NRC FORM 366

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

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

LICENSEE CODE (2)	V A S P S 1
LICENSE NUMBER (3)	0 0 - 0 0 0 0 0 - 0 0
LICENSE TYPE (4)	4 1 1 1 1
CAT (5)	
REPORT SOURCE (6)	L
DOCKET NUMBER (7)	0 5 0 0 0 2 8 0
EVENT DATE (8)	0 8 2 2 8 1
REPORT DATE (9)	0 9 1 5 8 1

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

On August 22 and 23, post reactor trip specific activity samples of the reactor coolant system indicated a dose equivalent I-131 level greater than the T.S.3.1.D.2 limit. Since the integrity of the steam generator tubes was maintained and the activity remained below the TS-3.1.D.3 limit, the health and safety of the public were not affected. This event is reportable per T.S. 6.6.2.b.(2) and the special reporting requirements of T.S.3.1.D.4.

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

LER/RO REPORT NUMBER (17)	EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE	REPORT TYPE		REVISION NO.
	8 1	—	0 3 3	/	0 3	L	—	0

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

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

This event was caused by a fuel element defect in the reactor core. Post trip conditions in the core enhanced the release of fission products to the reactor coolant system resulting in an iodine spike. An accelerated sampling frequency and maximum primary purification was implemented until the RCS specific activity returned to less than the limit of T.S.3.1.D.2.

FACILITY STATUS (28)	% POWER (29)	OTHER STATUS (30)	METHOD OF DISCOVERY (31)	DISCOVERY DESCRIPTION (32)
G	0 0 0	N/A	C	Post Trip Chemistry Sample.

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

PERSONNEL EXPOSURES

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

PERSONNEL INJURIES

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

LOSS OF OR DAMAGE TO FACILITY (43)

TYPE (42)	DESCRIPTION
Z	N/A

PUBLICITY

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

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PDR ADOCK 05000280
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NAME OF PREPARER: ...Wilson PHONE: (804) 357-3184

ATTACHMENT 1
SURRY POWER STATION, UNIT 1
DOCKET NO: 50-280
REPORT NO: 81-033/03L-0
EVENT DATE: 8-22-81

TITLE OF EVENT: HIGH I-131 IN RCS

1. DESCRIPTION OF EVENT:

At 0410, on August 22,1981, following a reactor trip from 100% power, the specific activity sample of the reactor coolant showed a peak dose equivalent I-131 level of 2.73 microcuries/cc, exceeding the T.S.3.1.D.2 limit of ≤ 1.0 microcuries/cc. The dose equivalent I-131 returned to within the T.S. limit at 2115 and remained within the limit until 0303 on August 23. The second peak measured 1.01 microcuries/cc. This event is reportable per T.S.-6.6.2.b(2) and TS-3.1.D.4.

2. PROBABLE CONSEQUENCES:

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 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.

3. CAUSE OF EVENT:

The iodine spike was caused by known, yet not specifically located, fuel element defects in the reactor core. Post trip conditions enhanced the release of fission products, specifically I-131, to the reactor coolant system, causing an increase in the 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 dose equivalent I-131 was monitored every 4 hours until the level returned to less than 1.0 microcurie/cc, at which time the reactor was restarted and returned to power.

5. SCHEDULED 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 system will continue to be monitored as required by T.S. table 4.1-2B.

7. GENERIC IMPLICATIONS:

There are no generic implications associated with this event.

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REPORT NO. 81-033/03L-0

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 these events

   August 20,1981 - 24 hours at 100%

   August 21,1981 - 24 hours at 100%

   August 22,1981 - 0258 Reactor Trip

   August 22,1981 - 2248 Reactor Startup

2. Fuel Burnup by core region - as of 2400, August 22,1981:

   Fuel Batch 4A: 12548 MWD/MTU

   6B: 12447 MWD/MTU

   4C: 25800 MWD/MTU

   6C: 22386 MWD/MTU

   7A: 17848 MWD/MTU

   7B: 16943 MWD/MTU

   8A: 1586 MWD/MTU

   8B: 1378 MWD/MTU

   Cycle 6 Burnup - 1364.77 MWD/MTU

3. Normal letdown prior to trip and dilution to criticality. Average flow rate of letdown 116 gpm.

4. No De-gassing operations were performed.

5. Duration of I-131 spike

   August 22,1981 - Post Trip sample (0410) 2.73 microcuries/cc

   2001 - 1.02 microcuries/cc

   2115 - .927 microcuries/cc

   August 23,1981 0303 - 1.01 microcuries/cc

   0539 - .769 microcuries/cc

   Duration approximately 18.5 hours.