

# Vepco

VIRGINIA ELECTRIC AND POWER COMPANY  
NORTH ANNA POWER STATION  
P. O. BOX 402  
MINERAL, VIRGINIA 23117

10 CFR 50.73

February 15, 1991

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

Serial No. N-91-002  
NAPS:JHL  
Docket No. 50-338  
License No. NPF-4

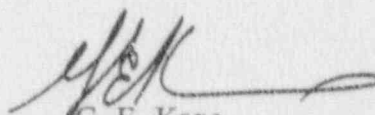
Dear Sirs:

The Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to North Anna Unit No. 1.

Report No. 91-002-00

This Report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to the Corporate Management Safety Review Committee for its 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. M. S. Lesser  
NRC Senior Resident Inspector  
North Anna Power Station

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

|  |  |                               |                     |
|--|--|-------------------------------|---------------------|
| FACILITY NAME (1)<br>NORTH ANNA POWER STATION UNIT 1 |  | DOCKET NUMBER (2)<br>05000338 | PAGE (3)<br>1 OF 05 |
|--|--|-------------------------------|---------------------|

TITLE (4) PRESSURIZER AND MAIN STEAM SAFETY VALVE SETPOINTS OUT OF TOLERANCE DUE TO SETPOINT DRIFT

| 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) |
| 01             | 25  | 91   | 91             | 002               | 00              | 02              | 15  | 91   |                               | 05000            |

|                         |   |                 |                  |                   |                  |                 |                  |                   |                    |                  |                 |
|-------------------------|---|-----------------|------------------|-------------------|------------------|-----------------|------------------|-------------------|--------------------|------------------|-----------------|
| OPERATING MODE (9)<br>6 | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11) |                 |                  |                   |                  |                 |                  |                   |                    |                  |                 |
| POWER LEVEL (10)<br>000 | 20.402(b)   | 20.406(a)(1)(i) | 20.406(a)(1)(ii) | 20.406(a)(1)(iii) | 20.406(a)(1)(iv) | 20.406(a)(1)(v) | 20.406(a)(1)(vi) | 20.406(a)(1)(vii) | 20.406(a)(1)(viii) | 20.406(a)(1)(ix) | 20.406(a)(1)(x) |
|                         |   |                 |                  |                   | X                |                 |                  |                   |                    |                  |                 |

|                                     |                  |                    |  |
|-------------------------------------|------------------|--------------------|--|
| LICENSEE CONTACT FOR THIS LER (12)  |                  | TELEPHONE NUMBER   |  |
| NAME<br>G. E. Kane, Station Manager | AREA CODE<br>703 | NUMBER<br>894-2101 |  |

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

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

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

At 1017 hours on January 25, 1991, with Unit 1 in Mode 6 (Refueling), the "as found" set pressures for 2 Pressurizer Safety Valves and 7 of 15 Main Steam Safety Valves (MSSVs) were found to be outside the setpoint tolerances allowed by Technical Specifications 3.4.3 and 3.7.1.1, respectively. This event is reportable pursuant to 10CFR50.73(a)(2)(i)(B) for conditions prohibited by Technical Specifications.

The safety valves were sent to Wyle Labs for testing. The "as found" set pressures for 2 pressurizer safety valves and 7 MSSVs were found to be outside the allowable Technical Specification tolerance. However, the "as found" set pressures were within the +/- 3% tolerance specified in ASME Section XI.

The safety valves will be repaired and readjusted, as necessary to be within the correct setpoint tolerance allowed by Technical Specifications.

This event posed no significant safety implications because the safety valves would have performed their safety function in the event of an overpressure condition. In addition the "as found" set pressures were within the +/- 3% tolerance specified in ASME Section XI. The health and safety of the public were not affected at any time during this event.



LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATES TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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

TEXT (If more space is required, use additional NRC Form 365A's) (17)

## 1.0 Description of the Event

At 1017 hours on January 25, 1991, with Unit 1 in Mode 6 (Refueling), the "as found" set pressures for the B and C Pressurizer Code Safety Valves (EIIIS System Identifier AB, Component Identifier RV, Vendor Identifier D243) (2-RC-SV-2551B and 2-RC-SV-2551C) were found to be out of tolerance. The "as found" set pressures were not within the lift set pressure of 2485 psig +/- 1 percent allowed by Technical Specification 3.4.2 and 3.4.3.1.

It was also identified that the "as found" set pressures for 7 of 15 Main Steam Line Code Safety Valves (MSSVs) (EIIIS System Identifier SB, Component Identifier RV, Vendor Identifier C710) were found to be outside the lift set pressures allowed by Technical Specification 3.7.1.1. This is reportable pursuant to 10CFR50.73(a)(2)(i)(B) for conditions prohibited by the Technical Specifications.

The 3 Pressurizer Code Safety Valves were sent to Wyle Laboratories for the performance of periodic test procedure 1-PT-50, "Pressurizer Code Safety Valve Setpoint Verification". Each valve was functionally tested for the "as found" set pressure and leak tightness.

The "as found" set pressures for the B and C Pressurizer Code Safety Valves were found to be outside the the setpoint tolerance allowed by Technical Specifications. Specifically, the safety valves were found to have lift set pressures above the maximum allowed. In addition, the "C" safety valve leaked following the "as found" testing. A list of the "as found" set pressures is provided in Attachment 1.

The 15 MSSVs were also sent to Wyle Laboratories to determine the "as found" set pressures and the amount of disc to seat leakage. Testing was performed in accordance with periodic test procedure 1-PT-70, "Main Steam Code Safety Valve Setpoint Verification".

The "as found" set pressures on 7 of 15 MSSVs were found to have lift set pressures outside the set pressures allowed in Technical Specification 3.7.1.1. Specifically, 4 MSSVs had "as found" set pressures that were above the maximum allowed and 3 MSSVs had "as found" set pressure that were below the minimum allowed. Following "as found" testing, all 15 MSSVs were leaking. A list of the "as found" setpoints is provided in Attachment 2.

## 2.0 Significant Safety Consequences and Implications

This event posed no significant safety implications because the impact of having high "as found" set pressure settings for the Pressurizer Code Safety Valves and MSSVs has been reviewed and the expected peak pressure was found to be less than the design basis pressure. There is no impact on having low "as found" set pressures because the safety valves would have performed their intended safety function. In addition the "as found" set pressures were within the

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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|--|--|----------------|-------------------|-----------------|----------|----------|
| FACILITY NAME (1)<br><br>NORTH ANNA POWER STATION UNIT 1 | DOCKET NUMBER (2)<br><br>0   5   0   0   0   3   3   8 | LER NUMBER (6) |                   |                 | PAGE (3) |          |
|  |  | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER |          |          |
|  |  | 9   1          | 0   0   2         | 0   0           | 0   3    | OF 0   5 |

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

+/- 3% tolerances specified in ASME Section XI. The health and safety of the general public are not affected.

3.0 Cause of the Event

The cause of the event has been determined to be setpoint drift. The industry has experienced a history of setpoint drift for safety valves of this type and is considered normal.

4.0 Corrective Actions

The Pressurizer Code Safety Valves will be refurbished and retested, as necessary, at Wyle Laboratories to within the allowable limits of Technical Specification 3.4.2 and 3.4.3.1 and to ensure there is no leakage.

The MSSVs will be refurbished and retested, as necessary, at Wyle Laboratories to within the allowable leakage limits of Technical Specification 3.7.1.1 and to ensure there is no leakage leakage.

5.0 Additional Corrective Actions

An evaluation will be conducted to determine if the tolerance for the Pressurizer Safety Valve and MSSV setpoints can be increased from +/- 1 percent. If additional tolerance can be justified, a Technical Specification change will be considered.

6.0 Similar Events

Previous similar events where Pressurizer Code Safety Valves have been outside the requirements of Technical Specification 3.4.3 have occurred at North Anna Power Station on Unit 1 on March 2, 1981 (LER 81-040/03L-0), May 6, 1987 (LER 87-008-00), and on Unit 2 on March 23, 1982 (LER 82-014/03L-0), September 13, 1987 (LER 87-008-00), and April 12, 1989 (LER 89-006-00).

Previous similar events where MSSVs have been outside the requirements of Technical Specification 3.7.1.1 have occurred at North Anna Power Station on Unit 1 on February 8, 1980 (LER 80-009/L3-0), May 8, 1987 (LER 87-009-01), and on Unit 2 on April 21, 1983 (LER 83-027/03L-0), February 21, 1986 (LER 86-001-01), January 21, 1988 (LER 87-009-01), April 12, 1989 (LER 89-005-00) and October 17, 1990 (LER 90-005-00).

7.0 Additional Information

North Anna Unit 2 was in Mode 1 throughout this event and was not affected.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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|--|--|----------------|-------------------|-----------------|----------|----|-------|
| FACILITY NAME (1)<br><br>NORTH ANNA POWER STATION UNIT 1 | DOCKET NUMBER (2)<br><br>0   5   0   0   0   3   3   8 | LER NUMBER (6) |                   |                 | PAGE (3) |    |       |
|  |  | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER |          |    |       |
|  |  | 9   1          | —   0   0   2     | —   0   0       | 0   4    | OF | 0   5 |

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

ATTACHMENT 1

| VALVE         | SET PRESSURE<br>(PSIG) | AS FOUND<br>(PSIG) |
|---------------|------------------------|--------------------|
| 1-RC-SV-1551A | 2485 +/- 25            | 2483               |
| 1-RC-SV-1551B | 2485 +/- 25            | 2516               |
| 1-RC-SV-1551C | 2485 +/- 25            | 2526               |

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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| FACILITY NAME (1)<br><br>NORTH ANNA POWER STATION UNIT 1 | DOCKET NUMBER (2)<br><br>0   5   0   0   0   3   3   8 | LER NUMBER (6) |                   |                 | PAGE (3) |          |
|  |  | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER |          |          |
|  |  | 9   1          | —   0   0   2     | —   0   0       | 0   5    | OF 0   5 |

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

ATTACHMENT 2

| <u>VALVE</u> | <u>SET PRESSURE<br/>(PSIG)</u> | <u>AS FOUND<br/>(PSIG)</u> |
|--------------|--------------------------------|----------------------------|
| 1-MS-SV-101A | 1085 +/- 11                    | 1094                       |
| 1-MS-SV-101B | 1085 +/- 11                    | 1103                       |
| 1-MS-SV-101C | 1085 +/- 11                    | 1092                       |
| 1-MS-SV-102A | 1095 +/- 11                    | 1113                       |
| 1-MS-SV-102B | 1095 +/- 11                    | 1092                       |
| 1-MS-SV-102C | 1095 +/- 11                    | 1101                       |
| 1-MS-SV-103A | 1110 +/- 11                    | 1092                       |
| 1-MS-SV-103B | 1110 +/- 11                    | 1132                       |
| 1-MS-SV-103C | 1110 +/- 11                    | 1143                       |
| 1-MS-SV-104A | 1120 +/- 11                    | 1115                       |
| 1-MS-SV-104B | 1120 +/- 11                    | 1121                       |
| 1-MS-SV-104C | 1120 +/- 11                    | 1118                       |
| 1-MS-SV-105A | 1135 +/- 11                    | 1139                       |
| 1-MS-SV-105B | 1135 +/- 11                    | 1119                       |
| 1-MS-SV-105C | 1135 +/- 11                    | 1120                       |