10 CFR 50.73

Virginia Electric and Power Company
North Anna Power Station
P. O. Box 402
Mineral, Virginia 23117

June 24, 1994

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

NAPS: MPW
Docket No. 50-339
License No. NPF-7

Dear Sirs:

Pursuant to North Anna Power Station Technical Specifications, Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to North Anna Unit 2.

Report No. 50-339/94-005-00

This Report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to the Management Safety Review Committee for its review.

Very truly yours,

J. A. Stall
Station Manager

Enclosure:

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

R. D. McWhorter
NRC Senior Resident Inspector
North Anna Power Station

IE22

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HOURS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, DC 20503.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
North Anna Power Station Unit 2	05000339	1 OF 4

TITLE (4)
UNIT 2 SHUTDOWN DUE TO REACTOR COOLANT SYSTEM LEAKAGE EXCEEDING TECHNICAL SPECIFICATION LIMIT

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
06	01	94	94	005	00	06	24	94	FACILITY	DOCKET NUMBER

OPERATING MODE (9)	1
POWER LEVEL (10)	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.402(b)		20.405(c)	50.73(a)(2)(iv)	73.71(B)
	20.405(a)(1)(i)		20.405(c)(1)	50.73(a)(2)(v)	73.71(C)
	20.405(a)(1)(ii)		20.405(c)(2)	50.73(a)(2)(vii)	OTHER
	20.405(a)(1)(iii)	X	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iv)		50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
	20.405(a)(1)(v)		50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Mr. J. A. Stall	(703) 894-2101

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, completed EXPECTED SUBMISSION DATE)	X	NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On June 1, 1994, at 2121 hours with Unit 2 operating in Mode 3 a Notification of Unusual Event was declared in accordance with Emergency Plan Implementing Procedures. Leakage was identified from a nozzle weld on a small diameter seal injection line associated with the "B" Reactor Coolant Pump which is part of the Reactor Coolant System pressure boundary. The initial report of a Notification of Unusual Event was transmitted to the State and local governments at 2128 hours. On June 2, 1994, at 0946 hours, with the unit in cold shutdown, State and local authorities were notified that the Notification of Unusual Event was terminated.

Preliminary examination of the fracture surface indicates that the seal injection line nozzle weld failed as a result of high cyclic fatigue. A root cause evaluation of the weld leak is in progress.

No significant safety consequences resulted from this event since core cooling was not challenged and there was no release of radioactive material to the environment. Therefore, the health and safety of the public were not affected during this event.

1.0 Description of Event

On June 1, 1994, at 1130 hours with Unit 2 operating at 100 percent power (Mode 1) control room personnel noted an increase in containment sump (EIIS System , Component) pumping rate, with a corresponding drop in volume control tank level, which could indicate a leak from the Reactor Coolant System (RCS) (EIIS System AB) inside containment. At 1300 a containment entry was made and leakage was identified in the vicinity of the "B" Reactor Coolant Pump (RCP) (EIIS Component P). A RCS leak rate test performed at 1340 hours indicated 0.9364 gallons per minute of unidentified leakage. The unidentified leak rate had previously been 0.2379 gallons per minute. A decision was made to remove the unit from service to make repairs. The reduction in reactor power began at 1454 hours. At 2053 hours, the unit entered a condition that permitted a closer inspection of the suspected area of leakage. The inspection concluded the leakage was from a nozzle (EIIS System CB, Component NZL) weld on a 1.5 inch seal injection line entering the "B" RCP thermal barrier housing. This line is part of the RCS pressure boundary. Therefore, the Technical Specification limit of zero RCS pressure boundary leakage was exceeded. At 2121 hours a (NOUE) was declared due to a RCS leak rate requiring shutdown in accordance with Technical Specification 3.4.6.2. This event is reportable pursuant to 10CFR50.73 (a)(2)(i)(A) as a completion of a plant shutdown required by Technical Specifications. Notification to the state and local governments was completed at 2132 hours.

On June 2, 1994 at 0943 hours Unit 2 entered cold shutdown (Mode 5) and notification of NOUE termination was made to the NRC and State. Seal injection to the "B" RCP was isolated at 2245 hours.

Filling of the "B" RCS loop was completed on June 5, 1994 at 1415 hours following the completion of repairs to the "B" RCP seal injection line. The action on RCS pressure boundary leakage was cleared at 0350 hours on June 6, 1994. On June 9, 1994 Unit 2 returned to power operation.

2.0 Significant Safety Consequences and Implications

During the event, the increase in charging (EIIS System CB) flow to maintain RCS inventory was well within the capacity of the running charging pump (EIIS Component P). Since there was no challenge to core cooling and no release of radioactive material to the environment, the health and safety of the public were not affected at any time during this event.

3.0 Cause of the Event

Preliminary examination of the fracture surface indicates that the seal injection line nozzle weld failed as a result of high cyclic fatigue. A root cause evaluation of the weld leak is in progress.

4.0 Immediate Corrective Actions

The unit was placed in cold shutdown to facilitate repairs to the RCS pressure boundary.

5.0 Additional Corrective Actions

Repairs to the seal injection line weld were completed in accordance with the ASME Section XI Repair / Replacement Program. Liquid Penetrant (LP) examinations were performed on the seal injection line nozzle weld and on the two remaining RCPs with satisfactory results. Liquid Penetrant (LP) examinations were also performed on the nozzle welds for the component cooling supply and return lines (EIIS System CC) for all three RCPs. The results of the LP examinations confirm that there were no surface indications which could initiate a crack at any of the nozzle welds. In addition, the piping supports for the "B" RCP seal injection line were inspected and adjusted to verify that they were consistent with the initial plant design.

6.0 Actions to Prevent Recurrence

The seal injection line nozzle weld repair utilized the current vendor design for the pipe to nozzle weld. This in conjunction with the adjustment of the seal injection line support are sufficient to preclude recurrence.

7.0 Similar Events

LER N1-91-011-001 dated June 6, 1991 documents a unit shutdown due to failure of a disc pressurization line for the "B" cold leg stop valve which exceeded the TS Limit for RCS pressure boundary leakage.

8.0 Additional Information

Unit 1 was operating at 100 percent power throughout the event and was not affected.