(7-77)

LICENSEE EVENT REPORT

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1 | V A S P S 1 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | | (5)
LICENSEE CODE (9–14) | LICENSE NUMBER (15–25) | LICENSE TYPE (26–30) | CAT (57–58)

CON'T
0 1 | REPORT SOURCE L (6) | 0 5 0 0 0 2 8 0 (7) | 0 2 0 7 8 3 (8) | 0 3 0 4 8 3 (9)
(60) | DOCKET NUMBER (61–68) | EVENT DATE (69–74) | REPORT DATE (75–80)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 On February 7, following a reactor trip, while shutting down unit I for cycle 6
0 3 refueling, activity samples of the reactor coolant system indicated a dose equivalent
0 4 I-131 level greater than the T.S.3.1.D.2 limit. Since the activity remained below
0 5 the T.S.3.1.D.3 limit, the health and safety of the public would not have been
0 6 affected. This event is reportable per T.S.6.6.2.b(2) and the Special Reporting
0 7 requirements of T.S.3.1.D.4.
0 8

0 9

SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
R C (11)	E (12)	C (13)	F U E L X X (14)	Z (15)	Z (16)

(17) LER/RO REPORT NUMBER

EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
8 3	—	0 1 0	/	0 3	L	—	0

ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS (22)	ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
X (18)	Z (19)	Z (20)	Z (21)	0 0 0 0	Y (23)	N (24)	N (25)	W 1 2 0 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 The event was caused by a fuel element defect in the Reactor Core. Post Trip
1 1 conditions in the core enhanced the release of fission products to the reactor coolant
1 2 system resulting in an iodine spike. An accelerated sampling frequency was implemented
1 3 until the RCS specific activity returned to less than the T.S.3.1.D.2 limit.
1 4

	FACILITY STATUS	% POWER	OTHER STATUS (30)	METHOD OF DISCOVERY	DISCOVERY DESCRIPTION (32)
1 5	D (28)	0 0 0 (29)	N/A	C (31)	Post-trip chemistry sample

	ACTIVITY RELEASED	CONTENT OF RELEASE	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)
1 6	Z (33)	Z (34)	N/A	N/A

PERSONNEL EXPOSURES

	NUMBER	TYPE	DESCRIPTION (39)
1 7	0 0 0 (37)	Z (38)	N/A

PERSONNEL INJURIES

	NUMBER	DESCRIPTION (41)
1 8	0 0 0 (40)	N/A

LOSS OF OR DAMAGE TO FACILITY (43)

	TYPE	DESCRIPTION
1 9	Z (42)	N/A

8303160201 830304
PDR ADOCK 05000280
S PDR

PUBLICITY

	ISSUED	DESCRIPTION (45)	NRC USE ONLY
2 0	N (44)	N/A	

NAME OF PREPARER J. L. Wilson PHONE: (804) 357-3184

ATTACHMENT 1
SURRY POWER STATION, UNIT NO. 1
DOCKET NO: 50-280
REPORT NO: 83-010/03L-0
EVENT DATE: 02-07-83

TITLE OF THE EVENT: HIGH DOSE EQUIVALENT I-131 IN RCS

1. Description of the Event

On February 7, following a reactor trip, while shutting down Unit I for cycle 6 refueling, the specific activity sample of the reactor coolant showed a dose equivalent I-131 level of greater than 1.0 microcuries/cc. This exceeds the T.S.3.1.D.2 limit of $\leq$ 1.0 microcuries/cc and is reportable in accordance with T.S.6.6.2.b(2) and the special reporting requirements of T.S.3.1.D.4.

2. Probable Consequences and Status of Redundant Equipment

The limitations on the specific activity of the primary coolant ensure that the resulting 2 hour dose at the site boundary will not exceed an appropriately small fraction of the 10CFR 100 limits following a postulated steam generator tube rupture. Since the dose equivalent I-131 peaks were 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 would not have been affected.

3. Cause

The iodine spikes were caused by known, but not specifically located fuel element defects in the reactor core. Post Trip conditions enhanced the release of fission products, specifically I-131, which caused an increase of the reactor coolant specific activity level.

4. Immediate Corrective Action

The immediate corrective action was to implement the actions required by T.S. Table 4.1-2B. Specifically, the level of the dose equivalent I-131 was monitored at intervals of 4 hours or less until the level returned to less than 1.0 microcuries/cc.

5. Subsequent Corrective Action

None.

6. Action Taken to Prevent Recurrence

The specific activity of the reactor coolant will continue to be monitored as required by T.S. Table 4.1.2B. All fuel to be reused will be examined during the present refueling outage.

7. Generic Implications

None.

ATTACHMENT

HIGH DOSE EQUIVALENT I-131 IN RCS

Supplemental Information

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

Event Date February 7, 1983.

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

   February 5, to February 7, 2009 hrs. - 85% power

   February 7 @ 2009 hrs.-begin rampdown

   February 7 @ 2145 hrs. - Reactor Tripped from 42% power.

2. Fuel Burnup by Core region as of February 7, 1983 @ 2145 hrs.

Fuel Batch 4A:	28,833	MWD/MTU
6B:	25,851	MWD/MTU
4C:	31,856	MWD/MTU
6C:	37,633	MWD/MTU
7A:	26,259	MWD/MTU
7B:	34,124	MWD/MTU
8A:	20,641	MWD/MTU
8B:	17,394	MWD/MTU
Cycle 6 Burnup:	16,491	MWD/MTU

3. Prior to the trip, the letdown flowrate had been established at 111 gpm.

4. Degassing operations were not being performed.

5. Duration of I-131 Spike:

February 7, 1983:	2015 hrs. - Pre trip sample -	.128 microcuries/cc
	2305 hrs. - Post trip sample -	7.20 microcuries/cc
February 8, 1983:	0100 hrs. - Post trip sample -	8.17 microcuries/cc
	0300 hrs. - Post trip sample -	8.08 microcuries/cc
	0450 hrs. - Post trip sample -	7.05 microcuries/cc
	0738 hrs. - Post trip sample -	5.78 microcuries/cc
	0905 hrs. - Post trip sample -	5.26 microcuries/cc
	1305 hrs. - Post trip sample -	3.46 microcuries/cc
	1705 hrs. - Post trip sample -	3.11 microcuries/cc
	2000 hrs. - Post trip sample -	2.14 microcuries/cc
	2105 hrs. - Post trip sample -	1.99 microcuries/cc

February 9, 1983: 0105 hrs. - Post trip sample - 1.75 microcuries/cc
0500 hrs. - Post trip sample - 1.34 microcuries/cc
0730 hrs. - Post trip sample - 1.28 microcuries/cc
0900 hrs. - Post trip sample - 1.02 microcuries/cc
1110 hrs. - Post trip sample - .827 microcuries/cc

The duration of the event was approximately 36 hours.