

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

December 17, 1990

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555

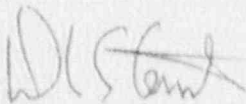
Serial No. 90-760  
NO/RPC:vlh  
Docket Nos. 50-280  
50-281  
License Nos. DPR-32  
DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY  
SURRY POWER STATION UNITS 1 AND 2  
MONTHLY OPERATING REPORT

Enclosed is the Monthly Operating Report for Surry Power Station Units 1 and 2 for the month of November 1990.

Very truly yours,



W. L. Stewart  
Senior Vice President - Nuclear

Enclosure

cc: U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, N. W.  
Suite 2900  
Atlanta, Georgia 30323

Mr. W. E. Holland  
NRC Senior Resident Inspector  
Surry Power Station

1/1  
IE24

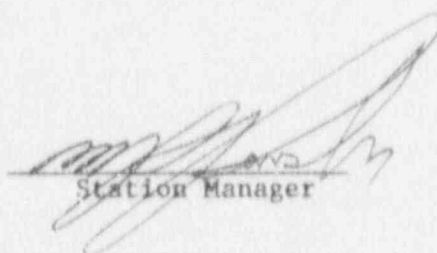
VIRGINIA ELECTRIC AND POWER COMPANY

SURRY POWER PLANT

MONTHLY OPERATING REPORT

REPORT # 90-11

APPROVED:

  
Station Manager

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# OPERATING DATA REPORT

DOCKET NO.: 50-280  
DATE: 12/06/90  
COMPLETED BY: L.A. Warren  
TELEPHONE: (804) 357-3184 x355

## OPERATING STATUS

## NOTES

1. Unit Name: Surry Unit 1
2. Reporting Period: Nov. 01-30, 1990
3. Licensed Thermal Power (MWt): 2441
4. Nameplate Rating (Gross MWe): 847.5
5. Design Electrical Rating (Net MWe): 788
6. Maximum Dependable Capacity (Gross MWe): 820
7. Maximum Dependable Capacity (Net MWe): 781
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons: \_\_\_\_\_
9. Power Level To Which Restricted, If Any (Net MWe): \_\_\_\_\_
10. Reason For Restrictions, If Any: \_\_\_\_\_

	<u>THIS MONTH</u>	<u>YTD</u>	<u>CUMULATIVE</u>
11. Hours In Reporting Period	720.0	8016.0	157272.0
12. Number of Hours Reactor Was Critical	0	6387.2	99138.0
13. Reactor Reserve Shutdown Hours	0	0	3774.5
14. Hours Generator On-Line	0	6373.5	97196.7
15. Unit Reserve Shutdown Hours	0	0	3736.2
16. Gross Thermal Energy Generated (MWH)	0	14488795.5	225605598.5
17. Gross Electrical Energy Generated (MWH)	0	4826105.0	73371508.0
18. Net Electrical Energy Generated (MWH)	0	4577151.0	69588081.0
19. Unit Service Factor	0	79.5%	61.8%
20. Unit Availability Factor	0	79.5%	64.2%
21. Unit Capacity Factor (Using MDC Net)	0	73.1%	57.1%
22. Unit Capacity Factor (Using DER Net)	0	72.5%	56.2%
23. Unit Forced Outage Rate	0	4.6%	20.7%
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): Refueling/Stubber Outage started 10/06/90			

25. If Shut Down at End of Report Period Estimated Date of Startup: 12-18-90
26. Unit In Test Status (Prior to Commercial Operation): FORECAST ACHIEVED

INITIAL CRITICALITY \_\_\_\_\_  
INITIAL ELECTRICITY \_\_\_\_\_  
COMMERCIAL OPERATION \_\_\_\_\_

# OPERATING DATA REPORT

DOCKET NO.: 50-281  
 DATE: 12/06/90  
 COMPLETED BY: L.A. Warren  
 TELEPHONE: (804)357-3184 x355

## OPERATING STATUS

## NOTES

1. Unit Name: Surry Unit 2
2. Reporting Period: Nov. 01-30, 1990
3. Licensed Thermal Power (MWt): 2441
4. Nameplate Rating (Gross MWe): 847.5
5. Design Electrical Rating (Net MWe): 788
6. Maximum Dependable Capacity (Gross MWe): 820
7. Maximum Dependable Capacity (Net MWe): 781
8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons: \_\_\_\_\_
9. Power Level To Which Restricted, If Any (Net MWe): \_\_\_\_\_
10. Reason For Restrictions, If Any: \_\_\_\_\_

	<u>THIS MONTH</u>	<u>YTD</u>	<u>CUMULATIVE</u>
11. Hours In Reporting Period	720.0	8016.0	154152.0
12. Number of Hours Reactor Was Critical	320.8	7229.7	98428.3
13. Reactor Reserve Shutdown Hours	0	0	328.1
14. Hours Generator On-Line	313.4	7204.8	96853.7
15. Unit Reserve Shutdown Hours	0	0	0
16. Gross Thermal Energy Generated (MWH)	607751.0	17073012.1	226683346.9
17. Gross Electrical Energy Generated (MWH)	195615.0	5662815.0	73743414.0
18. Net Electrical Energy Generated (MWH)	183884.0	5378459.0	69919418.0
19. Unit Service Factor	43.5%	89.9%	62.8%
20. Unit Availability Factor	43.5	89.9%	62.8%
21. Unit Capacity Factor (Using MDC Net)	32.7	85.9%	58.2%
22. Unit Capacity Factor (Using DER Net)	32.4%	85.1%	57.6%
23. Unit Forced Outage Rate	56.5%	10.1%	15.3%
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): Refueling/4-5-91/60 days			

25. If Shut Down at End of Report Period Estimated Date of Startup: \_\_\_\_\_
  26. Unit In Test Status (Prior to Commercial Operation): FORECAST ACHIEVED
- INITIAL CRITICALITY \_\_\_\_\_
- INITIAL ELECTRICITY \_\_\_\_\_
- COMMERCIAL OPERATION \_\_\_\_\_

UNIT SHUTDOWN AND POWER REDUCTION  
(Equal To or Greater Than 20%)

REPORT MONTH: NOVEMBER 1990

DOCKET NO.: 50-280  
UNIT NAME: SURRY UNIT ONE  
DATE: 12/06/90  
COMPLETED BY: L.A. Warren  
TELEPHONE: 804-357-3184 x355

DATE	TYPE(1)	DURATION (HOURS)	REASON(2)	METHOD OF SHUTTING DOWN REACTOR(3)	LICENSEE EVENT REPORT#	SYSTEM CODE(4)	COMPONENT CODE(5)	CAUSE & CORRECTIVE ACTION TO PREVENT RECURRENCE
11/01/90	S	720.0	C	1	N/A	N/A	N/A	Unit is in a Refueling Outage.

(1)	(2)	(3)	(4)
F: Forced	REASON:	METHOD:	
S: Scheduled	A - Equipment Failure (Explain)	1 - Manual	Exhibit G - Instructions for
	B - Maintenance or Test	2 - Manual Scram.	Preparation of Data Entry Sheets
	C - Refueling	3 - Automatic Scram.	for Licensee Event Report (LER)
	D - Regulatory Restriction	4 - Other (Explain)	File (NUREG 0161)
	E - Operator Training & License Examination		
	F - Administrative		(5)
	G - Operational Error (Explain)		
	H - Other (Explain)	3	Exhibit 1 - Same Source

UNIT SHUTDOWN AND POWER REDUCTION  
(Equal To or Greater Than 20%)

REPORT MONTH: NOVEMBER 1990

DOCKET NO.: 50-281  
UNIT NAME: SURRY UNIT TWO  
DATE: 12/06/90  
COMPLETED BY: L.A. Warren  
TELEPHONE: 804-357-3184 x355

DATE	TYPE(1)	DURATION (HOURS)	REASON(2)	METHOD OF SHUTTING DOWN REACTOR(3)	LICENSEE EVENT REPORT#	SYSTEM CODE(4)	COMPONENT CODE(5)	CAUSE & CORRECTIVE ACTION TO PREVENT RECURRENCE
11/01/90	F	406.6	D	4	90-014-00	B1	HX	Unit was shutdown as a result of concerns related to low service water flow through the recirculation spray heat exchangers (RSHX). These concerns were addressed as a result of a Unit One flow test of its RSHXs.

(1)	(2)	(3)	(4)
F: Forced	REASON:	METHOD:	
S: Scheduled	A - Equipment Failure (Explain)	1 - Manual	Exhibit C - Instructions for
	B - Maintenance or Test	2 - Manual Scram.	Preparation of Data Entry Sheets
	C - Refueling	3 - Automatic Scram.	for Licensee Event Report (LER)
	D - Regulatory Restriction	4 - Other (Explain)	File (NUREG 0161)
	E - Operator Training & License Examination		
	F - Administrative		(5)
	G - Operational Error (Explain)		
	H - Other (Explain)	4	Exhibit 1 - Same Source



AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO.: 50-280  
UNIT NAME: SURRY UNIT ONE  
DATE: 12/06/90  
COMPLETED BY: L.A. Warren  
TELEPHONE: (804)357-3184 x355

MONTH: NOVEMBER 1990

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	<u>0</u>	17	<u>0</u>
2	<u>0</u>	18	<u>0</u>
3	<u>0</u>	19	<u>0</u>
4	<u>0</u>	20	<u>0</u>
5	<u>0</u>	21	<u>0</u>
6	<u>0</u>	22	<u>0</u>
7	<u>0</u>	23	<u>0</u>
8	<u>0</u>	24	<u>0</u>
9	<u>0</u>	25	<u>0</u>
10	<u>0</u>	26	<u>0</u>
11	<u>0</u>	27	<u>0</u>
12	<u>0</u>	28	<u>0</u>
13	<u>0</u>	29	<u>0</u>
14	<u>0</u>	30	<u>0</u>
15	<u>0</u>	31	<u>0</u>
16	<u>0</u>		

INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.



AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO.: 50-281  
UNIT NAME: Surry Unit 2  
DATE: 12/06/90  
COMPLETED BY: L.A. Warren  
TELEPHONE: (804)357-3184 x355

MONTH: NOVEMBER 1990

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	0	17	0
2	0	18	192
3	0	19	266
4	0	20	364
5	0	21	555
6	0	22	696
7	0	23	698
8	0	24	699
9	0	25	696
10	0	26	700
11	0	27	700
12	0	28	699
13	0	29	700
14	0	30	700
15	0	31	
16	0		

INSTRUCTIONS

On this format, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

SUMMARY OF OPERATING EXPERIENCE

MONTH/YEAR: NOVEMBER 1990

Listed below in chronological sequence by unit is a summary of operating experiences for this month which required load reductions or resulted in significant non-load related incidents.

UNIT ONE

11/01/90 0000 This reporting period started with the Unit at Refueling Shutdown.

11/30/90 2400 This reporting period ended with the Unit at Cold Shutdown.

UNIT TWO

11/01/90 0000 This reporting period started with the Unit at Cold Shutdown due to concerns regarding service water flow through the recirculation spray heat exchangers.

11/12/90 0451 Unit at hot shutdown.

11/17/90 1249 Commenced reactor startup with control rod M-12 withdrawn two steps (inoperable).

1510 Reactor Critical.

1736 Reactor at 2% power.

2239 Unit on line.

11/18/90 0005 Holding for Chemistry; 30% power, 240 MWe.

0533 Started ramp up; 30% power, 240 MWe.

11/21/90 0110 Unit at 90% power, 740 MWe (limit due to inoperable control rod).

11/30/90 2400 This reporting period ended with the Unit operating at 90% power, 740 MWe.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: NOVEMBER 1990

SAFETY ANALYSIS

11/02/90

(Safety Evaluation #90-0261)

The request was for the erection of temporary scaffolds for performing various testing, maintenance and construction activities.

The temporary scaffold is required for safe working condition. Installation of scaffold constructed per SUADM-ADM-07 has a high confidence level against failure and was reviewed for effects on accident analyses and equipment operability/function. It is thus concluded that assumptions, bases and probabilities of accident analyses and equipment malfunctions are not affected.

TEMPORARY MODIFICATIONS

(Safety Evaluation #90-0264)

11/07/90

TM-SI-90-039	Mark #01-CW-MOV-100D & 01-SW-MOV-105C
TM-SI-90-040	Mark #01-CW-MOV-100B & 01-SW-MOV-105C
TM-SI-90-041	Mark #01-SW-MOV-105C & 01-CS-MOV-100D
TM-SI-90-042	Mark #01-CW-MOV-100B & 01-SW-MOV-105C

This change was requested to provide temporary power for certain valves during performance of ST-290, Recirculation Spray Heat Exchanger (RSHX) Service Water (SW) Flow Test. The normal power supply to the valves was out of service for scheduled breaker and relay preventive maintenance.

This modification will cross-tie the motor control centers from the "H" and "J" emergency busses via temporary power feeds from spare breakers located in MCCs 1JI-1 and 1JI-2. This modification will be performed utilizing NUS-2030 as a guideline and utilizing safe electrical practices in accordance with the accident prevention manual. The cabling shall be protected to the maximum extent possible to limit the potential for fires. Both units will be in cold shutdown or refueling shutdown during this modification. Therefore, the technical specification LCOs for emergency power supplies, service water supplies and nonessential service water isolation are not applicable. This modification will only be installed on a temporary basis (approximately 24 hours) and shall be immediately removed upon completion of scheduled testing. Electricians shall be standing by the affected motor control centers upon initial stroking of the valves to observe the breakers for unusual conditions. The valves shall not be declared operable until completion of stroke testing in accordance with PT-25.1 or 25.2 as applicable. Finally, this activity in no manner affects the controls, interlocks, or indications of the affected valves. Therefore, an unreviewed safety question does not exist.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: NOVEMBER 1990

SPS UNIT 1 - CYCLE 11  
(Safety Evaluation #90-0266)

11/08/90

This change evaluates cold shutdown operations for Surry Unit 1 Cycle 11 refueling operations and cold shutdown conditions prior to completion of analyses for Cycle 11 power operation.

Technical Report NE-806 presents a discussion on the analyses and evaluations reviewed to support the conclusion that the Surry 1 Cycle 11 reload core can be safely placed in refueling and cold shutdown conditions. This safety evaluation supplements the evaluation in Technical Report NE-806. No unreviewed safety questions were identified.

JCO-90-1-004

JUSTIFICATION FOR CONTINUED OPERATION  
(Safety Evaluation #90-269)

11/09/90

An evaluation was performed of compensatory measures taken to justify operation of the 'C' reactor coolant pump motor without an oil collection system as required by 10CFR50, Appendix R. The new motor was ordered as a duplicate of our existing motors. However, the mounting arrangement for the oil collection system was unique. Specifically, the bearing oil piping is rotationally oriented approximately 90 degrees different than the mounting arrangement.

The interim measures being taken are to install temporary barriers to contain an oil fire associated with the 'C' Reactor Coolant Pump motor to the pump cubicle and to provide additional monitoring of the pump cubicle. These measures coupled with certain operating procedure changes will provide adequate fire stops and early warning of problems in the pump cubicle containing the effects of a fire from other safe shutdown equipment in Containment. With these measures in place we are confident that the intent of 10CFR50 Appendix R will be met for Cycle 11 on RCP 'C' and an unreviewed safety question is not created.

An exemption from these requirements for Surry 1 Cycle 11 was subsequently requested in a letter to the NRC dated November 14, 1990. The NRC granted the exemption on December 6, 1990.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: NOVEMBER 1990

DR-S1-90-1421 DEVIATION REPORT  
(Safety Evaluation # 90-0268)

11/09/90

This evaluation was performed to evaluate certain indications observed during the eddy current testing on Surry Unit 1 steam generators in support of a Unit 2 startup following a forced outage.

Steam generator tube testing in Unit 1, during shutdown and refueling in the fall of 1990, has revealed eddy current indications. To date, it is undetermined if these indications represent true degradation in the tubes. The purpose of this safety evaluation is to address the issue of operability of steam generators in Unit 2 based on the Unit 1 eddy current results to date. Westinghouse, the Surry NSSS vendor and contractor for the eddy current testing, was consulted. The Westinghouse evaluation supports resumption of safe operation of Unit 2. Therefore, an unreviewed safety question was not created.

TM-S1-90-46 TEMPORARY MODIFICATION  
(Safety Evaluation #90-0273)

11/15/90

This temporary modification covers the installation of a temporary modification to permit routine draining of the Containment sumps during removal of TV-DA-100B. TV-DA-100B must be removed for valve maintenance and overhaul following failure of the valve to pass 10 CFR50 Appendix J leakage testing.

Failure of the spoolpiece is highly unlikely as the material used for the spoolpiece will meet the applicable design criteria of the piping system in which it will be installed. However, should leakage/failure of the spoolpiece occur, the sump pump(s) can be stopped and the redundant trip valve, TV-DA-100A, closed to stop the leakage. Any leakage that could occur will be contained within the Auxiliary Building and be drained to the Auxiliary Building sump. Further, the unit will be in CSD or RSD during installation of this modification and the jumpers must be removed prior to the reactor coolant system exceeding 200 degrees. The installation of this modification must be tracked utilizing OP-1G to satisfy refueling containment integrity requirement of Technical Specification 3.10 and/or containment closure requirements pursuant to Generic Letter 88-17. If refueling integrity must be set per OP-4.1, the redundant trip valve TV-DA-100A must be operable or tagged closed. Therefore, an unreviewed safety question is not created.

FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: NOVEMBER 1990

SAFETY EVALUATION FOR SURRY 2 CYCLE 10 RESTART WITH INOPERABLE  
CONTROL ROD M-12 11/16/90

This evaluation reviewed operation of Surry 2 Cycle 10 through 15,700 MWd/T (EOC) with control rod M-12 inserted in the core incorporating a 90% maximum power administrative limit and revised control rod insertion limits.

The evaluation covered UFSAR transients for rod withdrawal, dropped and/or misaligned rod, rod ejection, loss of coolant accident (LOCA), main steam line break (MSLB) and locked rotor. Calculations have been performed for these accidents, where appropriate, and we have determined that the current licensing basis remains bounding. No other transients were identified as potentially affected by the inoperable rod. Therefore, we conclude that operating with control assembly M-12 inserted does not result in an unreviewed safety question as defined in 10CFR50.59 and does not require a change to the Technical Specification.

TM-S2-90-018

TEMPORARY MODIFICATION  
(Safety Evaluation #90-0276)

11/16/90

Control rod M-12 is inoperable and remains stuck in nearly a fully inserted position. To allow operation above 70% power (as allowed by the safety analyses for operation with control rod M-12 inoperable), the rod bottom bistable and runback signals will be defeated. With control rod M-12 inoperable, the lift coil disconnect will be left open to prevent control rod M-12 withdrawal or insertion.

Operation with control rod M-12 in a nearly fully inserted position and inoperable has been justified in a separate analysis and is allowed by Technical Specification 3.12.C provided additional remedial actions are performed. Since control rod M-12 will remain inserted, the IRPI rod drop signal and runback for this rod is unnecessary and will be defeated. Assurance that the control room operators (CRO) are aware of the control rod position and the defeat of the rod bottom runbacks will be provided through completion of the CRO turnover checkoff list which shall be annotated to reflect the implementation of the above activities. Affected procedures are being changed to reflect the control rod status and actions implemented that will require an immediate reactor trip in the event of an uncontrollable reactivity excursion and/or an additional rod drop incident. The IRPI rod drop circuits for the remaining control rods will remain functional. Defeat of control rod M-12 lift coil will prevent rod motion which is consistent with the analyses used to support operation of the unit with an inoperable control rod. The rod remains capable of performing its safety function of falling into the core. Therefore, an unreviewed safety question is not created.



FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: NOVEMBER 1990

10CFR50 APPENDIX R REPORT  
(Safety Evaluation #90-281)

11/20/90

This evaluation is being performed to assess the 1990 Update of the SPS Appendix R Report. It incorporates design changes and engineering work requests completed in 1988 and 1989.

The 1990 Update of the SPS Appendix R Report incorporates changes and plant modifications (DCPs and EWRs) made since revision 5 of the report dated April 1987 up through mid 1990. A number of engineering evaluations in Chapter 10 have been revised to reflect more specific detail of actual plant conditions. Additionally, five new evaluations have been added. Finally, a number of editorial and administrative changes were made to enhance the accuracy and usability of the Appendix R Report. A separate safety evaluation was performed for each DCP/EWR. This change merely updates text to reflect plant conditions. An unreviewed safety question is not created.

1-TOP-3061

TEMPORARY OPERATING PROCEDURE  
(Safety Evaluation #90-282)

11/21/90

An evaluation of a temporary procedure was performed for filling of isolated reactor coolant system loops via the RCS with the Unit in CSD.

The isolated loop boron concentration will be verified as equal to or greater than RCS (RHR) boron concentration and at least 5% shut down margin (SDM) is required by the procedure. The isolated loop will be filled via the RCS with RCS makeup provided from the refueling water storage tank (RWST). During the filling sequences the affected loop will be observed for leakage. Any leakage that results will drain to the containment sump and/or the primary drain transfer tank (PDTT). Standpipe level of at least 18 feet is required and provisions to provide at least one makeup flowpath to the core (low/high head safety injection with an available pump) ensures an adequate water supply to prevent loss of RCS inventory and potential loss of RHR. Inadvertent dilution potential is minimized by sampling the RCS and the isolated loop to ensure that the isolated loop boron concentration is equal to or greater than the RCS Boron. The loop will be filled from unisolated portions of the RCS with RCS makeup provided from the RWST. Finally, a RCS dilution would be very slow and would not create the potential to cause a loss of SDM that has not been previously evaluated. Therefore, an unreviewed safety question does not exist.



FACILITY CHANGES THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: NOVEMBER 1990

1-EWR-89-377 ENGINEERING WORK REQUEST

11/28/90

This request is to replace the existing Auxiliary Feedwater System 3" motor operated globe valves and 1/3 hp motor operators with new 3" motor operated globe valves with 2/3 hp motor operators. The valves will have flow control trim and larger limitorque operators. The MOVs will be replaced to eliminate seat leakage and provide motor operators which are sized for postulated system conditions. The replacement valves and motor operators are seismically and environmentally qualified.

The Surry Technical Specifications and Updated Final Safety Analysis Report (UFSAR) were reviewed to determine if this modification required a change to the Technical Specifications or involved an unreviewed safety question as defined in 10 CFR50.59. The Technical Specifications and Accident Analysis are not affected by this valve replacement.

SPS 1-CYCLE-11 SHUTDOWN MARGIN DATA FOR ECP CONDITIONS AND ROD OPERABILITY TESTS

11/29/90

This report evaluated operation of the Surry Unit 1, Cycle 11 core.

Technical report NE-809 presents a discussion of the accident and other analyses and evaluations which support the conclusion that the Surry Unit 1 Cycle 11 reload core can be safely operated to a burnup limit of 14,100 MWD/MTU. The safety evaluation supplements the evaluation of Technical Report NE-809 and concludes that an unreviewed safety question does not exist.

SERVICE WATER FLOWS TO RECIRCULATION SPRAY HEAT EXCHANGER  
SPS, UNIT 1

11/30/90

This change is to ensure that design basis criteria for recirculation spray systems are met for operation of Unit 1 until June 1, 1991. Prior to this date, a RSHX/SW system inspection/treatment program for hydroids should be developed and approved.

Testing of the Unit 1 RSHX revealed lower than expected SW flowrates to the RSHXs on 10/14/90 and 10/22/90. An extensive cleaning program resulted. The SW flowpath to the RSHX was placed in partial wet layup. The system was retested. Based on the results and analyses of the RSHX services flow test, these measures and projected service water temperatures ensure that the system design basis is satisfied through June 1, 1991. Therefore, an unreviewed safety question is not created.

PROCEDURE OR METHOD OF OPERATION CHANGES  
THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: NOVEMBER 1990

NONE DURING THIS REPORTING PERIOD

TESTS AND EXPERIMENTS THAT DID NOT REQUIRE NRC APPROVAL

MONTH/YEAR: NOVEMBER 1990

1-PT-18.4      PERIODIC TEST      11/02/90  
(Safety Evaluation #90-0260)

A new test was performed to prove proper operation of check valves 1-SI-130 and 1-SI-147.

The test proves that check valves 1-SI-130 and 1-SI-147 will open fully under design operating conditions. With full residual heat removal flow, these valves are required to open and properly backstop. The test will be performed with the core offloaded and system operating parameters will not be exceeded. Therefore, an unreviewed safety question does not exist.

1-OPT-ZZ-001      OPERATIONS PERIODIC TEST (Safety Evaluation #90-0279) 11/20/90  
1-OPT-ZZ-003      OPERATIONS PERIODIC TEST (Safety Evaluation #90-0280) 11/20/90

This test was required to comply with UFSAR Section 1.4 test requirements for testing of certain engineered safeguards features.

The Periodic Test will test existing safety systems one train at a time. The unit will be within Technical Specifications and have two coolants loops consisting of one reactor coolant loop and the one residual heat removal pump not being tested. No changes to systems are required, jumpers and lifted leads for the test require a temporary modification with double verification. Retesting is performed by the periodic test when the modification is removed. An unreviewed safety question does not exist.

VIRGINIA POWER  
SURREY POWER STATION  
CHEMISTRY REPORT

MONTH/YEAR: NOVEMBER 1990

PRIMARY COOLANT ANALYSIS	UNIT NO. 1			UNIT NO. 2		
	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.
Gross Radioact., $\mu\text{Ci/ml}$	5.74E2	1.70E-3	6.34E-3	1.48E-1	2.54E-3	3.74E-2
Suspended Solids, ppm	0.0	0.0	0.0	0.0	0.0	0.0
Gross Tritium, $\mu\text{Ci/ml}$				4.94E-2	2.61E-2	3.78E-2
Iodine-131, $\mu\text{Ci/ml}$	1.75E-4	5.75E-6	4.31E-5	2.83E-3	8.96E-6	4.52E-4
Iodine-131/Iodine-133				0.15	0.07	0.10
Hydrogen, cc/kg				29.9	5.9	20.3
Lithium, ppm				2.44	0.93	2.01
Boron - 10, ppm*	421.8	410.2	415.5	261.1	45.1	159.4
	4.0	<0.005	3.0	0.005	0.005	0.005
Oxygen, (DO), ppm						
Chloride, ppm	0.012	0.002	0.006	0.008	0.002	0.005
pH @ 25 degree Celsius	5.64	4.66	5.01	7.31	5.04	6.52

\* Boron - 10 = Total Boron x 0.196

REMARKS:

UNIT TWO

Hydrogen out of specification on 11/30/90 at 0820. Hydrogen concentration was 19.2 cc/kg while the acceptance criteria is  $\geq 25$  cc/kg. Hydrogen returned to specification at 1235 on 11/30/90.

UNIT 1&2

## FUEL HANDLING

DATE: NOVEMBER 1990

NEW OR SPENT FUEL SHIPMENT #	DATE SHIPPED OR RECEIVED	NUMBER OF ASSEMBLIES PER SHIPMENT	ASSEMBLY NUMBER	ANSI NUMBER	INITIAL ENRICHMENT	NEW OR SPENT FUEL SHIPPING CASK ACTIVITY LEVEL
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NONE DURING THIS REPORTING PERIOD

DESCRIPTION OF PERIODIC TEST(S) WHICH WERE NOT COMPLETED  
WITHIN THE TIME LIMITS SPECIFIED IN TECHNICAL SPECIFICATIONS

MONTH/YEAR: NOVEMBER 1990

NONE DURING THIS REPORTING PERIOD