

NRC Form 388
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

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

TITLE (4)
Iodine Spike

| 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 1 | 0 8 | 8 6 | 8 6 | 0 0 2 | 0 1 | 0 2 | 2 7 | 8 6 | | | 0 5 0 0 0 |
| | | | | | | | | | | | 0 5 0 0 0 |

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11):

| | | | | |
|-------------------------|-------------------|------------------|---------------------|--------------------------------------------------------------------------------------------------|
| OPERATING MODE (9) N | 20.402(b) | 20.405(e) | 50.73(a)(2)(iv) | 73.71(b) |
| | 20.405(a)(1)(i) | 50.38(e)(1) | 50.73(a)(2)(v) | 73.71(e) |
| | 20.405(a)(1)(ii) | 50.38(e)(2) | 50.73(a)(2)(vi) | <input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 388A) |
| | 20.405(a)(1)(iii) | 50.73(a)(2)(i) | 50.73(a)(2)(vii)(A) | "SPECIAL REPORT" |
| | 20.405(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(vii)(B) | |
| | 20.405(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(ix) | |

POWER LEVEL (10)
0 0 0

LICENSEE CONTACT FOR THIS LER (12)

| | | |
|-----------------------------------------|--------------------|---------------------|
| NAME R. F. Saunders, Station Manager | TELEPHONE NUMBER | |
| | AREA CODE 8 0 4 | 3 5 7 1 - 3 1 1 8 4 |

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPROS | CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPROS |
|-------|--------|-----------|---------------|---------------------|-------|--------|-----------|---------------|---------------------|
| | | | | | | | | | |
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SUPPLEMENTAL REPORT EXPECTED (14)

| | | | | | |
|--------------------------------------------------------------------------|----------------------------------------|-------------------------------|-------|-----|------|
| <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 January 8, 1986 at 0030 hours following a unit trip from 97% power, the specific activity sample of the reactor coolant showed a dose equivalent I-131 level of 2.26 microcuries/cc. This exceeds the dose equivalent I-131 of less than 1.0 microcurie/cc specified in Tech. Specs. 3.1.D.2 and is being reported in accordance with the special reporting requirements outlined in T.S.3.1.D.4.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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|------------------------------------------------------|----------------------------------------------|----------------|-------------------|-----------------|----------|----|
| FACILITY NAME (1) Surry Power Station, Unit 1 | DOCKET NUMBER (2) 0 5 0 0 0 2 8 0 8 6 | LER NUMBER (6) | | | PAGE (3) | |
| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | |
| | | 86 | 002 | 01 | 02 | 03 |

TEXT (If more space is required, use additional NRC Form 388A's) (17)

Description of the Event:

On January 8, 1986, at 0030 hours following a unit trip from 97%, the specific activity sample of the reactor coolant showed a dose equivalent I-131 level of 2.26 microcuries/cc. This exceeds the dose equivalent I-131 limit of less than 1.0 microcurie/cc specified in Tech. Spec. 3.1.D.2 and is being reported in accordance with the special reporting requirements outlined in Tech. Spec. 3.1.D.4.

Probable Consequences and Implications:

The limitations on the specific activity of the primary coolant ensure that the resulting 2 hour dose at the site boundary will not exceed a small fraction of 10 CFR 100 limits following a postulated steam generator tube rupture. Since the dose equivalent I-131 peak was below the Technical Specification upper limit of 10 microcuries/cc, the reactor coolant gross activity was below the value analyzed in the FSAR for a tube rupture and 1% failed fuel. Therefore, the health and safety of the public were not affected.

Cause:

The iodine spike was caused by known, but not specifically located, fuel element defects in the reactor core. Post shutdown conditions enhanced the release of fission products, specifically I-131. This caused an increase of the reactor coolant specific activity.

Immediate Corrective Action:

The immediate corrective action was to implement the actions required by Tech. Spec. Table 4.1-2B. Specifically, the level of the dose equivalent I-131 was monitored at least once every 4 hours until the level returned to less than 1.0 microcurie/cc.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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|------------------------------------------------------|------------------------------------------|----------------|-------------------|-----------------|----------|----|-----|
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| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | | |
| | | 8 6 | 0 0 2 | 0 1 | 0 3 | OF | 0 3 |

TEXT (if more space is required, use additional NRC Form 388A's) (17)

IODINE SPIKE

Supplemental Information

The supplemental information required by T.S.3.1.D.4 "Special Report" is included as follows:

1. Reactor power history 48 hours prior to the event:

January 5, 1986 @ 2104 hours - 97%.
January 6, 1986 - 24 hours at 97%.
January 7, 1986 @ 2104 hours - reactor trip.

2. Fuel burnup by core region as of January 7, 1986.

FUEL BATCH

BURNUP

| | | |
|--------|-------|---------|
| S2/5A: | 38687 | MWD/MTU |
| S2/6A: | 30017 | MWD/MTU |
| S2/6B: | 31543 | MWD/MTU |
| S2/9B: | 24765 | MWD/MTU |
| 6C: | 32636 | MWD/MTU |
| 8A: | 32454 | MWD/MTU |
| 8B: | 38864 | MWD/MTU |
| 9A: | 23571 | MWD/MTU |
| 9B: | 26580 | MWD/MTU |
| 10: | 12822 | MWD/MTU |

Cycle 8 Burnup: 10601 MWD/MTU

3. Prior to the reactor shutdown, the unit had normal letdown rate of 108 gpm.
4. No degassing operations were performed.
5. Duration of I-131 Spike:

January 7, 1986 @ 1000 - Routine Sample - .061 microcuries/cc.
January 8, 1986 @ 0030 - Post Trip Sample - 2.26 microcuries/cc.
January 8, 1986 @ 0225 - Post Trip Sample - 2.13 microcuries/cc.
January 8, 1986 @ 0435 - Post Trip Sample - 1.83 microcuries/cc.
January 8, 1986 @ 0625 - Post Trip Sample - 1.59 microcuries/cc.
January 8, 1986 @ 0830 - Post Trip Sample - 1.22 microcuries/cc.
January 8, 1986 @ 1030 - Post Trip Sample - 1.05 microcuries/cc.
January 8, 1986 @ 1230 - Post Trip Sample - .901 microcuries/cc.

Duration approximately 12 hours.

Vepco

VIRGINIA ELECTRIC AND POWER COMPANY

Surry Power Station
P. O. Box 315
Surry, Virginia 23883

February 27, 1986

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

Serial No: 86-002A
Docket No: 50-280
License No: DPR-32

Gentlemen:

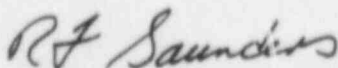
Pursuant to Surry Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report update for Surry Unit 1.

REPORT NUMBER

86-002-01

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be reviewed by Safety Evaluation and Control.

Very truly yours,



R. F. Saunders
Station Manager

Enclosure

cc: Dr. J. Nelson Grace
Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia 30323

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