

# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Surry Power Station, Unit 1						DOCKET NUMBER (2) 0 5 0 0 0 2 8 0 1				PAGE (3) 1 OF 0 3	
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TITLE (4) Iodine Spike											
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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 0	0 2	0 5	8 6			0 5 0 0 0
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OPERATING MODE (9) N		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)									
POWER LEVEL (10) 0 1 0 0	20.402(b)			20.405(c)			50.73(a)(2)(iv)			73.71(b)	
	20.405(a)(1)(i)			50.36(e)(1)			50.73(a)(2)(v)			73.71(c)	
	20.405(a)(1)(ii)			50.36(e)(2)			50.73(a)(2)(vii)			X OTHER (Specify in Abstract below and in Text, NRC Form 368A)	
	20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(viii)(A)			"Special Report"	
	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 R. F. Saunders, Station Manager								TELEPHONE NUMBER 8 1 0 4 3 1 5 7 1 - 4 3 1 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 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

APPROVED OMB NO. 3150-0104  
EXPIRES: 8/31/98

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Surry Power Station, Unit 1	0 5 0 0 0 2 8 0	8 6	0 0 2	0 0 0	2	OF	0 3

TEXT (If more space is required, use additional NRC Form 365A'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 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 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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TEXT (If more space is required, use additional NRC Form 365A's) (17)

IODINE SPIKESupplemental 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 September 11, 1985:

FUEL BATCHBURNUP

S2/5A:	38687	MWD/MTU
S2/6A:	30017	MWD/MTU
S2/6B:	31543	MWD/MTU
S2/9B:	24765	MWD/MTU
oC:	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 a 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.



VIRGINIA ELECTRIC AND POWER COMPANY

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

February 5, 1986

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

Serial No: 86-002  
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 Power Station Unit 1.

REPORT NUMBER

86-002-00

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,

A handwritten signature in cursive script that reads "R. F. Saunders".

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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