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VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION

P. O. BOX 402

MINERAL, VIRGINIA 23117

JUNE 14, 1989

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

Serial No. N-39-017
NO/DEQ: nih
Docket Nos. 50-338
50-339

License Nos. NPF-4
NPF-7

Dear Sirs:

The Virginia Electric and Power Company hereby submits the following
Licensee Event Report applicable to North Anna Units 1 and 2.

Report No. LER 89-011-00

This report has been reviewed by the Station Nuclear Safety and Operating
Committee and will be forwarded to Safety Evaluation and Control for their
review.

Very Truly Yours,

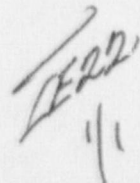

G. E. Kane
Station Manager

Enclosure

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

Mr. J. L. Caldwell
NRC Senior Resident Inspector
North Anna Power Station

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) NORTH ANNA POWER STATION, UNITS 1 AND 2 DOCKET NUMBER (2) 0 5 0 0 0 3 3 8 1 OF 0 5

TITLE (4) OPERATION OF CONTROL CHILLERS OUTSIDE LIMITS OF T. S. 3.7.7.1

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 NAMES	DOCKET NUMBER(S)																
1	1	2	3	8	8	9	0	1	1	0	0	0	6	1	4	8	9	NORTH ANNA, UNIT 2	0	5	0	0	0	3	3	9
																			0	5	0	0	0			

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5 (Check one or more of the following) (11)																	
POWER LEVEL (10)	1	0	0	20.402(b)			20.406(c)			50.73(a)(2)(iv)			73.71(b)						
				20.406(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)			73.71(c)						
				20.406(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
				20.406(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(viii)(A)									
				20.406(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)									
				20.406(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)									

LICENSEE CONTACT FOR THIS LER (12) NAME G. E. Kane, Station Manager TELEPHONE NUMBER 7 0 3 8 9 4 - 5 1 5 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)											
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC		

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

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

At 0744 hours on November 23, 1988, with both Unit 1 and Unit 2 at 100 percent power (Mode 1), a potential discrepancy was identified between the operation of the Control Room Air Conditioning System, and the operational requirements of Technical Specification 3.7.7.1 and the design basis.

Following completion of a subsequent engineering study and a review of previous operating history, it has been determined that both Unit 1 and Unit 2 have previously operated outside the operational requirements of Technical Specification 3.7.7.1 without entering the applicable Action Statement. On May 15, 1989, this event was determined reportable pursuant to 10CFR50.73(a)(2)(i)(B).

The Control Room Air Conditioning System was operated outside the requirements of Technical Specification 3.7.7.1 due to the misinterpretation of the Technical Specifications which was based on the design basis section of the UFSAR. As a corrective action, operational restrictions were placed on the control room air conditioning system. The operational requirements of Technical Specification 3.7.7.1 have been clarified.

Based on an engineering evaluation, it is estimated that the control room could have been maintained below the Technical Specification limit of 120 degrees. The health and safety of the general public were not affected at any time during this event.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
NORTH ANNA POWER STATION, UNITS 1 & 2	0 5 0 0 0 3 3 8 8 9	—	0 1 1	—	0 0 0	0 5

TEXT (If more space is required, use additional NRC Form 366A's) (17)

1.0 Description of the Event

At 0744 hours on November 23, 1988, with both Unit 1 and Unit 2 at 100 percent power (Mode 1), station personnel identified a potential discrepancy between the operation of the Control Room Air Conditioning System (FIIS System Identifier VI), and the operational requirements of Technical Specification 3.7.7.1 and the design basis. A station Deviation Report and a Justification for Continued Operation were written.

Subsequently, engineering was assigned to review the design basis of the Control Room Air Conditioning System. Based on the results of the engineering evaluation, it has been determined that both North Anna Unit 1 and Unit 2 have previously operated in a condition prohibited by Technical Specification 3.7.7.1. On May 15, 1989, this event was determined to be reportable pursuant to 10CFR50.73(a)(2)(i)(B).

North Anna Units 1 and 2 each have two control and relay room air conditioning systems. Each control and relay room air conditioning system has sufficient capacity for the total cooling load of its reactor unit's emergency switchgear room (ESR) and its unit's portion of the common control room. Each system is comprised of a control room air handling unit (AHU), an ESR AHU, and a chiller powered from a class 1E power supply. The "A" chiller on each unit receives power from its respective unit's H emergency bus and the "B" chiller on each unit receives power its respective unit's J emergency bus. A third chiller, "C" chiller, is provided for each unit and is capable of being aligned to provide chilled water to either control and relay room air conditioning system. However, the third chiller, "C" chiller, only receives power from from its respective unit's H emergency bus.

Technical Specification 3.7.7.1 requires that two control room air conditioning systems be operable during Modes 1, 2, 3, and 4. With one air conditioning system inoperable, the inoperable system must be restored to operable status within 7 days or unit shutdown must commence. With both air conditioning systems inoperable, at least one inoperable system must be restored to operable status within 24 hours or unit shutdown must commence.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
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NORTH ANNA POWER STATION, UNITS 1 & 2	05000338	89	011	00	03	OF	05

TEXT (If more space is required, use additional NRC Form 366A's) (17)

1.0 Description of the Event Cont'd.

The design basis of the control and relay room air conditioning systems, stated in UFSAR section 9.4.1.1, refers to two independent 100 percent capacity systems, one for each unit, each with independent power, which supply the common control and relay room in order to meet the single failure criteria. North Anna has three 100 percent chillers with one chiller normally operating on each unit. Section 9.4.1.3 of the UFSAR states that the third alternative 100 percent chiller unit permits the continued operation of either system on failure of a refrigeration compressor (chiller).

Prior to December 1, 1989, the "C" chiller was considered to be an equivalent replacement for the "A" or "B" chiller, and was used in meeting the operability requirements of Technical Specification 3.7.7.1. However, results of an engineering evaluation of the Control Room Air Conditioning System design basis have determined that the use of the "C" chiller in meeting the operability requirements of Technical Specification 3.7.7.1 is limited, since it cannot be powered from both emergency buses. The "C" chiller can be considered as an alternate to the "A" chiller and still meet the technical specification operability requirements, since it receives power from the H emergency bus. But, the "C" chiller cannot be considered as an alternate to the "B" chiller because it is powered from a different emergency source. Additionally, emergency power supply was not considered when determining operability of the chillers.

Using the "C" chiller as an alternate to the "B" chiller with the "A" chiller operable would result in having one air conditioning system inoperable and would be limited to 7 days, as described in Action Statement C of Technical Specification 3.7.7.1. Having the emergency power supply (the emergency diesel generators) inoperable for the available chillers would result in having both air conditioning systems inoperable and would be limited to 24 hours, as described in action statement D of Technical Specification 3.7.7.1. A review of operating history data, prior to operational restrictions being placed on the control room and ESG room systems on December 1, 1988, determined that the "C" chiller had been used as an alternate to the "B" chiller for greater than 7 days without entering Action Statement C of Technical Specification 3.7.7.1 and emergency power supply had not been available for both operable chillers for greater than 24 hours without entering Action Statement D of Technical Specification 3.7.7.1.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
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NORTH ANNA POWER STATION, UNITS 1 & 2	050003388	89	011	00	04	OF	05

TEXT (If more space is required, use additional NRC Form 366A's) (17)

2.0 Safety Consequences and Implications

The safety consequences associated with this event are minimal. Based on the layout of the control room air conditioning systems for Unit 1 and Unit 2 and a review of the existing cooling load calculation and air handling unit procurement specification, it is estimated that the control room could have been maintained below the Technical Specification 3/4.6.1.5 limit of 120 degrees F under the design basis condition of loss of offsite power and single failure of the H emergency diesel generator whenever the "C" chiller was used as an alternate to the "B" chiller. However, operator action may have been required to maintain the affected unit's emergency switchgear room below the design maximum temperature of 120 degrees F during the same design basis and operating condition.

The health and safety of the general public were not affected at any time during this event.

3.0 Cause of the Event

Operation of the Control Room Air Conditioning System outside the requirements of Technical Specification 3.7.7.1 was due to the misinterpretation of the technical specifications, which was based on the design basis section 9.4.1 of the UFSAR.

4.0 Corrective Action

On December 1, 1988, operational restrictions were placed on the control room and ESG room systems to require system redundancy (including emergency power supply) be maintained on each unit, and an engineering evaluation of the control room air conditioning system design basis was initiated. The NRC Resident Inspector was also notified.

5.0 Additional Actions

As an additional corrective action, an evaluation will be performed to determine if a swing breaker should be installed on both units. A swing breaker may allow the "C" chiller to be powered by either emergency bus, H or J, and therefore be an alternative backup for either the "A" or "B" chillers.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						PAGE (3)		
		YEAR	SEQUENTIAL NUMBER		REVISION NUMBER					
NORTH ANNA POWER STATION, UNITS 1 & 2	0 5 0 0 0 3 3 8	8 9	—	0 1 1	—	0 0	0 5	OF	0 5	

TEXT (If more space is required, use additional NRC Form 366A's) (17)

6.0 Actions to Prevent Recurrence

The operational requirements of Technical Specification 3.7.7.1 have been clarified. Therefore, no additional actions are necessary to prevent recurrence.

7.0 Similar Events

A similar event concerning operation of the control room habitability systems outside the requirements of Technical Specification 3.7.7.1 occurred from June 1986 to December 1986, as stated in Inspection Report Nos. 50-338/87-19 and 50-339/87-19.