

INSERVICE INSPECTION REPORT

of the

North Anna Power Station

Unit 2

P.O. Box 402

Mineral, Virginia 23117

for

Virginia Electric and Power Company

P.O. Box 26666

Richmond, Virginia 23261

Commercial Service Date: December 14, 1980

Operating Capacity: 907 MWe (net)

Refueling Outage: 2nd Period, 1st Interval

FORM NIS-1 OWNER'S REPORT FOR INSERVICE INSPECTIONS  
As required by the Provisions of the ASME Code Rules

1. Owner Virginia Electric & Power Company P.O. Box 26666  
Richmond, Virginia 23261  
(Name and Address of Owner)  
2. Plant North Anna Power Station P.O. Box 402  
Mineral, Virginia 23117  
(Name and Address of Plant)  
3. Plant Unit Unit 2 4. Owner Certificate of Authorization (if required) N-A  
5. Commercial Service Date 12-14-80 6. National Board Number for Unit N-A  
7. Components Inspected

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
PRESSURIZER	WESTINGHOUSE ELECTRIC CORP.	1291	VA 61434	68-104
STM. GENERATOR 'A'	WESTINGHOUSE ELECTRIC CORP.	1281	VA 61431	68-95
STM. GENERATOR 'B'	WESTINGHOUSE ELECTRIC CORP.	1282	VA 61432	68-96
STM. GENERATOR 'C'	WESTINGHOUSE ELECTRIC CORP.	1283	VA 61433	68-97
CLASS 1 PIPING	SOUTHWEST FAB & WELDING	MISC.	N/A	N/A
REACTOR COOL. PUMP 'B'	ESCO CORPORATION	820	N/A	N/A
REGENERATIVE HEAT EXCH.	JOSEPH OAT & SONS, INC.	1831-12-1	VA 61435	450
REGENERATIVE HEAT EXCH.	JOSEPH OAT & SONS, INC.	1831-12-2	VA 61435	451
REGENERATIVE HEAT EXCH.	JOSEPH OAT & SONS, INC.	1831-12-3	VA 61435	452
VOLUME CONTROL TANK	JOSEPH OAT & SONS, INC.	2034-1B	VA 59825	501
ACCUMULATOR TANK 'A'	DELTA SOUTHERN CO.	41370-71-1	VA 61420	2822
BORON INJECTION TANK	STRUTHER WELLS CORPORATION	2-70-07-30717-1	VA 59700	13351
REPAIRS AND REPLACEMENTS	VIRGINIA ELEC. & POWER CO.	86-054	N/A	N/A
REPAIRS AND REPLACEMENTS	VIRGINIA ELEC. & POWER CO.	86-056	N/A	N/A
REPAIRS AND REPLACEMENTS	VIRGINIA ELEC. & POWER CO.	87-074	N/A	N/A
REPAIRS AND REPLACEMENTS	VIRGINIA ELEC. & POWER CO.	87-075	N/A	N/A

Note: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8.5 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM NIS-1 (Back)

8. Examination Dates 3-30-86 to 10-30-87 9. Inspection Interval from 12-14-86 to 12-14-90
10. Abstract of Examinations. Include a list of examinations and a statement concerning status of work required for current interval. Pages 11-16
11. Abstract of Conditions Noted Pages 6-8
12. Abstract of corrective Measures Recommended and Taken Pages 6-8

We certify that the statements made in this report are correct and the examinations and corrective measures taken conform to the rules of the ASME Code, Section XI.

Certificate of Authorization No. (if applicable) N-A Expiration Date N-A

Date January 26 19 88 Signed [Signature] By [Signature]  
Owner

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Virginia and employed by Hartford Steam Boiler I & I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 3-30-86 to 10-30-87, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

[Signature] Commissions VA 558  
Inspector's Signature National Board, State, Province, and Endorsements

Date 27 January 19 88

FORM NIS-1 (Back)

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10. Abstract of Examinations. Include a list of examinations and a statement concerning status of work required for current interval. Pages 11-16
11. Abstract of Conditions Noted Pages 5-8
12. Abstract of corrective Measures Recommended and Taken Pages 6-8

We certify that the statements made in this report are correct and the examinations and corrective measures taken conform to the rules of the ASME Code, Section XI.

Certificate of Authorization No. (if applicable) N-A Expiration Date N-A  
Date January 28 19 88 Signed [Signature] By [Signature]  
Owner

CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Virginia and employed by Hartford Steam Boiler I & I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 3-30-86 to 10-30-87, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

[Signature] Commissions VA 558  
Inspector's Signature National Board, State, Province, and Endorsements  
Date 27 January 19 88



SUPPLEMENTAL SHEET  
FORM NIS-1 OWNER'S REPORT FOR INSERVICE INSPECTIONS  
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### Examination Summary

#### Introduction

Inservice examinations of Class 1, Class 2, and Class 3 components, piping and component supports were conducted at North Anna Power Station Unit 2 from March 30, 1986 to October 30, 1987.

Examination procedures were approved prior to the examinations. Certification documents relative to personnel, equipment, and materials were reviewed and determined to be satisfactory.

Inspections, witnessing, and surveillance of the examinations and related activities were conducted by personnel from the Hartford Steam Boiler Inspection and Insurance Company, One State Street, Hartford, CT 06102 (B. M. Eamigh, C. R. Enos, C. A. Garrison, W. E. Huber, C. A. Ireland, and R. P. Neville), North Anna Station Quality Assurance Department, and the North Anna technical staff.

#### Limitations

Some of the arrangements and details of the piping system and components were designed and fabricated before the access and examination requirements of Section XI of the 1974 Code could be applied; consequently some examinations are limited or not practical due to geometric configuration or accessibility.

#### Examinations

Examinations were conducted to review as much of the examination zones as was practical within geometric, metallurgical and physical limitations. When the required ultrasonic examination volume or area could not be examined 100%, the examination was considered to be a partial (PAR) and so noted on the examination report. Generally PARs are noted at fitting to fitting assemblies and where integrally welded supports, lugs or hangers, etc., preclude access to some part of the examination area.

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### Repairs and Replacements

Repairs and replacements completed during this NIS-1 period were performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code, 1980 Edition thru Winter 1981 Addenda.

The following paragraphs and the attached NIS-2 Forms (Attachment II, pages 01 thru 15) represent those repairs and replacements performed on Class 1 or Class 2 systems:

- A) 86-054 - Repaired gap on base plate of component support 2-SI-R8 (SI-S-8 on ECI 104C - Class 2). This support was originally H-8 on ECI SI-201A. (Administrative procedures did not require the completion of an NIS-2 form at the time of performance of this repair and is not included in the attachments. A comparable form which contains the ANII signature is included for clarification.)
- B) 86-056 - Repaired gap on base plate of component support 2-RS-H-623 (RS-S-623 on ECI 104DA - Class 2). This support was originally H-623 on ECI MSK-104D2. (Administrative procedures did not require the completion of an NIS-2 form at the time of performance of this repair and is not included in the attachments. A comparable form which contains the ANII signature is included for clarification.)
- C) 87-074 - Repaired arc strikes on interior of shell of steam generator 2-RC-E-1A (VGB-2-1100 - Class 2).
- D) 87-075 - Repaired arc strikes on interior of shell of steam generator 2-RC-E-1B (VGB-2-1100 - Class 2).
- E) 87-076 - Repaired arc strikes on interior of shell of steam generator 2-RC-E-1C (VGB-2-1100 - Class 2).
- F) 87-081 - Replaced valve body and nozzle on 6" safety valve 02-MS-SV-205B (VGB-2-4100 Item 13 shown on ISO VGB-2-2200 Class 2). Valve body and nozzle were replaced due to excessive steam cuts.

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Repairs and Replacements (cont'd)

- G) 87-B025 - Replaced 4 studs and 8 nuts on 2" flow element 2-RC-FE-2481 (VGB-1-4700 Item 8 - Class 1). The studs and nuts were replaced due to boric acid residue found during regular preventive maintenance.
- H) 87-B026 - Replaced 8 studs and 16 nuts on 3" flow element 2-RC-FE-2491 (VGB-1-4700 Item 6 - Class 1). The studs and nuts were replaced due to boric acid residue found during regular preventive maintenance.
- I) 87-B027 - Replaced 8 studs and 16 nuts on 2" flow element 2-RC-FE-2480 (VGB-1-4700 Item 3 - Class 1). The studs and nuts were replaced due to boric acid residue found during regular preventive maintenance.



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### Results

Examinations of components and component supports resulted in a total of 12 components and component supports being reported on the basis of procedure reporting criteria.

A summary of the indications and their dispositions follows:

- A) Surface examination of weld 1-05 on ISO VGB-2-1210 revealed two rounded indications and one linear indication. The indications were evaluated by Virginia Electric & Power Company Engineering as minor and acceptable for continued operation. Although not required by the 1974 Edition Summer 1975 Addenda of the Code, the weld will be reexamined next period as a precautionary measure.
- B) Visual examination of component support CC-HSS-614 on ECI 103L revealed the piston setting to be below the minimum setting. The setting was evaluated by Virginia Electric & Power Company Engineering as acceptable for continued operation.
- C) Visual examination of component support SI-SH-600 on ECI 104B revealed an incorrect spring setting. The setting was evaluated by Virginia Electric & Power Company Engineering and found to be acceptable for continued operation.
- D) Visual examination of component support SI-S-7 on ECI 104C revealed grout missing, a gap between the support and pipe, and heavy rust. These conditions were evaluated by Virginia Electric & Power Company Engineering as acceptable for continued operation. Prior to the end of the next Unit 2 refueling outage the following work will be performed:
  - 1. The gap will be repaired.
  - 2. The rust will be removed.
  - 3. The support will be painted and reexamined.

NOTE: This support was also examined as H-7 on ECI SI-201A.

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Results (cont'd)

- E) Visual examination of component support SI-S-8 on ECI 104C revealed heavy rust. The rust was evaluated by Virginia Electric & Power Company Engineering as acceptable for continued operation. The rust was removed, the support painted and found acceptable upon reexamination. This support was originally examined as H-8 on ECI SI-201A. (See repair and replacement 86-054 for more information).
- F) Visual examination of component support SI-SH-46 on ECI 104C revealed an incorrect spring setting. The spring setting was evaluated by Virginia Electric & Power Company Engineering as acceptable for continued operation.
- G) Visual examination of component support RS-S-622 on ECI 104DA revealed heavy rust. The rust was evaluated by Virginia Electric & Power Company Engineering as acceptable for continued operation. The rust was removed, the support painted and found acceptable upon reexamination. This support was originally examined as H-622 on ECI MSK-104D2 and found to have a gap at the baseplate. The gap was repaired under repair replacement 86-055. (Repair replacement 86-055 will be included later in the supplement mentioned in the cover letter.)
- H) Visual examination of component support RS-S-623 on ECI 104DA revealed heavy rust. The rust was evaluated by Virginia Electric & Power Company Engineering as acceptable for continued operation. The rust was removed, the support painted and found acceptable upon reexamination. This support was originally examined as H-623 on ECI MSK-104D2 and found to have a gap at the baseplate. (See repair replacement 86-056 for more information.)
- I) Visual examination of component support QS-R-11 on ECI 104F revealed three anchor bolts cut off. Field verification found only two bolts cut off. The cut anchor bolts (two or three) were evaluated by Virginia Electric & Power Company Engineering as acceptable for continued operation. The number of bolts actually cut off will be reverified prior to the end of the next refueling outage.

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Results (cont'd)

- J) Visual examination of component support RS-R-607 on ECI 107F revealed a lock nut missing. The missing lock nut was evaluated by Virginia Electric & Power Company as acceptable for continued operation.
- K) Visual examination of component support SI-R-94 on ECI 111AG revealed heavy rust on anchor bolt and channels. The rust was removed, the support painted and found acceptable upon reexamination.
- L) Visual examination of component support RH-H-21 on ECI 111A revealed heavy boric acid. The boric acid was removed and the support was found acceptable upon reexamination.

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Previous NIS-1 Commitments

1. Letter Serial No. 86-392, page 5 of 24, Results, item G.

A commitment was made to replace the missing spring scale plate on component support CC-232C - H232 (new number ECI-103F: CC-SH-232). The scale was replaced and the support was found acceptable upon reexamination.

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System Pressure Test

A system pressure test was conducted on the Reactor Coolant System in accordance with ASME code requirements. Visual examination performed during the pressure test revealed evidence of leakage at a flange connection on valve 2-RC-204 and valve packing leakage on valve 2-RC-49. The leakage was evaluated by Virginia Electric & Power Company Engineering and found to be within acceptable limits. The connections were tightened and exhibited no sign of leakage upon reexamination.

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ABSTRACT OF EXAMINATIONS

CATEGORY	ITEM NO.	ISOMETRIC	ITEM	EXAM
B-G-2	B2. 11	VGB-1-2100	BOLTS 1-16	VT
B-D	B3. 2	VGB-1-3100	01ANIR	VT
B-D	B3. 2	VGB-1-3100	01BNIR	VT
B-D	B3. 2	VGB-1-3100	02ANIR	VT
B-D	B3. 2	VGB-1-3100	02BNIR	VT
B-F	B1. 6	VGB-1-4300	01DM	UT
B-F	B4. 1	VGB-1-4300	01DM	PT
B-F	B4. 1	VGB-1-4300	01DM	UT
B-F	B1. 6	VGB-1-4300	01DM	PT
B-J	B4. 6	VGB-1-4300	19BC	UT
B-F	B4. 1	VGB-1-4500	02	PT
B-G-2	B4. 12	VGB-1-4700	08	VT
B-G-2	B4. 12	VGB-1-4700	10	VT
B-G-2	B4. 12	VGB-1-4700	11	VT
B-G-1	B5. 3	VGB-1-5100A2	FLGBLTS (24)	VT
B-G-1	B5. 1	VGB-1-5100A2	FLGBLTS (24)	UT
B-G-1	B5. 3	VGB-1-5100A2	SHBBLTS (12)	VT
B-G-1	B5. 1	VGB-1-5100A2	SHBBLTS (12)	UT
B-G-1	B5. 1	VGB-1-5100A2	SHBBLTS (12)	MT
B-G-1	B6. 1	VGB-1-6100	01 (NUT #24)	VT
B-M-2	B6. 7	VGB-1-6200	15 VALVE INT (2-SI-170)	VT
B-G-2	B6. 9	VGB-1-6300	03 16S-16N	VT
B-G-2	B6. 9	VGB-1-6300	07 4S-8N	VT
B-G-2	B6. 9	VGB-1-6300	08 12S-12N	VT
B-G-2	B6. 9	VGB-1-6300	09 12S-12N	VT
B-G-2	B6. 9	VGB-1-6300	11 12S-12N	VT
B-G-2	B6. 9	VGB-1-6300	19 8S-8N	VT
B-G-2	B6. 9	VGB-1-6300	22 16S-16N	VT
B-G-2	B6. 9	VGB-1-6300	24 16S-32N	VT
B-G-2	B6. 9	VGB-1-6300	25 4S-8N	VT
B-G-2	B6. 9	VGB-1-6300	29 12S-12N	VT
B-G-2	B6. 9	VGB-1-6300	30 12S-12N	VT
B-G-2	B6. 9	VGB-1-6300	57 12S-12N	VT
B-G-2	B6. 9	VGB-1-6300	63 12S-12N	VT
B-G-2	B6. 9	VGB-1-6300	64 12S-12N	VT

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**FORM N15-1 OWNER'S REPORT FOR INSERVICE INSPECTIONS**  
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ABSTRACT OF EXAMINATIONS (cont'd)

CATEGORY	ITEM NO.	ISOMETRIC	ITEM	EXAM
C-A	C1. 1	VGB-2-1150	05	UT
C-A	C1. 1	VGB-2-1150	06	UT
C-A	C1. 1	VGB-2-1150	11	UT*
C-A	C1. 1	VGB-2-1150	12	UT*
C-A	C1. 1	VGB-2-1200	01	UT
C-A	C1. 1	VGB-2-1200	02	UT
C-A	C1. 1	VGB-2-1210	1-01	UT*
C-A	C1. 1	VGB-2-1210	1-03	UT*
C-A	C1. 1	VGB-2-1210	1-04	UT*
C-C	C1. 3	VGB-2-1210	1-05	PT
C-B	C1. 2	VGB-2-1210	1-06	UT*
C-A	C1. 1	VGB-2-1220	01	UT*
C-A	C1. 1	VGB-2-1220	02	UT*
C-B	C1. 2	VGB-2-1220	03	UT*
C-G	C2. 1	VGB-2-2101	25	UT
C-D	C2.2	VGB-2-4100	22 TVMS201C 24S	VT
C-D	C2.2	VGB-2-4100	22 TVMS201C 2S	UT*

\* - PARTIAL EXAMINATION

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ABSTRACT OF EXAMINATIONS (cont'd)

CATEGORY	ITEM NO.	ISO	MARK NUMBER	LINE NUMBER	EXAM
C-E-2	C2.6	101A	SHP-R -601	32-SHP-403-601-Q2	VT
C-E-2	C2.6	101A	SHP-R -602	32-SHP-402-601-Q2	VT
C-E-2	C2.6	101A	SHP-R -603	32-SHP-401-601-Q2	VT
Also examined as ==>		PSSK-	SHP-R- 603	32-SHP-401-601-Q2	VT
		101A.01			
C-E-2	C2.6	101B	SHP-HSS-208	32-SHP-401-601-Q2	VT
C-E-2	C2.6	101B	SHP-HSS-209A	32-SHP-401-601-Q2	VT
C-E-2	C2.6	101B	SHP-HSS-209B	32-SHP-401-601-Q2	VT
C-E-2	C2.6	101B	SHP-R -043	32-SHP-401-601-Q2	VT
C-E-2	C2.6	101B	SHP-R -044	32-SHP-401-601-Q2	VT
C-E-2	C2.6	101B	SHP-SH-042	32-SHP-401-601-Q2	VT
C-E-2	C2.6	101B	SHP-SH-045	32-SHP-401-601-Q2	VT
C-E-2	C2.6	101D	SHP-SH-049	32-SHP-403-601-Q2	VT
C-E-2	C2.6	101D	SHP-SH-108	32-SHP-403-601-Q2	VT
C-E-2	C2.6	101GA	SHP-SH-118	06-SHP-437-601-Q2	VT
C-E-2	C2.6	101GB	SHP-SH-117	06-SHP-438-601-Q2	VT
C-E-2	C2.6	101GC	SHP-SH-116	06-SHP-439-601-Q2	VT
D-B	IWD-2600	102F	WAPD-A -019	06-WAPD-401-601-Q3	VT
C-E-2	C2.6	103AA	SI-A -129	06-SI-416-1502-Q1	VT
C-E-2	C2.6	103AA	SI-R -245	06-SI-416-1502-Q1	VT
C-E-2	C2.6	103AA	SI-R -248	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AB	SI-R -137	06-SI-421-1502-Q1	VT
C-E-2	C2.6	103AB	SI-PH-136	06-SI-421-1502-Q1	VT
C-E-2	C2.6	103AD	SI-A -006C	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AD	SI-R -009C	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AD	SI-R -011C	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AD	SI-R -013C	06-SI-419-1502-Q1	VT
C-E	C2.6	103AD	SI-R -015C	06-SI-419-1502-Q1	VT
C-E	C2.6	103AD	SI-R -016C	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AD	SI-R -133	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AD	SI-R -134	06-SI-419-1502-Q1	VT
C-E	C2.6	103AD	SI-R -135	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AD	SI-S -007C	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AD	SI-S -008C	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AD	SI-S -010C	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AD	SI-S -012C	06-SI-419-1502-Q1	VT



SUPPLEMENTAL SHEET  
**FORM NIS-1 OWNER'S REPORT FOR INSERVICE INSPECTIONS**  
 As required by the Provisions of the ASME Code Rules

ATTACHMENT I  
 PAGE 14 OF 16

1. Owner Virginia Electric & Power Company P.O. Box 26666  
 Richmond, Virginia 23261  
 (Name and Address of Owner)

2. Plant North Anna Power Station P.O. Box 402  
 Mineral, Virginia 23117  
 (Name and Address of Plant)

3. Plant Unit Unit 2 4. Owner Certificate of Authorization (if required) N-A

5. Commercial Service Date 12-14-80 6. National Board Number for Unit N-A

ABSTRACT OF EXAMINATIONS (cont'd)

CATEGORY	ITEM NO.	ISO	MARK NUMBER	LINE NUMBER	EXAM
C-E	C2.6	103AD	SI-S -014C	06-SI-419-1502-Q1	VT
C-E-2	C2.6	103AG	SI-A -138	06-SI-421-1502-Q1	VT
C-E-2	C2.6	103AG	FPH-SI-421-1	06-SI-421-1502-Q1	VT
C-E-2	C2.6	103AG	SI-R -139	06-SI-421-1502-Q1	VT
C-E-2	C2.6	103AG	SI-R -252	06-SI-421-1502-Q1	VT
C-E-2	C2.6	103AH	FPH-SI-416 -R-130	06-SI-416-1502-Q1	VT
D-B	IWD-2600	103F	CC-SH-232	18-CC-731-0151-Q3	VT
D-B	IWD-2600	103J	CC-A -087	06-CC-594-0151-Q3	VT
D-B	IWD-2600	103L	CC-HSS-614	18-CC-726-0151-Q3	VT
D-B	IWD-2600	103M	CC-R -030C	18-CC-727-0151-Q3	VT
D-B	IWD-2600	103M	CC-R -031C	18-CC-727-0151-Q3	VT
C-E-2	C2.6	104B	SI-A -042	08-SI-440-153A-Q2	VT
C-E-2	C2.6	104B	SI-A -043	08-SI-449-153A-Q2	VT*
C-E-2	C2.6	104B	SI-R -034	08-SI-449-153A-Q2	VT
C-E-2	C2.6	104B	SI-SH-032	08-SI-449-153A-Q2	VT
C-E-2	C2.6	104B	SI-SH-033A	08-SI-449-153A-Q2	VT
C-E-2	C2.6	104B	SI-SH-035	10-SI-425-153A-Q2	VT
C-E-2	C2.6	104B	SI-SH-036	10-SI-425-153A-Q2	VT
C-E-2	C2.6	104B	SI-SH-037	10-SI-415-1502-Q1	VT
C-E-2	C2.6	104B	SI-SH-041	08-SI-440-153A-Q2	VT
C-E-2	C2.6	104B	SI-SH-600	10-SI-425-153A-Q2	VT
C-E-2	C2.6	104C	SI-R -001	12-SI-414-153A-Q2	VT
C-E-2	C2.6	104C	SI-R -002	12-SI-414-153A-Q2	VT
C-E-2	C2.6	104C	SI-S -007	12-SI-401-153A-Q2	VT
	Also examined as ==>		SI201A H-7	12-SI-401-153A-Q2	VT
C-E-2	C2.6	104C	SI-S -008	12-SI-402-153A-Q2	VT
	Also examined as ==>		SI201A H-8	12-SI-402-153A-Q2	VT
C-E-2	C2.6	104C	SI-SH-046	12-SI-414-153A-Q2	VT
C-E-2	C2.6	104DA	RS-S -622	12-RS-407-153A-Q2	VT
C-E-2	C2.6	104DA	RS-S -623	12-RS-408-153A-Q2	VT
	Also examined as ==>		MSK- H-623	12-RS-408-153A-Q2	VT
			104D1		
D-B	IWD-2600	104DB	RS-R -616	06-RS-J083-153A-Q3	VT
D-B	IWD-2600	104DC	RS-R -611	06-RS-455-153A-Q3	VT
	Also examined as ==>		MSK- RS-R -611	06-RS-455-0153-Q3	VT
			104D3-2		

SUPPLEMENTAL SHEET  
**FORM NIS-1 OWNER'S REPORT FOR INSERVICE INSPECTIONS**  
 As required by the Provisions of the ASME Code Rules

ATTACHMENT I  
 PAGE 15 OF 16

1. Owner Virginia Electric & Power Company P.O. Box 26666  
 Richmond, Virginia 23261  
 (Name and Address of Owner)

2. Plant North Anna Power Station P.O. Box 402  
 Mineral, Virginia 23117  
 (Name and Address of Plant)

3. Plant Unit Unit 2 4. Owner Certificate of Authorization (if required) N-A

5. Commercial Service Date 12-14-80 6. National Board Number for Unit N-A

ABSTRACT OF EXAMINATIONS (cont'd)

CATEGORY	ITEM NO.	ISO	MARK NUMBER	LINE NUMBER	EXAM
C-E-2	C2.6	104E	RS-R -009	10-RS-409-153A-Q2	VT
C-E-2	C2.6	104E	RS-R -010	10-RS-409-153A-Q2	VT
C-E-2	C2.6	104E	RS-R -620	10-RS-409-153A-Q2	VT
	Also examined as ==>	ZFSK-	RS-R -620	10-RS-409-153A-Q2	VT
			3069A-3		
C-E-2	C2.6	104F	QS-R -011	08-QS-404-153A-Q3	VT
C-E-2	C2.6	104F	QS-R -012	08-QS-404-153A-Q3	VT
C-E-2	C2.6	104F	QS-R -017	08-QS-404-153A-Q3	VT
C-E-2	C2.6	104G	QS-SH-049	08-QS-403-153A-Q3	VT
	Also examined as ==>	ZFSK-	H-2-QS-SH-49	08-QS-403-153A-Q3	VT
			2605A		
D-B	IWD-2600	105A	WS-R -010	24-WS-427-0151-Q3	VT
D-B	IWD-2600	105A	WS-R -017	24-WS-428-0151-Q3	VT
D-B	IWD-2600	105B	WS-R -035	24-WS-436-0151-Q3	VT
D-B	IWD-2600	105DA	WS-SH-115	06-WS-416-0151-Q3	VT
D-B	IWD-2600	105FD	WS-SH-107A	16-WS-628-0151-Q2	VT
D-B	IWD-2600	105FD	WS-SH-108	16-WS-628-0151-Q2	VT
C-E-2	C2.6	107B	SI-R -216	10-SI-408-153A-Q3	VT
C-E-2	C2.6	107B	SI-R -217	10-SI-408-153A-Q3	VT
C-E-2	C2.6	107C	SI-R -215	10-SI-408-153A-Q3	VT
C-E-2	C2.6	107C	SI-R -239	10-SI-408-153A-Q3	VT
C-E-2	C2.6	107C	SI-R -240	10-SI-408-153A-Q3	VT
C-E-2	C2.6	107DA	SHP-R -005	08-SHP-472-601-Q3	VT
C-E-2	C2.6	107DB	SHP-R -202	10-SHP-474-601-Q3	VT
C-E-2	C2.6	107E	SI-R -207	08-SI-440-153A-Q2	VT
C-E-2	C2.6	107E	SI-R -224	08-SI-440-153A-Q2	VT
C-E-2	C2.6	107E	SI-R -226	08-SI-440-153A-Q2	VT
D-B	IWD-2600	107F	RS-R -607	06-RS-455-153A-Q3	VT
D-B	IWD-2600	107F	RS-R -625	08-RS-454-153A-Q3	VT
D-B	IWD-2600	107F	RS-SH-624	06-RS-455-153A-Q3	VT
D-B	IWD-2600	107G	RS-R -619	06-RS-459-153A-Q3	VT
D-B	IWD-2600	107G	RS-R -627	06-RS-459-153A-Q3	VT
D-B	IWD-2600	107G	RS-SH-622	06-RS-459-153A-Q3	VT
C-E-2	C2.6	111AG	SI-R -093	08-SI-449-153A-Q2	VT
C-E-2	C2.6	111AG	SI-R -093A	08-SI-449-153A-Q2	VT
C-E-2	C2.6	111AG	SI-R -094	08-SI-449-153A-Q2	VT

SUPPLEMENTAL SHEET  
**FORM NIS-1 OWNER'S REPORT FOR INSERVICE INSPECTIONS**  
 As required by the Provisions of the ASME Code Rules

1. Owner Virginia Electric & Power Company P.O. Box 26666  
Richmond, Virginia 23261  
 (Name and Address of Owner)  
 2. Plant North Anna Power Station P.O. Box 402  
Mineral, Virginia 23117  
 (Name and Address of Plant)  
 3. Plant Unit Unit 2 4. Owner Certificate of Authorization (if required) N-A  
 5. Commercial Service Date 12-14-80 6. National Board Number for Unit N-A

ABSTRACT OF EXAMINATIONS (cont'd)

CATEGORY	ITEM NO.	ISO	MARK NUMBER	LINE NUMBER	EXAM
C-E-2		C2.6	111AJ SI-SH-085A	08-SI-440-153A-Q2	VT
C-E-2		C2.6	111AP SI-R -065	06-SI-441-153A-Q2	VT
C-E-2		C2.6	111AP SI-R -065A	06-SI-441-153A-Q2	VT
C-E-2		C2.6	111AP SI-R -070	06-SI-442-153A-Q2	VT
C-E-2		C2.6	111AP SI-R -070A	06-SI-442-153A-Q2	VT
C-E-2		C2.6	111AP SI-R -075	06-SI-443-153A-Q2	VT
C-E-2		C2.6	113A RH-H -021	14-RH-402-0602-Q2	VT
C-E-2		C2.6	113A RH-H -022	14-RH-403-0602-Q2	VT
C-E-2		C2.6	113C RH-R -001	10-RH-413-0602-Q2	VT
D-B		IWD-2600	CC32A H-34	06-CC-438-0151-Q3	VT
C-E-2		C2.6	MSK- RS-A-610	08-RS-456-153A-Q2	VT
			104D3-2		
C-E-2		C2.6	RS- RS-SH-612	04-RS-461-153A-Q2	VT
			2459B		
C-E-2		C2.6	PSSK- H-216	32-SHP-401-601-Q2	VT
			101A.01		
C-E-2		C2.6	MSK- H-8	10-SHP-471-601-Q3	VT
			107A1		

\* - PARTIAL EXAMINATION

ADM-9.9  
Attachment 3  
Page 3 of 3  
07-25-85

VIRGINIA POWER  
NORTH ANNA POWER STATION

PROGRAM NO. 86-054

ASME SECTION XI REPAIR PROGRAM

PROGRAM REVISION RECORD

REVISION NO.	1					
INITIAL	K/BC	/	/	/	/	/
DATE	4-23-86	/	/	/	/	/

CLOSEOUT AND REVIEW

WORK ORDER NO. 04192 COMPLETION DATE 4/24/86  
 WELD CONTROL ISOMETRIC DRAWING REVISION DATE Not required ~~4/14/86~~  
 THE REQUIREMENTS OF THIS REPAIR PROGRAM INCLUDING ALL REVISIONS HAVE BEEN MET.

SENIOR ENGINEER-MAINTENANCE [Signature] DATE 11/15/86  
 QUALITY CONTROL REVIEW [Signature] DATE 11/18/86

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the state of Virginia, employed by HARTFORD STEAM  
Boiler Inspection Co. of HARTFORD CT have inspected the repairs described in this Report on 6 FEB 1987, 1987 and state that to the best of my knowledge and belief, this repair has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 6 FEB 1987 [Signature] Commissions VA 346  
 (Inspector) (State or Providence, National Board)

ADM-9.9  
Attachment 4  
Page 4 of 4  
07-25-85

VIRGINIA POWER  
NORTH ANNA POWER STATION

ASME SECTION XI REPLACEMENT PROGRAM

PROGRAM NO. 86-056

PROGRAM REVISION RECORD

REVISION NO.	0					
INITIAL						
DATE						

CLOSEOUT AND REVIEW

WORK ORDER NO. 041684 COMPLETION DATE 5/2/86  
WELD CONTROL ISOMETRIC DRAWING REVISION DATE N/A

THE REQUIREMENTS OF THIS REPLACEMENT PROGRAM INCLUDING ALL REVISIONS HAVE BEEN MET.

MAINTENANCE ENGINEER JM Kotowski DATE 11/15/86  
QUALITY CONTROL REVIEW HD [Signature] DATE 11-18-86

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the state of Virginia, employed by WATSON  
Shaw-Baker Inc Co of Hartford CT have inspected the replacements described in this Report on 03 718, 1987 and state that to the best of my knowledge and belief, this replacement has been performed in accordance with the repair rules of Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 23 Feb 87 W. E. [Signature] Commissions VA 346  
(Inspector) (State or Providence, National Board)

**FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT**  
As Required by the Provisions of ASME Code Section XI

1. Owner VIRGINIA ELECTRIC & POWER COMPANY Date 10-9-87  
P.O. Box 20660 RICHMOND, VIRGINIA 23261 Sheet 1 of 1
2. Plant NORTH ANNA POWER STATION Unit NORTH ANNA UNIT # 2  
P.O. Box 402, MINERAL, VIRGINIA, 23117 ASME XI REPAIR PROGRAM # 87-074
3. Work Performed by WESTINGHOUSE ELECTRIC CORP. WORK ORDER # 59000 65930  
P.O. Box 300, PITTSBURGH, PA. 15230 Repair Organization P.O. No., Job No., etc.
4. Identification of System FEED WATER
5. (a) Applicable Construction Code ASME III 19 68 Edition W-68 Addenda, Code Cases NONE  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 19 80, WB1 Addenda, Code Cases NONE
6. Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfrs. Ser. No.	Nat'l. Id. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STEAM GENERATOR	WESTINGHOUSE	1281	6895	—	2-RC-E1A	1973	REPAIRED	YES

7. Description of Work REMOVED ARC STRIKES ON INTERIOR OF SHELL
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  Other   
Pressure \_\_\_\_\_ psi Test Temp. \_\_\_\_\_ °F
9. Remarks ASME CLASS 2  
(Applicable Manufacturer's Data Reports to be attached)

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in this report are correct and this REPAIR conforms to Section XI of the ASME Code.

Signed Stephen R. Anderson SENIOR ENGINEER OCTOBER 9, 19 87  
(Owner or Owner's Designee) Title Date

**CERTIFICATE OF INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of VIRGINIA, employed by Westinghouse Steam Boiler Corporation, have inspected the Repairs described in this Report on 13 OCT, 1987 and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 13 OCT 1987 William J. Miller Commissions VA558  
(Inspector) (State or Province, National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 in. X 11 in., (2) information in items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM N-1 MANUFACTURER'S DATA REPORT FOR NUCLEAR VESSELS  
Administered by the Provision of the ASME Code

1. Manufactured by Westinghouse Electric Corporation, Tampa Division, Tampa, Florida  
(Name and address of Manufacturer)  
2. Manufactured for Virginia Electric Power - North Anna No. 2  
(Name and address of Purchaser)  
3. Type Vertical Kind Steam Gen. Vessel No. 1281 ( ) ( ) Nat'l Id. No. 68-95 Yr. Built 1973  
(Horiz. or Vert.) (Tank, Jacketed, Heat Ex.) (Mfg. Serial No.) (Ident. & State No.)  
4. Applicable ASME Code: Section IC, Edition 1968, Addenda date W-68, Case No.       
Class A

Items 4-8 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers

SA-533  
4. Shell: Material GR A CL1 T.S. 80000 Nominal Thickness      in. Corrosion Allowance 06 in. Dia.      ft.      in. Length      ft.      in.  
(Kind & Spec. No.) (Min. of range specified)  
5. Seams: Long Weld-Dbl Butt R.T. Yes R.T. Complete Efficiency       
Girth Weld-Dbl Butt R.T. Yes R.T. Complete No. of Courses       
SA-533  
6. Heads: (a) Material GR & CL1 T.S. 80000 (b) Material      T.S.       
Location: Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Press. (Convex or Concave)  
(a) Top 3.62           2:1                     CONCAVE  
(b)                                               
If removable, bolts used      (Material, Spec. No., T.S., Size, Number) Other fastening      (Describe or attach sketch)  
7. Apert. Closure Girth Weld-Dbl. Butt R.T.; X. R. Complete  
Girth Weld (Describe or sketch or weld, bar, etc. If bar give dimensions, describe or sketch)  
Drop Weight      Pneumatic       
Charpy Impact 30 ft-lb Hydrostatic or Test 1356 psi  
8. Design Pressure 1085 psi at 600 °F at temp. of +10 °F. Combination      @ 70 F min.

Items 9 and 10 to be completed for tube sections.

9. Tube Sheets: Stationary. Material SA-508 CL2 Dia. 125.75 in. Thickness 21.03 in. Attachment See item 12  
(Kind & Spec. No.) (Subject to press.) (Welded, Bolted)  
Floating. Material      Dia.      in. Thickness      in. Attachment       
(Kind & Spec. No.)  
10. Tubes: Material SB-163 O.D. 7/8 in. Thickness .050 inches of gage Number 3388 Type U  
(Kind & Spec. No.) (Straight or U)

Items 11 to 14 incl. to be completed for Primary Chamber

11. Shell: Material      T.S.      Nominal Thickness      in. Corrosion Allowance      in. Dia.      ft.      in. Length      ft.      in.  
(Kind & Spec. No.) (Min. of range specified)  
12. Seams: Long      H.T.      R.T.      Efficiency       
(Welded, Dbl., Butt) (Yes or No)  
Girth Weld-Dbl Butt R.T. Yes R.T. Complete No. of Courses       
SA-216  
13. Heads: (a) Material      T.S.      (b) Material GR WCC T.S. 70000 (c) Material      T.S.       
Location: Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Press. (Convex or Concave)  
(a) Top, bottom, ends 3.09                               62.81 CONCAVE  
(b) Chann'l                                               
(c) Floating                                               
If removable, bolts used (a)      (b)      (c)      Other fastening      (Describe or attach sketch)  
Drop weight 20 ft-lb Pneumatic       
Charpy Impact +10 ft-lb Hydrostatic or Test 3106 psi  
14. Design pressure 2485 psi at 650 °F at temp. of +10 °F. Combination      @ 70 F min.

<sup>1</sup> If Pressure Heat-Treated  
<sup>2</sup> List when subject to external pressure with minimum temperature when applicable

00028502025

FORM No. 1 (back)

1281

Items below to be completed for all vessels where applicable.

15. Safety Valve Outlets: Number \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_

16. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Dia. or Size	Type	Material	Thickness	Requirement Material	How Attached
Prim. Inlet	1	31" I.D.	(Weld)	(SA-216)	1.5"	(SA-216)	(Integrally)
Prim. Outlet	1	31" I.D.	(End)	(GR WCC)	1.5"	(GR WCC)	(Cast)
Steam Outlet	1	29" I.D.	(Weld)	(SA-308)	1.5"	Steel	Welded
Feedwater	1	14.31 I.D.	(End)	(CL.2)	0.843"	Steel	Welded

17. Inspection Manholes, No. 4 Size 16" Location (2) Chamber & (2) Upper Shell  
 Openings: Handholes, No. 2 Size 6" Location Stub Barrel Portion of Lower Shell  
 Threaded, No. \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_

18. Supports: Skin NO Legs \_\_\_\_\_ Other: X Attached See Below

Four Main Supports are CAST integral with the chamber (Where & How)

19. Remarks: This W-1 form is to be signed off by the authorized code inspector under certificate of shop inspection for everything listed except the hydrostatic test and subsequent inspection. Field inspector must sign off for the latter items on certificate of field assembly inspection below. All other Mfg. is specified on manufacture's partial data forms N-2 filed at Westinghouse.  
 (Brief description of service for which vessel was designed)

CERTIFICATION OF DESIGN

Design information on file at Westinghouse Electric Corporation, Tampa Division, Tampa, Fla.  
 Stress analysis report on file at Westinghouse Electric Corporation, Tampa Division, Tampa, Fla.  
 Design specifications certified by (W) Atomic Power Division Prof. Eng. State W. Seth No. 13331-E  
 Stress analysis report certified by (W) Atomic Power Division Prof. Eng. State A. Lohmeyer, 13436

We certify that the statements made in this report are correct and that this nuclear vessel conforms to the rules of construction of the ASME Code, Section III.

Date February 16 1973 Signed Westinghouse Elec. by R.P. Wedder 2/16/73  
 (Manufacturer) Corp.

Certificate of authorization Expires May 3, 1975 Certificate of Authorization No. N-438

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Westinghouse Electric Corporation at Tampa, Florida

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and in the State or Province of \_\_\_\_\_ and employed by Leander Mutual Ins. Co. of Chicago, Ill.

have inspected the pressure vessel described in this Manufacturer's Data Report on May 18 1973, and state that to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with the ASME Code, Section III.

By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date May 18 1973  
Leander J. Willey Inspector's Signature  
 Commission National Board 2453  
 National Board, State, Province and No.

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and in the State or Province of \_\_\_\_\_ and employed by LEANDER MUTUAL of CHICAGO, ILL.

have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items 19 \_\_\_\_\_, not included in the certificate of shop inspection have been inspected by me and that to the best of my knowledge and belief the manufacturer has constructed and assembled this pressure vessel in accordance with the ASME Code, Section III. The described vessel was inspected and subjected to a hydrostatic test and/or Pneumatic Test of 5187 psig Primary Side & 1356 psig Secondary Side.

By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 9-28 1973  
R.V. Willey Inspector's Signature  
 Commission NR 7831  
 National Board, State, Province and No.

00028532026



**FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT**  
As Required by the Provisions of ASME Code Section XI

1. Owner VIRGINIA ELECTRIC & POWER COMPANY Date 10-9-87  
P.O. BOX 26666, RICHMOND, VIRGINIA 23261 Sheet 1 of 1
2. Plant NORTH ANNA POWER STATION Unit NORTH ANNA UNIT # 2  
P.O. BOX 402, MINERAL, VIRGINIA 23117 ASME II REPAIR PROGRAM # 87-075
3. Work Performed by WESTINGHOUSE ELECTRIC CORP WORK ORDER # 59000 65932  
P.O. BOX 355, PITTSBURGH, PA. 15230 Repair Organization P.O. No., Job No., etc.
4. Identification of System FEED WATER
5. (a) Applicable Construction Code ASME II 19 68 Edition W 68 Addenda, Code Cases 1401  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 19 80, W 81 Addenda, Code Cases ACMG
6. Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfrs. Ser. No.	Nat'l. Id. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STEAM GENERATOR	WESTINGHOUSE	1282	6894	-	2-RC-18	1973	REPAIRED	YES

7. Description of Work REPAIRED ABC STRIKES ON INTERIOR OF SHELL
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  Other   
 Pressure \_\_\_\_\_ psi Test Temp. \_\_\_\_\_ °F
9. Remarks ASME CLASS 2  
 (Applicable Manufacturer's Data Reports to be attached)

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in this report are correct and this REPAIR conforms to Section XI of the ASME Code.  
 Signed Stephen L. Anderson SENIOR ENGINEER Title October 9 Date 19 87

**CERTIFICATE OF INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of VIRGINIA, employed by North Anna Station Boiler Inspectors & Test Co of Richmond VA have inspected the Repair described in this Report on 13 OCT, 1987 and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 13 OCT 1987 William E. Hester Commissions VA 553  
 (Inspector) (State or Province, National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 in. X 11 in., (2) information in Items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM N-1 MANUFACTURERS' DATA REPORT FOR NUCLEAR VESSELS  
As required by the Provisions of the ASME Code

1. Manufactured by: Westinghouse Electric Corporation, Tampa Division, Tampa, Florida  
(Name and address of Manufacturer)  
2. Manufactured for: Virginia Electric Power - North Anna No. 2  
(Name and address of Purchaser)  
3. Type: Vertical Kind: Steam Gen Vessel No. 1282 (Serial No.) (Date & State No.) Nat'l Bd. No. 68-96 Yr. Iss'd: 1973  
(Date of Iss.) (Type, Location, Heat Ex.)  
3a. Applicable ASME Code: Section IB, Edition 1968 Address Code: V-68 Code No. 140  
Class: A

Items 4-8 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers.

4. Shell: Material SA-533 GR A CL1 T.S. 80000 Nominal Thickness 0.06 in. Allowance 0.06 in. Dis. 0 ft. 0 in. Length 0 ft. 0 in.  
(Kind & Spec. No.) (Min. of range specified)  
5. Seams: Long Weld-Dbl Butt H.T. Yes R.T. Complete Efficiency 0  
Girth Weld-Dbl Butt H.T. Yes R.T. Complete No. of Courses 0  
6. Heads (a) Material SA-533 GR A CL1 T.S. 80000 (b) Material \_\_\_\_\_ T.S. \_\_\_\_\_  
Location: Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Press. (Concave or Convex)  
(a) Top 3.62 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ 2:1 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ CONCAVE  
(b) \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_  
If removable, bolts used: \_\_\_\_\_ (Material, Spec. No., T.S., Size, Number) Other fastening: \_\_\_\_\_ (Describe or attach sketch)  
7. ASSY Closure: Girth Weld-Dbl. Butt H.T. N.Y.R. Complete  
(Describe as girth & weld, butt, etc. If bar give dimensions, describe or attach sketch)  
Girth Weld Drop Weight: \_\_\_\_\_ Pneumatic \_\_\_\_\_  
Charpy Impact: 30 ft-lb Hydrostatic or \_\_\_\_\_ Test Pressure: 1356 psi  
8. Design Pressure: 1085 psi at 600 °F at temp. of 410 °F. Combination \_\_\_\_\_ Pressure: 870 °F min

Items 9 and 10 to be completed for tube sections.

9. Tube Sheets: Stationary. Material SA-508 Cl2 Dis. 125.25 in. Thickness 21.03 in. Attachment: SEE ITEM 7  
(Kind & Spec. No.) (Subject to press.) (Welded, Bolted)  
Floating. Material \_\_\_\_\_ Dis. \_\_\_\_\_ in. Thickness \_\_\_\_\_ in. Attachment: \_\_\_\_\_  
10. Tubes: Material SB-163 O.D. 7/8 in. Thickness .050 inches Number 3388 Type V  
(Kind & Spec. No.) (Straight or U)

Items 11 to 14 incl. to be completed for Primary Chamber

11. Shell: Material \_\_\_\_\_ T.S. \_\_\_\_\_ Nominal Thickness \_\_\_\_\_ in. Corrosion Allowance \_\_\_\_\_ in. Dis. \_\_\_\_\_ ft. \_\_\_\_\_ in. Length \_\_\_\_\_ ft. \_\_\_\_\_ in.  
(Kind & Spec. No.) (Min. of range specified)  
12. Seams: Long \_\_\_\_\_ H.T. \_\_\_\_\_ (Yes or No) R.T. \_\_\_\_\_ Efficiency \_\_\_\_\_ %  
Girth Weld-Dbl Butt H.T. Yes R.T. Complete No. of Courses 0  
13. Heads: (a) Material \_\_\_\_\_ T.S. \_\_\_\_\_ (b) Material GR WCC T.S. 70000 (c) Material \_\_\_\_\_ T.S. \_\_\_\_\_  
Location: Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Press. (Concave or Convex)  
(a) Top, bottom, ends \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ 62.81 \_\_\_\_\_ CONCAVE  
(b) Channel 5.09 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_  
(c) Flooring \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_  
If removable, bolts used: \_\_\_\_\_ (b) \_\_\_\_\_ (c) \_\_\_\_\_ Other fastening: \_\_\_\_\_ (Describe or attach sketch)  
Drop weight: \_\_\_\_\_ Pneumatic \_\_\_\_\_  
Charpy Impact: 20 ft-lb Hydrostatic or \_\_\_\_\_ Test Pressure: 3106 psi  
14. Design pressure: 2485 psi at 650 °F at temp. of 410 °F. Combination \_\_\_\_\_ Pressure: 870 °F min

<sup>1</sup> If Pressure Heat-Treated  
<sup>2</sup> List other internal or external pressures with coincident temperature when applicable

00028502013

FORM N-1 (back)

J282

Items below to be completed for all vessels where applicable.

15. Safety Valve Outlets: Number \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_
16. Nozzles:
- | Outlet Design | Number | Outlet Size      | Type   | Material | Thickness | Reinforcement | How Attached |
|---------------|--------|------------------|--------|----------|-----------|---------------|--------------|
| Prim. Inlet   | 1      | 31" I.D.         | (Weld) | (SA-216) | 1.5"      | (SA-216)      | (Integrally) |
| Prim. Outlet  | 1      | 31" I.D.         | (end)  | (GR WCC) | 1.5"      | (GR WCC)      | (Gast )      |
| Steam Outlet  | 1      | 29" I.D.         | (Weld) | (SA-508) | 1.5"      | Steel         | Welded       |
| Feedwater     | 1      | 14.31 I.D. (End) | (CL.2) |          | 0.843"    | Steel         | Welded       |
17. Inspection Manholes, No. 4 Size 16" Location (2) Chamber & (2) Upper Shell  
 Openings: Handholes, No. 2 Size 6" Location Stub Barrel Portion of Lower Shell  
 Threaded, No. \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_

18. Supports: Surr. No Legs \_\_\_\_\_ Legs \_\_\_\_\_ Other: X Attached See below  
 Four Main Supports are ~~not~~ integral with the chamber. (Where & How)
19. Remarks: This N-1 form is to be signed off by the authorized code inspector under certificate of shop inspection for everything listed except the hydrostatic test and subsequent inspection. Field inspector must sign off for the latter items on certificate of field assembly inspection below. All other Mfg. is specified on manufacture's partial data forms N-2 filed at Westinghouse.  
 (Brief description of service for which vessel was designed)

CERTIFICATION OF DESIGN  
 Design information on file at Westinghouse Electric Corporation, Tampa Division, Tampa, Fla.  
 Stress analysis report on file at Westinghouse Electric Corporation, Tampa Division, Tampa, Fla.  
 Design specifications certified by: (W) Atomic Power Division Prof. Eng. Sr. W. Seth Reg. No. 13331-E  
 Stress analysis report certified by: (W) Atomic Power Division Prof. Eng. Sr. A. Lohmeyer No. 13436

We certify that the statements made in this report are correct and that this nuclear vessel conforms to the rules of construction of the ASME Code, Section III.  
 Date Feb 16 1973 Signed Westinghouse Electric, RP Wadler 2/16/73  
 (Manufacturer) Corp.  
 Certificate of authorization Expires May 3, 1975 Certificate of Authorization No. N-438

CERTIFICATE OF SHOP INSPECTION  
 VESSEL MADE BY Westinghouse Electric Corporation at Tampa, Florida  
 I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or State or Province of \_\_\_\_\_ and employed by Lumbermen Mutual Co. of Chicago, Ill  
 have inspected the pressure vessel described in this Manufacturer's Data Report on February 20 1973 and state that to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with the ASME Code, Section III.  
 By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  
 Date February 20 1973  
Leonard J. Wilkey Inspector's Signature  
 Commission National Board 2653  
 National Board, State, Province and No.

CERTIFICATE OF FIELD ASSEMBLY INSPECTION  
 I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or State or Province of \_\_\_\_\_ and employed by LIABERATIONS MUTUAL at LONG GROVE ILL.  
 have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as date items 19 \_\_\_\_\_, not included in the certificate of shop inspection, have been inspected by me and that to the best of my knowledge and belief the manufacturer has constructed and assembled this pressure vessel in accordance with the ASME Code, Section III. The described vessel was inspected and subjected to a hydrostatic test and/or Pneumatic Test of 302 psig Primary Side & 1376 psig Secondary Side.  
 By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  
 Date 9-20 1971  
RP Wadler Inspector's Signature  
 Commission NB 2831  
 National Board, State, Province and No.

00028502014

**FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT**  
As Required by the Provisions of ASME Code Section XI

1. Owner VIRGINIA ELECTRIC & POWER COMPANY Date 10-9-87  
P.O. BOX 26666, RICHMOND, VIRGINIA 23261 Sheet 1 of 1
2. Plant NORTH ANNA POWER STATION Unit NORTH ANNA UNIT # 2  
P.O. BOX 403, MIDDLETOWN, VIRGINIA 23117 ASME REPAIR PROGRAM # 87-076
3. Work Performed by WESTINGHOUSE ELECTRIC CORP WORK ORDER # 5900065931  
P.O. BOX 355, PITTSBURGH, PA 15230 Repair Organization P.O. No., Job No., etc.
4. Identification of System FEEDWATER
5. (a) Applicable Construction Code ASME III, 19 68 Edition, 1968 Addenda, Code Cases NONE  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 19 80, W81 Addenda, Code Cases WAC
6. Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfrs. Ser. No.	Nat'l. Bd. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STEAM GENERATOR	WESTINGHOUSE	1283	6897	-	2RL-E-1C	1973	REPAIRED	YES

7. Description of Work REPAIRED ARC STRIKES ON INTERIOR OF SHELL
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  Other   
Pressure \_\_\_\_\_ psi Test Temp. \_\_\_\_\_ °F
9. Remarks ASME CLASS 2  
(Applicable Manufacturer's Data Reports to be attached)

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in this report are correct and this REPAIR conforms to Section XI of the ASME Code.  
(repair or replacement)

Signed Stephen R. Anderson SENIOR ENGINEER OCTOBER 9, 19 87  
(Owner or Owner's Designer) Title Date

**CERTIFICATE OF INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of VIRGINIA, employed by HARTCO STEAM BOILER INSPECTION CO. of HARTFORD CT have inspected the Repair described in this Report on 13 OCT, 19 87  
(Repairs or Replacements)

and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 13 OCT 1987 William E. Chuter Commissions VA 55B  
(Inspector) (State or Province, National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 in. X 11 in., (2) information in items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

FORM N-1 MANUFACTURERS DATA REPORT FOR NUCLEAR VESSELS  
As required by the Provisions of the ASME Code

*Back of paper*

1. Manufactured by Westinghouse Electric Corporation, Tampa Division, Tampa, Florida  
(Name and address of manufacturer)  
2. Manufactured for Virginia Electric Power - North Anna No. 2  
(Name and address of purchaser)  
3. Type Vertical Kind Steam Gen. Vessel No. 1283 (Name, Jacketed, Heat Ex.) (Serial No.) (Heat & Steam No.)  
Nominal Thickness \* in. Corrosion Allowance 06 in. Dia. \* ft. in. Length \* ft. in. 1973  
4. Applicable ASME Code: Section III, Edition 1968, Addenda date W-68, Case No.       
Class A

Items 4-8 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers.

4. Shell: Material SA-533 Nominal Thickness \* in. 80000 Corrosion Allowance 06 in. Dia. \* ft. in. Length \* ft. in.       
(Kind & Spec. No.) (Min. of range specified)

5. Seams: Long Weld-Dbl Butt R.T. Yes      R.T. Complete Efficiency       
Girth Weld-Dbl Butt R.T. Yes      R.T. Complete No. of Courses     

6. Heads: (a) Material SA-533 T.S. 80000 (b) Material      T.S.       
Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Press. (Concave or Convex)  
(a) Top 3.62      2:1                               CONCAVE  
(b)                                                  

If removable, bolts used      (Material, Spec. No., T.S., Size, Number) Other fastening      (Describe or attach sketch)

7. ASME Closure \*Girth Weld-Dbl. Butt: R.T.: X.R. Complete  
Girth Weld      (Describe as open & weld, etc. If not give dimensions, describe or sketch)  
Drop Weight      Pneumatic     

8. Design Pressure 1085 psi at 600 °F at temp. of +10 °F. Combination      Test Pressure 1356 psi @ 70 °F min

Items 9 and 10 to be completed for tube sections.

9. Tube Sheets: Stationary. Material SA-508 CL2 Dia. 125.75 in. Thickness 21.03 in. Attachment See Item 12  
(Kind & Spec. No.) (Subject to press.) (Welded, Bolted)

Floating. Material      Dia.      in. Thickness      in. Attachment       
(Kind & Spec. No.)

10. Tubew Material SA-163 O.D. 7/8 in. Thickness .050 inches Number 3388 Type U  
(Kind & Spec. No.) (Straight or U)

Items 11 to 14 incl. to be completed for Primary Chamber

11. Shell: Material T.S. Nominal Thickness \* in.      Corrosion Allowance      in. Dia.      ft. in. Length      ft. in.       
(Kind & Spec. No.) (Min. of range specified)

12. Seams: Long      R.T.      R.T.      Efficiency       
(Welded, etc., Single) (Yes or No)

Girth Weld-Dbl Butt R.T. Yes      R.T. Complete No. of Courses     

13. Heads: (a) Material      T.S.      (b) Material SA-216 T.S. 70000 (c) Material      T.S.     

Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Press. (Concave or Convex)  
(a) Top, bottom, ends                                                   CONCAVE  
(b) Channeled 5.09                                                    
(c) Floating                                                       

If removable, bolts used (a)      (b)      (c)      Other fastening       
(Material, Spec. No., T.S., Size, Number) (Describe or attach sketch)

14. Design pressure 2485 psi at 650 °F at temp. of +10 °F. Combination      Test Pressure 2706 psi @ 70 °F min

\* If Furnace Heat-Treated  
List other method of external pressure with construction temperature when applicable

000285J2736

WESTINGHOUSE FORM N-1 (Rev. 11-1966) 1283

Items below to be completed for all vessels where applicable.

15. Safety Valve Outlets: Number \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_

16. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Size	Type	Material	Thickness	Attachment	How Attached
Prim. Inlet	1	31" I.D.	(Weld)	(SA-216)	1.5"	(SA-216)	(Integrally)
Prim. Outlet	1	31" I.D.	(End)	(GR WCC)	1.5"	(GR WCC)	(Cast)
Steam Outlet	1	29" I.D.	(Weld)	(SA-508)	1.5"	Steel	Weld
Feedwater	1	14.31 I.D.	(End)	(CL.2)	0.843"	Steel	Welded

17. Inspection Manholes: No. 4 Size 16" Location (2) Chamber & (2) Upper Shell  
 Opening: Handholes: No. 2 Size 6" Location -Sub Barrel Portion of Lower Shell  
 Threaded: No. \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_

18. Supports: Skin  No Legs  Legs  Other  Attached See Below  
 (Where & How)

19. Remarks: Four Main Supports are cast integral with the chamber. This N-1 form is to be signed off by the authorized code inspector under certificate of shop inspection for everything listed except the hydrostatic test and subsequent inspection. Field inspector must sign off for the latter items on certificate of field assembly inspection below. All other Mfg. is specified on manufacture's partial data forms N-2 filed at Westinghouse.  
 (Brief description of service for which vessel was designed)

CERTIFICATION OF DESIGN  
 Design information on file at: Westinghouse Electric Corporation, Tampa Division, Tampa, Fla.  
 Stress analysis report on file at: Westinghouse Electric Corporation, Tampa Division, Tampa, Fla.  
 Design specifications certified by: (W) Atomic Power Division Prof. Eng. Staff W. Seth Reg. No. 13331-E  
 Stress analysis report certified by: (W) Atomic Power Division Prof. Eng. Staff A. Lohmeyer No. 13436

We certify that the statements made in this report are correct and that this nuclear vessel conforms to the rules of construction of the ASME Code, Section III.  
 Date Feb 16 1973 Signed Westinghouse Elec. Co. S. P. Wadler 2/16/73  
 (Manufacturer) Corp.  
 Certificate of authorization Expires May 3, 1975 Certificate of Authorization No. N-438

CERTIFICATE OF SHOP INSPECTION  
 VESSEL MADE BY: Westinghouse Electric Corporation Tampa, Fla.  
 I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of \_\_\_\_\_ and employed by Lumbermens Mutual Co. Chicago, Illinois  
 have inspected the pressure vessel described in this Manufacturer's Data Report on February 24, 1973, and state that to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with the ASME Code, Section III.  
 By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  
 Date February 28 1973  
 Leonard T. Willey Inspector's Signature  
 Commission National Board 2653  
 National Board, State, Province and No.

CERTIFICATE OF FIELD ASSEMBLY INSPECTION  
 I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of \_\_\_\_\_ and employed by LUMBERMENS MUTUAL of LONG BEACH, CA.  
 have inspected the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items 19, but included in the certificate of shop inspection have been inspected by me and that to the best of my knowledge and belief the manufacturer has constructed and assembled this pressure vessel in accordance with the ASME Code, Section III. The described vessel was inspected and subjected to a hydrostatic test and/or Pressure Test of 3102 psig Primary Side & 1356 psig Secondary Side.  
 By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  
 Date 9-20 1973  
 R. V. Wadler Inspector's Signature  
 Commission NB 2831  
 National Board, State, Province and No.

00028532037

**FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT**  
As Required by the Provisions of ASME Code Section XI

1. Owner Virginia Electric & Power Date 19 October 1987  
P.O. Box 26666 Richmond, Virginia 23261 Sheet 1 of 1
2. Plant North Anna Power Station Unit 2  
P.O. Box 402 Mineral, Virginia 23117
3. Work Performed by Wyle Laboratories R/R 87-081  
P.O. Box 1008 Huntsville, Al. 35807 Repair Organization P.O. No., Job No., etc.
4. Identification of System Main Steam
5. (a) Applicable Construction Code ASME III 19 68 Edition W-1970 Addenda, Code Cases N/A  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 19 80, W-81 Addenda, Code Cases N/A
6. Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfr. Ser. No.	Nat'l. Bd. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Safety Vlv.	Crosby	N55044-00-0029	N/A	N/A	02-MS-SV-205B	1972	Replaced	Yes
Safety Vlv. Body	Crosby	N88471-33-0037	N/A	N/A	02-MS-SV-205B	1985	Replacement	No
Vlv. Nozzle	Crosby	N88482-33-0035	N/A	N/A	02-MS-SV-205B	1985	Replacement	No

7. Description of Work Replaced body and nozzle
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  Other   
 Pressure 1725 psi Test Temp. 70 °F Nozzle, Body Test-450 psig @ 70 deg f
9. Remarks ASME Class 2  
 (Applicable Manufacturer's Data Reports to be attached)  
Crosby NPV-1 Form (Attached)

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in this report are correct and this REPLACEMENT conforms to Section XI of the ASME Code.  
 Signed Stephen R. Anderson Senior Engineer October 20, 1987  
 (Owner or Owner's Designee) Title Date

**CERTIFICATE OF INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Virginia, employed by HARTFORD STEAM BOILER INSPECTION & TEST CO of HARTFORD CT have inspected the Replacement described in this Report on 20 october, 1987 and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 20 OCT 1987 William E. Hester Commissions 22558  
 Inspector (State or Province, National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 in. X 11 in., (2) information in items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

**FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT**  
As Required by the Provisions of ASME Code Section XI

- Owner Virginia Electric & Power Company Date 8-5-87  
P.O. Box 26666, Richmond, Virginia 23261 Sheet 1 of 1
- Plant North Anna Power Station Unit North Anna Unit # 2  
P.O. Box 402 Mineral, Virginia 23117
- Work Performed by Virginia Electric & Power Co. ADM 9.9 BOLTING PROGRAM # 87-8025  
P.O. Box 402 Mineral, Va. 23117 Repair Organization P.O. No., Job No., etc.
- Identification of System REACTOR COOLANT
- (a) Applicable Construction Code USAS B31.7-1969 Edition W70 Addenda, Code Cases 78, 83(R), J15  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 19 80, U81 Addenda, Code Cases -----
- Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfrs. Ser. No.	Nat'l. Bd. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
2" FLOW ELEMENT	VIKERY-SIMMS	---	---	---	2-RC-FE-2481	---	REPLACED FLANGE STUDS & NUTS	NO

- Description of Work REPLACED FLANGE STUDS AND NUTS
- Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  Other  PRESERVE NDE  
Pressure \_\_\_\_\_ psi Test Temp. \_\_\_\_\_ °F
- Remarks 4-7/8" - 9 x 7" STUDS, 8-7/8" - 9 NUTS, ASME CLASS 1  
(Applicable Manufacturer's Data Reports to be attached)

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in this report are correct and this REPLACEMENT conforms to Section XI of the ASME Code.  
Signed Stephen R. Anderson (Owner or Owner's Designer) August 5 19 87 (Date)

**CERTIFICATE OF INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of VIRGINIA, employed by UNITED STEAM BOILER INSPECTION CO of Manassas VA have inspected the REPLACEMENT described in this Report on 10 AUGUST, 1987 and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  
Date 10 AUGUST 1987 William E. Hill (Inspector) Commission VA 558 (State or Province, National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 in. X 11 in., (2) information in items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.



**FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT**  
As Required by the Provisions of ASME Code Section XI

1. Owner Virginia Electric & Power Company Date 8-5-87  
P.O. Box 26666, Richmond, Virginia 23261 Sheet 1 of 1
2. Plant North Anna Power Station Unit North Anna Unit # 2  
P.O. Box 402 Mineral, Virginia 23117
3. Work Performed by Virginia Electric & Power Co. ADM 99 BOLTING PROGRAM # 87-B026  
P.O. Box 402 Mineral, Va. 23117 Repair Organization P.O. No., Job No., etc.
4. Identification of System REACTOR COOLANT
5. (a) Applicable Construction Code USAS B31.7-69 Edition W70 Addenda, Code Cases 78, 83(R), 115  
 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 80 W81 Addenda, Code Cases -----
6. Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfrs. Ser. No.	Nat'l. Bd. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
<u>3" FLOW ELEMENT</u>	<u>VICKERY-SIMMS</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>2-RC-FE 2991</u>	<u>---</u>	<u>REPAIRED FLANGE STUDS + NUTS</u>	<u>NO</u>

7. Description of Work REPLACED FLANGE STUDS + NUTS
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  Other  PRE-SERVICE NDE  
 Pressure \_\_\_\_\_ psi Test Temp. \_\_\_\_\_ °F
9. Remarks 8-1/8" - 3 x 8" STUDS 16-1/8" - 8 NUTS, ASME CLASS 1  
(Applicable Manufacturer's Data Reports to be attached)

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in this report are correct and this REPLACEMENT conforms to Section XI of the ASME Code.  
 Signed Stephen R. Anderson owner August 5, 1987  
(Owner or Owner's Designer) Title Date

**CERTIFICATE OF INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Virginia, employed by Westford Steam Boiler Tenders & Ins. Co. of Westford, VT have inspected the Replacements described in this Report on 10 August, 1987 and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 10 August 1987 William E. Rubin Commission 12558  
(Inspector) (State or Province, National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2 in. X 11 in., (2) information in items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

**FORM NIS-2 OWNER'S REPORT OF REPAIR OR REPLACEMENT**  
As Required by the Provisions of ASME Code Section XI

1. Owner Virginia Electric & Power Company Date 8-5-87  
P.O. Box 26666, Richmond, Virginia 23261 Sheet 1 of 1
2. Plant North Anna Power Station Unit North Anna Unit # 2  
P.O. Box 402 Mineral, Virginia 23117
3. Work Performed by Virginia Electric & Power Co. ADM 9.9 BOLTING PROGRAM # 87-8027  
P.O. Box 402 Mineral, Va. 23117 Repair Organization P.O. No., Job No., etc.
4. Identification of System REACTOR COOLANT
5. (a) Applicable Construction Code USAS B31.7.19 69 Edition W70 Addenda, Code Cases 78,83(R), J, 5  
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements - 19 80 W81 Addenda, Code Cases -----
6. Identification of Components Repaired or Replaced, and Replacement Components

Name of Component	Name of Mfr.	Mfrs. Ser. No.	Natl. Id. No.	CRN No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
<u>2" FLOW ELEMENT</u>	<u>VICKERY-</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>2-RC-FE-2430</u>	<u>---</u>	<u>REPLACED FLANGE STUDS + NUTS</u>	<u>NO</u>
	<u>SIMMS</u>							

7. Description of Work REPLACED FLANGE STUDS + NUTS
8. Tests Conducted: Hydrostatic  Pneumatic  Nominal Operating Pressure  Other  PRESERVICE NDE  
Pressure \_\_\_\_\_ psi Test Temp. \_\_\_\_\_ °F
9. Remarks 8-7/8" - 9 x 7" STUDS, 1/2" - 7/8" - 9 NUTS, ASME CLASS 1  
(Applicable Manufacturer's Data Reports to be attached)

**CERTIFICATE OF COMPLIANCE**

We certify that the statements made in this report are correct and this REPLACEMENT conforms to Section XI of the ASME Code.  
Signed Stephen R. Anderson (Owner or Owner's Designer) Date August 5, 1987

**CERTIFICATE OF INSPECTION**

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Vermont, employed by United Team Boiler Inspection & Inc CO of WATERBURY CT have inspected the Replacement described in this Report on 10 August, 1987 and state that to the best of my knowledge and belief, this repair or replacement has been constructed in accordance with Section XI of the ASME Code. By signing this certificate, neither the inspector nor his employer makes any warranty, expressed or implied, concerning the repair or replacement described in this Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  
Date 10 August 1987 10/11/87 (Inspector) Commission UP 553 (State or Province, National Board)

Note: Supplemental sheets in form of lists, sketches, or drawings may be used provided (1) size is 8 1/2" X 11 in., (2) information in items 1 through 4 on this data report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.