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VIRGINIA ELECTRIC AND POWER COMPANY

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

FEB 13 1984

Serial No: SR-84-01

Docket No: 50-280

License No: DPR-32

Mr. James P. O'Reilly
Regional Administrator
Suite 2900
101 Marietta Street, NW
Atlanta, Georgia, 30303

Dear Mr. O'Reilly:

Pursuant to Surry Power Station Technical Specifications, the Virginia Electric and Power Company hereby submits the following Special Report for Surry Unit 1.

Report Number

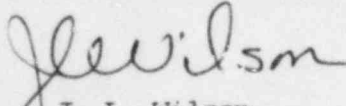
SPR-84-1

Applicable Technical Specification

6.6.2.b.(2) & 3.1.D.4

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,


J. L. Wilson
Station Manager

Enclosure

cc: Document Control Desk, USNRC
016 Phillips Building
Washington, D. C., 20555

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SURRY POWER STATION, UNIT NO. 1

DOCKET NO: 50-280
REPORT NO: SPR-84-1
EVENT DATE: 1-6-84

TITLE OF THE EVENT: SPECIAL REPORT PURSUANT TO T.S.3.1.D.4 DOSE EQUIVALENT
I-131 > 1.0 MICROCURIES/cc.

Description of the Event

On January 6, 1984, at 1530, following a unit trip from 100%, the specific activity sample of the reactor coolant showed a peak dose equivalent I-131 level of 1.57 microcuries/cc. This exceeds the dose equivalent I-131 T.S.3.1.D.2 limit of ≤ 1.0 microcuries/cc and is reportable per T.S.6.6.2.b.(2) and the special reporting requirements of T.S.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, yet 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 in the coolant specific activity level.

Immediate Corrective Action

The immediate corrective action was to implement the actions required by T.S. Table 4.1.2.B. Specifically, the level dose equivalent I-131 was monitored every 4 hours until the level returned to less than 1.0 microcuries/cc.

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:

January 4, 1984 - 24 hours at 100%
January 5, 1984 - 24 hours at 100%
January 6, 1984 - 1324 - Reactor Trip from 100%

2. Fuel burnup by core region - as of January 6, 1984.

Fuel Batch	:	S2/6B:	29002 MWD/MTU
		6C:	30371 MWD/MTU
		4C:	30709 MWD/MTU
		7A:	27788 MWD/MTU
		8A:	25216 MWD/MTU
		8B:	24717 MWD/MTU
		9:	6584 MWD/MTU

Cycle 7 Burnup: 5766 : MWD/MTU

3. Prior to the reactor trip, the unit had established a normal letdown rate of 107 gpm.

4. No De-Gassing operations were performed.

5. Duration of I-131 Spike:

January 6, 1984 - 0035 - Routine Sample .113 microcuries/cc.
1530 - Post Trip Sample 1.57 microcuries/cc.
1730 - Post Trip Sample 1.32 microcuries/cc.
1930 - Post Trip Sample 1.03 microcuries/cc.
2130 - Post Trip Sample .891 microcuries/cc.

Duration approximately 6 hours.