

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) SURRY POWER STATION, UNIT NO. 1	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0	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 6	1 3	8 4	8 4	0 1 4	0 0						0 5 0 0 0
											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) N		20.402(b)			20.405(c)			50.73(a)(2)(iv)			73.71(b)	
POWER LEVEL (10) 0 0 0		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)			<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)	
		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 J. L. WILSON, STATION MANAGER								TELEPHONE NUMBER 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 NPDs	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDs		

SUPPLEMENTAL REPORT EXPECTED (14)								EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO												

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

On June 13, 1984, at 1800 hours following a unit trip from 100% power, the specific activity sample of the reactor coolant showed a peak dose equivalent I-131 level of 1.99 microcuries/cc. This exceeds the dose equivalent I-131 limit of < 1.0 microcuries/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

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FACILITY NAME (1) SURREY POWER STATION, UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 2 8 0	LER NUMBER (5)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 4	— 0 1 4	— 0 0	0 2	OF	0 3

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

Description of the Event

On June 13, 1984, at 1800 hours following a unit trip from 100%, the Specific Activity Sample of the reactor coolant showed a peak dose equivalent I-131 level of 1.99 microcuries/cc. This exceeds the dose equivalent I-131 limit of ≤ 1.0 microcuries/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 Status of Redundant Equipment

The limitations on the specific activity of the primary coolant ensure that the resulting 2 hour doses at the site boundary will not exceed an appropriately 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 microcuries/cc.

NRC Form 366A
(9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

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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 4	— 0 1 4	— 0 0	0 3	OF	0 3

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

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:

June 11, 1984 - 24 hours at 100%
June 12, 1984 - 24 hours at 100%
June 13, 1984 @ 1800 hours - Unit at 0% following trip.

2. Fuel burnup by ccre region - as of June 13, 1984.

Fuel Batch : S2/6B: 30509 MWD/MTU
6C: 34219 MWD/MTU
4C: 33534 MWD/MTU
7A: 32208 MWD/MTU
7B: 39035 MWD/MTU
8A: 28359 MWD/MTU
8B: 29050 MWD/MTU
9: 10991 MWD/MTU
Cycle 7 Burnup : 8216 MWD/MTU

3. Prior to the reactor shutdown, the unit had established a normal letdown rate of 106 gpm.
4. No De-gassing operations were performed.
5. Duration of I-131 Spike:

June 13, 1984 @ 0015 - Routine Sample - .103 microcuries/cc.
June 13, 1984 @ 1800 - Post Trip Sample - 1.99 microcuries/cc.
2000 - Post Trip Sample - 1.78 microcuries/cc.
2200 - Post Trip Sample - 1.58 microcuries/cc.
June 14, 1984 @ 0005 - Post Trip Sample - 1.22 microcuries/cc.
0200 - Post Trip Sample - .997 microcuries/cc.

Duration approximately 8 hours.