POW 28-06-01

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)
Surry Power Station, Unit 1	0 5 0 0 0 2 8 0	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 5 0 0 0
0 1	1 9	8 6	8 6	— 0 0 4	— 0 0	0 2	1 0	8 6		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
N		20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.406(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 0 0		20.406(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	X OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	"Special Report"
		20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
R. F. Saunders, Station Manager	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	

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)

ABSTRACT

On January 19, 1986 at 1535 hours following a manual Reactor trip, the specific activity sample of the Primary Coolant System showed a dose equivalent I-131 level of 1.80 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.

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☆ U.S.GPO: 1984-0-454-481/18759

NRC Form 366A (9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

IODINE SPIKE

Description of the Event

On January 19, 1986 at 1535 hours, following a manual Reactor trip, the specific activity sample of the Primary Coolant System showed a dose equivalent I-131 level of 1.80 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.

Safety 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 the 10CFR 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 Primary Coolant gross activity was below the value analyzed in the UFSAR for a tube rupture with 1% failed fuel. Therefore, this event did not constitute an unreviewed safety question, and 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 in the Primary Coolant specific activity.

Immediate Corrective Action

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

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(9-83)

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

Supplemental Information

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

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

   January 17, 1986 - 24 hrs. at 97%.
   January 18, 1986 - 24 hrs. at 97%.
   January 19, 1986 - @ 1256 - 0% following manual reactor trip.

2. Fuel burnup by core region as of January 19, 1986.

FUEL BATCH	BURNUP
S2/5A	39,031 MWD/MTU
S2/6A	30,272 MWD/MTU
S2/6B	31,706 MWD/MTU
S1/6C	32,881 MWD/MTU
S1/8A	32,597 MWD/MTU
S1/8B	39,213 MWD/MTU
S1/9A	23,937 MWD/MTU
S1/9B	26,967 MWD/MTU
S1/10	13,266 MWD/MTU
S2/9B4	25,111 MWD/MTU
Cycle 8 Burnup:	10,956 MWD/MTU

3. Prior to the Reactor trip, the unit had a normal letdown rate of 105 gpm.

4. No degassing operations were performed.

5. Duration of the dose equivalent I-131 spike:

   January 19, 1986 @ 0835 - Routine Sample - .0687 microcuries/cc.
   January 19, 1986 @ 1535 - Post Trip Sample 1.80 microcuries/cc.
   January 19, 1986 @ 1730 - Post Trip Sample 1.65 microcures/cc.
   January 19, 1986 @ 1905 - Post Trip Sample 1.48 microcuries/cc.
   January 19, 1986 @ 2100 - Post Trip Sample 1.26 microcuries/cc.
   January 19, 1986 @ 2300 - Post Trip Sample 1.01 microcuries/cc.
   January 19, 1986 @ 0050 - Post Trip Sample .864 microcuries/cc.

   Duration approximately 9 1/2 hours.

Vepco

VIRGINIA ELECTRIC AND POWER COMPANY
Surry Power Station
P. O. Box 315
Surry, Virginia 23883

February 10, 1986

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

Serial No: 86-004
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 for Surry Unit 1.

REPORT NUMBER

86-004-00

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,

RF Saund

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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