

LICENSEE EVENT REPORT

CONTROL BLOCK: _____ (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
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0 1 | L | 6 | 0 | 5 | 0 | 0 | 0 | 2 | 8 | 0 | 7 | 1 | 1 | 0 | 4 | 8 | 2 | 8 | 1 | 1 | 3 | 0 | 8 | 2 | 9
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0 12 | On November 4 following a reactor trip and on November 18 following a
0 13 | rampdown, specific activity samples of the reactor coolant system indicated a dose
0 14 | equivalent I-131 level greater than the T.S.3.1.D.2 limit. Since the activity
0 15 | remained below the T.S.3.1.D.3 limit, the health and safety of the public would
0 16 | not have been affected. These events are reportable per T.S.6.6.2.b.(2) and the
0 17 | Special Reporting Requirements of T.S.3.1.D.4.

0 9 | R | C | 11 | E | 12 | C | 13 | F | U | E | L | X | X | 14 | Z | 15 | Z | 16
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1 10 | The events were caused by a fuel element defect in the Reactor Core. Post Trip
1 11 | and post rampdown conditions in the core enhanced the release of fission products
1 12 | to the reactor coolant system resulting in an iodine spike. An accelerated sampling
1 13 | frequency was implemented until the RCS specific activity returned to less than
1 14 | the T.S.3.1.D.2 limit.

1 5 | G | 28 | 1 | 0 | 0 | 29 | N/A | C | 31 | Post-trip chemistry sample.
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

1 6 | Z | 33 | Z | 34 | N/A | N/A | 36
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

1 7 | 0 | 0 | 0 | 37 | Z | 38 | N/A | 39
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1 8 | 0 | 0 | 0 | 40 | N/A | 41
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

1 9 | Z | 42 | N/A | 43 | 8212090091 821130
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2 0 | N | 44 | N/A | 45 | NRC USE ONLY
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
NAME OF OPERATOR J. L. Wilson PHONE (804) 357-3184

ATTACHMENT 1
SURRY POWER STATION, UNIT NO. 1
DOCKET NO: 50-280
REPORT NO: 82-110/03L-0
EVENT DATE: 11-04-82

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

1. Description of the Event:

On November 4, following a reactor trip and on November 18, following a reactor rampdown of power, 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 ≤ 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 10 CFR 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 were not affected.

3. Cause:

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

4. Immediate Corrective Action:

The immediate corrective action for these events 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:

No further corrective actions will be taken at this time.

6. Actions 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 at the next refueling outage.

7. Generic Implications:

None.

SUPPLEMENTAL INFORMATION:

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

Event of November 4, 1982

1. Reactor Power History 48 hours prior to these events:

November 2, 1982 to November 4 @ 1928 hrs. - 100% power

November 4, 1982 - 1928 Reactor Trip

2. Fuel Burnup by core region as of November 4, 1982 at 1928 hours.

Fuel Batch:	4A:	25,650	MWD/MTU
	6B:	24,077	MWD/MTU
	4C:	30,578	MWD/MTU
	6C:	34,595	MWD/MTU
	7A:	24,534	MWD/MTU
	7B:	30,794	MWD/MTU
	8A:	16,822	MWD/MTU
	8B:	14,141	MWD/MTU
Cycle 6 Burnup:		13,462	MWD/MTU

3. Prior to the trip, the letdown flowrate had been established at 107 gpm.
4. De-gassing operations were not being performed.
5. Duration of I-131 Spike:

November 4, 1982: 0845 hours - Pre trip sample .121 microcuries/cc
2130 hours - Post trip sample 3.19 microcuries/cc
2330 hours - Post trip sample 3.66 microcuries/cc

November 5, 1982: 0130 hours - Post trip sample 3.87 microcuries/cc
0330 hours - Post trip sample 3.48 microcuries/cc
0530 hours - Post trip sample 3.26 microcuries/cc
0930 hours - Post trip sample 2.77 microcuries/cc
1320 hours - Post trip sample 1.98 microcuries/cc
1730 hours - Post trip sample 1.41 microcuries/cc
2130 hours - Post trip sample .865 microcuries/cc

Duration of the event was approximately 24 hours.

Event of November 18, 1982

1. Reactor Power History 48 hours prior to the event:

November 16 @ 0000 hrs. to Nov. 17 @ 1845 hours - 100% power
November 17 @ 1845 hrs. to Nov. 18 @ 0030 hours - 150 MWe/hr. rampdown
November 18 @ 0030 hrs. to Nov. 18 @ 0130 hours - <10% power
November 18 @ 0200 hrs. - 20% power

2. Fuel Burnup by core region as of November 18, 1982 at 0200 hrs.

Fuel Batch:	4A:	26,116	MWD/MTU
	6B:	24,478	MWD/MTU
	4C:	30,762	MWD/MTU
	6C:	35,040	MWD/MTU
	7A:	24,783	MWD/MTU
	7B:	31,281	MWD/MTU
	8A:	17,381	MWD/MTU
	8B:	14,614	MWD/MTU

Cycle 6 Burnup: 13,903 MWD/MTU

3. Prior to the event, the letdown flowrate had been established at 118 gpm.
4. De-gassing operations were not being performed..
5. Duration of I-131 spike.

November 18, 1982: 0035 hours - Pre event sample .455 microcuries/cc.
0200 hours - Post event sample 3.82 microcuries/cc.
0405 hours - Post event sample 3.33 microcuries/cc.
0615 hours - Post event sample 2.42 microcuries/cc.
0805 hours - Post event sample 1.95 microcuries/cc.
1153 hours - Post event sample 1.30 microcuries/cc.
1553 hours - Post event sample .875 microcuries/cc.

Duration of the event was approximately 14 hours.