1.0 DESCRIPTION OF THE EVENT

On January 30, 1992 at 1345 hours, with Unit 1 at 98% power and Unit 2 at 100% power, Unit 2 charging pump (2-CH-P-1A [EIIS-CB, P]) was evaluated for continued operation with an oil leak of approximately two quarts per day from the outboard pump bearing. Because of this degraded condition, the system engineer determined the "A" charging pump may not operate with reasonable assurance for 30 days unattended. The "A" charging pump was declared inoperable and the standby charging pump, "B", was started. The "C" charging pump was being maintained in the "Pull to Lock" position in accordance with Operating Procedure 2-OP-CH-004. Since "C" would not start automatically while in the pull to lock configuration, it was not considered fully operable. Therefore, a 24 hour clock to hot shutdown was initiated in accordance with Technical Specification 3.3.B.2

While performing post start checks and prior to securing the "A" charging pump, it was determined that the ventilation damper (2-VS-MOD-201B [EIIS-VF, DMP]) for the "B" charging pump cubicle failed to open as designed. Operation of the damper is required for long term operability of the charging pump and the damper operation is part of the acceptance criteria of the charging pump Periodic Tests. Therefore, at 1520, operations shift personnel called the "B" charging pump inoperable. Thus, for a brief time a condition not allowed by Technical Specifications was in effect and a 6 hour clock to hot shut down was entered in accordance with Technical Specification 3.0.1.

At 1536, the "A" charging pump was stopped. At 1542, "C" charging pump was started and the 6 hour clock to hot shutdown was exited (the 24 hour clock remained in effect). At 1550 the "B" charging pump was stopped to investigate the damper problem.

This report is required by 10CFR50.73(a)(2)(i)(B) since the unit was operated in a condition not allowed by the Technical Specifications.

## 2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

The charging pumps provide makeup and seal water injection flow to the Reactor Coolant System during normal operation and also serve as high head safety injection pumps in a design basis accident. Three charging pumps are provided. Each pump can provide 100% of normal charging or design high head safety injection flow. The pumps were not fully operable in accordance with the definition in Technical Specification 1.0.D. However, either the "A" or "B" charging pump was capable of performing its high head safety injection function during a design basis accident until the "C" charging pump could be placed in service. Engineering calculations performed previously for Station Blackout indicate that a charging pump could run while its associated damper was closed for up to four hours. Therefore, the accident design basis assumptions would have been satisfied and no actual or potential consequences to public health and safety were created by the event.

## 3.0 CAUSE OF THE EVENT

The January 30, 1992 event was caused by mechanical failure due to an oil leak from the "A" charging pump bearing and the damper remaining closed on the "B" charging pump. The failure of the damper resulted from human error due to a procedural deficiency and weakness in training on the manual operation of the damper. On January 28, 1991 testing had been performed on the Emergency Ventilation System. This testing required the charging pump ventilation damper (2-VS-MOD-201B) for the "B" charging pump to be de-energized and the handwheel manually depressed. The charging pump ventilation dampers are equipped with a manual cut off switch which is actuated when the handwheel is depressed for manual operation. The cut-off switch prevents injury due to unexpected restoration of power and is automatically reset when the handwheel is returned to the raised position. It was concluded that the handwheel was left in the manual position upon completion of the testing. The manual operation of the damper is infrequently performed and not covered by a procedure. In addition, the operator training program does not provide training on this feature.

## 4.0 IMMEDIATE CORRECTIVE ACTION(S)

Troubleshooting by on shift Operations and Maintenance personnel determined that the handwheel on the operator for damper 2-VS-MOD-201B was depressed for manual operation which prevented the

automatic opening of the damper after power was restored. The proper operation of the damper was verified by pulling the handle out, starting the pump, and verifying automatic opening of the damper both locally and via the Emergency Response Facility Computer System in the control room. The pump was then secured and the damper verified shut. At 1822 on January 30, 1992, the "B" charging pump was declared operable and the 24 hour clock was then exited.

## 5.0 ADDITIONAL CORRECTIVE ACTION(S)

The work request was completed to repair the oil leak in the "A" charging pump. A torn gasket was replaced and the pump was returned to service at 0131, February 1, 1992.

This Licensee Event Report will be placed in Operations required reading.

## 6.0 ACTIONS TO PREVENT RECURRENCE

Engineering will provide information to Procedures for revising the Auxiliary Ventilation Filter Train Test to assure proper manual operation of the subject dampers (VS-MOD-201 and VS-MOD-101).

The charging pump dampers (VS-MOD-201 and VS-MOD-101) will be labeled with instructions for manual operation.

Training will be conducted on the manual operation of charging pump dampers and the appropriate job performance measures utilized for operator training will be revised.

## 7.0 SIMILAR EVENTS

| | |
|---|---|
| LER 85-011-00 | Loss of Charging High Head Safety Injection Pumps due to Human Error |

## 8.0 MANUFACTURER INFORMATION

| | |
|---|---|
| 2-VS-MOD-201B | Raymond Control Systems<br>Model MAR 160 |
| 2-CH-P-1A | Byron Jackson<br>Model 3X4X8 9 Stage DVMX |