TENNESSEE VALLEY AUTHORITY'S WATTS BAR NUCLEAR PLANT UNIT 1

ASME SECTION XI

INSERVICE INSPECTION

SUMMARY REPORT

SECOND REFUELING CYCLE

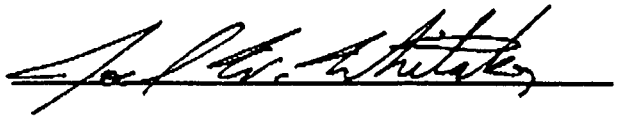
Owner:	TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant:	WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1		Certificate of Authorization:	N/A
Commercial Service Date: May 27, 1996		National Board Number for Unit:	N/A

CONCURRENCE AND APPROVAL SHEET

Name	Title	Signature	Date
Prepared by:			
K. E. Casey	ISI Program Engineer	K E Casey	6/7/99
Concurred by:			
T. L. Hale	ISO ISI/NDE Coordinator	Tommy L Hale	6/7/99
J. W. Whitaker	ISO NDE Level III	SEE ATTACHED	
G. L. Johnson	System Pressure Test Engineer	Gary L Johnson	6/8/99
E. D. Camp	Steam Generator Specialist	Emmett Camp	7 Jun 99
R. M. Emrath	Corporate Codes & ISI Manager	SEE ATTACHED	
L. L. McCormick	Component Engineering Manager	FOR LLM	6/15/99
Approved by:			
D. F. Helms	System Engineering Manager	D F Helms	6/15/99

Owner:	TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant:	WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1		Certificate of Authorization:	N/A
Commercial Service Date: May 27, 1996		National Board Number for Unit:	N/A

CONCURRENCE AND APPROVAL SHEET

Name	Title	Signature	Date
Prepared by:			
K. E. Casey	ISI Program Engineer		
Concurred by:			
T. L. Hale	ISO ISI/NDE Coordinator		
J. W. Whitaker	ISO NDE Level III		
G. L. Johnson	System Pressure Test Engineer		
E. D. Camp	Steam Generator Specialist		
R. M. Emrath	Corporate Codes & ISI Manager		
L. L. McCormick	Component Engineering Manager		
Approved by:			
D. F. Helms	System Engineering Manager		

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

CONCURRENCE AND APPROVAL SHEET

Name	Title	Signature	Date
Prepared by:			
K. E. Casey	ISI Program Engineer		
Concurred by:			
T. L. Hale	ISO ISI/NDE Coordinator		
J. W. Whitaker	ISO NDE Level III		
G. L. Johnson	System Pressure Test Engineer		
E. D. Camp	Steam Generator Specialist		
R. M. Emrath	Corporate Codes & ISI Manager	Richard M Emrath	6/15/99
L. L. McCormick	Component Engineering Manager		
Approved by:			
D. F. Helms	System Engineering Manager		

Owner:	TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant:	WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1		Certificate of Authorization:	N/A
Commercial Service Date: May 27, 1996		National Board Number for Unit:	N/A

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Owner:	TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant:	WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1		Certificate of Authorization:	N/A
Commercial Service Date: May 27, 1996		National Board Number for Unit:	N/A

Cover Sheet

Owner:	Tennessee Valley Authority
Address of Corporate Office:	Chattanooga Office Complex 1101 Market Street Chattanooga, Tennessee 37402-2801
Name and Address of Nuclear Power Plant:	Watts Bar Nuclear Plant P.O. Box 2000 Spring City, Tennessee 37381-2000
Applicable Nuclear Power Units:	Watts Bar Nuclear Plant, Unit 1
Commercial Operation Date:	May 27, 1996
Document Completion Date:	June 7, 1999

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

FORM NIS-1 OWNERS' REPORT FOR INSERVICE INSPECTIONS

As required by the Provisions of the ASME Code Rules

1. Owner Tennessee Valley Authority, 1101 Market St. Chattanooga, TN 37401-2801
(Name and Address of Owner)

2. Plant Watts Bar Nuclear Plant, P.O. Box 2000, Spring City, TN 37381-2000
(Name and Address of Plant)

3. Plant Unit One (1) 4. Owner Certificate of Authorization (if required) Not Required

5. Commercial Service Date May 27, 1996 6. National Board Number for Unit None Assigned

7. Components Inspected

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
See Appendix I, Examination Plan, for List of Components	Tennessee Valley Authority	N/A	N/A	N/A

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 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.

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

FORM NIS-1 (Back)

8. Examination Dates: October 1, 1997 to April 16, 1999

9. Inspection Period Identification: First

10. Inspection Interval Identification: First

11. Applicable Edition of Section XI: 1989 Addenda N/A

12. Date/Revision of Inspection Plan: November 17, 1998/1-TRI-0-10, Revision 3

13. Abstract of Examinations and Tests. Include a list of examinations and tests and a statement concerning status of work required for the Inspection Plan. See Appendix I

14. Abstract of Results of Examinations and Tests. See Appendix I

15. Abstract of Corrective Measures. See Summary of Notification of Indications (NOIs)

We certify that a) the statements made in this report are correct, b) the examinations and tests meet the Inspection Plan as required by the ASME Code, Section XI, and c) 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 6/7 19 99 Signed Tennessee Valley Authority 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 Tennessee and employed by HSB I&I Co. of Hartford CT. have inspected the components described in this Owners' Data Report during the period 2/27/99 to ~~4/26/99~~ 6/15/99, and state that to the best of my knowledge and belief, the Owner has performed examinations and tests and taken corrective measures described in this Owner's Report in accordance with the Inspection Plan and as required by 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 tests, 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.

Bruce M. Eamigh Commissions NB 8333 TN 2534 "I" "N" "A"
Inspector's Signature National Board, State, Province and Endorsements

Date 6/15/ 19 99

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

NIS-1 FOR STEAM GENERATOR TUBE EDDY CURRENT EXAMINATIONS

FORM NIS-1 OWNERS' REPORT FOR INSERVICE INSPECTIONS

As required by the Provisions of the ASME Code Rules

1. Owner Tennessee Valley Authority, 1101 Market St. Chattanooga, TN 37401-2801
(Name and Address of Owner)

2. Plant Watts Bar Nuclear Plant, P.O. Box 2000, Spring City, TN 37381-2000
(Name and Address of Plant)

3. Plant Unit One (1) 4. Owner Certificate of Authorization (if required) Not Required

5. Commercial Service Date May 27, 1996 6. National Board Number for Unit None Assigned

7. Components Inspected

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
See Appendix II, Steam Generator Tube Examination Summary	Tennessee Valley Authority	N/A	N/A	N/A
1-SGEN-068-SG1	Westinghouse Electric Corp	1591	N/A	W10286
1-SGEN-068-SG2	Westinghouse Electric Corp	1592	N/A	W10287
1-SGEN-068-SG3	Westinghouse Electric Corp	1593	N/A	W10288
1-SGEN-068-SG4	Westinghouse Electric Corp	1594	N/A	W10289

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 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.

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

FORM NIS-1 (Back)

8. Examination Dates: March 10, 1999 to March 29, 1999

9. Inspection Period Identification: First

10. Inspection Interval Identification: First

11. Applicable Edition of Section XI: 1989 Addenda N/A

12. Date/Revision of Inspection Plan: March 8, 1999/1-SI-68-907, Revision 4

13. Abstract of Examinations and Tests. Include a list of examinations and tests and a statement concerning status of work required for the Inspection Plan. See Appendix II

14. Abstract of Results of Examinations and Tests. See Appendix II

15. Abstract of Corrective Measures. See Appendix II

We certify that a) the statements made in this report are correct, b) the examinations and tests meet the Inspection Plan as required by the ASME Code, Section XI, and c) 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 June 7, 19 99 Signed Tennessee Valley Authority By Emmett Camp
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 Tennessee and employed by HSB I & I Co. of Hartford CT. have inspected the components described in this Owners' Data Report during the period 2/27/99 to 6/15/99, and state that to the best of my knowledge and belief, the Owner has performed examinations and tests and taken corrective measures described in this Owner's Report in accordance with the Inspection Plan and as required by 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 tests, 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.

Bruce M. Eanigh Commissions NB 8333 TN 2534 "I" "N" "A"
Inspector's Signature National Board, State, Province and Endorsements

Date 6/15 19 99

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

NIS-1 FOR PRESSURE TESTS

FORM NIS-1 OWNERS' REPORT FOR INSERVICE INSPECTIONS

As required by the Provisions of the ASME Code Rules

1. Owner Tennessee Valley Authority, 1101 Market St. Chattanooga, TN 37401-2801
(Name and Address of Owner)

2. Plant Watts Bar Nuclear Plant, P.O. Box 2000, Spring City, TN 37381-2000
(Name and Address of Plant)

3. Plant Unit One (1) 4. Owner Certificate of Authorization (if required) Not Required

5. Commercial Service Date May 27, 1996 6. National Board Number for Unit None Assigned

7. Components Inspected

Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
See Appendix III, Pressure Test Summary	Tennessee Valley Authority	N/A	N/A	N/A

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 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.

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

FORM NIS-1 (Back)

8. Examination Dates: October 21, 1997 to April 16, 1999

9. Inspection Period Identification: First

10. Inspection Interval Identification: First

11. Applicable Edition of Section XI: 1989 Addenda N/A

12. Date/Revision of Inspection Plan: September 29, 1997/TI-100.009, Revision 0

13. Abstract of Examinations and Tests. Include a list of examinations and tests and a statement concerning status of work required for the Inspection Plan. See Appendix III

14. Abstract of Results of Examinations and Tests. See Appendix III

15. Abstract of Corrective Measures. See Appendix III

We certify that a) the statements made in this report are correct, b) the examinations and tests meet the Inspection Plan as required by the ASME Code, Section XI, and c) 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 June 8 19 99 Signed Tennessee Valley Authority By
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 Tennessee and employed by HSB IEI Co. of Hartford CT. have inspected the components described in this Owners' Data Report during the period 2/27/99 to 6/15/99, and state that to the best of my knowledge and belief, the Owner has performed examinations and tests and taken corrective measures described in this Owner's Report in accordance with the Inspection Plan and as required by 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 tests, 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.

Bruce M. Eamigh Commissions NB 8333 TN 2534 "I" "N" "A"
Inspector's Signature National Board, State, Province and Endorsements

Date 6/15 19 99

Owner:	TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant:	WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1		Certificate of Authorization:	N/A
Commercial Service Date: May 27, 1996		National Board Number for Unit:	N/A

INTRODUCTION AND SUMMARY

Introduction

As required by ASME Section XI, IWA-6200, this summary report documents the results of the ASME Section XI examinations, tests, repairs and replacements performed during the second cycle of operation of TVA's Watts Bar Nuclear Plant's Unit 1. The cycle 2 refueling outage is the second of two outages in the First Period of the First Inspection Interval. The First Period ended May 26, 1999. Examinations performed this cycle completes the ISI examinations required for the First Period. System pressure tests required for the First Period that will be completed after the cycle 2 refueling outage will be reported in the cycle 3 summary report.

Included in this cycle 2 Summary Report is: the summary of ISI examinations and results; summary of steam generator tube eddy current examinations and results; summary of pressure tests and results; and, summary of repairs and replacements as documented on ASME Form NIS-2s.

Summary

ISI examinations were performed in accordance with Technical Requirement Instruction 1-TRI-0-10, "ASME Section XI ISI/NDE Program." Table 1 provides an overview of the ISI examinations that were performed during cycle 2. The results of all the examinations met the applicable acceptance standards. Examination of 4 steam generator nozzle-to-safe end butt welds and the reactor vessel head-to-flange weld require that requests for relief be prepared as the required code coverage could not be obtained. The examination results for the ISI components are summarized in Appendix I.

As noted, these examinations complete the required examinations for the first period as documented in the ASME Section XI ISI/NDE Program, 1-TRI-0-10, Revision 3. ISI credit for two components reported in the Cycle 1 Summary Report has been revised and are not included in the first period. The examinations performed on the Containment Spray Heat Exchanger Nozzle Welds and the Centrifugal Charging Pump Integrally Welded Attachments will not be used for first period ISI credit. This includes the following ISI identifiers: CSHX-NZ-IN-1A, CSHX-NZ-OUT-1A, and CCPH-1B-B-IA.

Eddy current testing of the steam generator tubes was performed in accordance with Surveillance Instruction 1-SI-68-907, "Steam Generator Tubing Inservice Inspection and Augmented Inspection." Twenty-one tubes were plugged as a result of this inspection. The results are summarized in Appendix II.

Appendix III provides a summary of the system pressure tests performed for code credit during cycle 2. System pressure tests are implemented as defined in Technical Instruction 100.009, "ASME Section XI System Pressure Testing Program Basis Document." Individual system pressure test procedures are listed in the summary.

Appendix IV provides a summary of the repairs and replacements performed during the second cycle. Included are the ASME Form NIS-2s, "Owners Report for Repair and Replacements." Repairs and replacements are documented in accordance with Standard Programs and Processes (SPP) 9.1, Part D, "Repair/Replacement of ASME Section XI Components."

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

TABLE 1
SUMMARY OF CYCLE 2 ISI EXAMINATIONS

Examination Category	Item Number	Component Description	Number Examined
B-A	B1.40	Reactor Vessel Head-to-Flange Weld	1
B-B	B2.40	Steam Generator Tubesheet-to-Head Weld	2
B-D	B3.90	Reactor Vessel Nozzle-to-Vessel Weld	4
	B3.100	Reactor Vessel Nozzle Inside Radius Section	4
	B3.140	Steam Generator Primary Nozzle Inside Radius Section	4
B-F	B5.10	Reactor Vessel Nozzle-to-Safe End Dissimilar Metal Butt Weld NPS 4 or Larger	4
	B5.70	Steam Generator Nozzle-to-Safe End Dissimilar Metal Butt Weld NPS 4 or Larger	4
B-G-1	B6.10	Reactor Vessel Closure Head Nuts	18
	B6.30	Reactor Vessel Closure Studs, when removed	18
	B6.40	Reactor Vessel Threads in Flange	18
	B6.50	Reactor Vessel Closure Washers	18
B-G-2	B7.50	Pipe Pressure Retaining Bolting, 2" and less is diameter	2
	B7.70	Valve Bolts, Studs, and Nuts less than equal 2" diameter	1
		Pressure Retaining Welds in Piping	
B-J	B9.11	Circumferential Welds NPS 4 or Larger	24
	B9.21	Circumferential Welds Less than NPS 4	13
	B9.31	Branch Pipe Connection Welds NPS 4 or Larger	1
	B9.32	Branch Pipe Connection Welds Less than NPS 4	3
B-M-2	B12.50	Valve Body	1
B-K of Code Case N-509	B10.20	Piping Integrally Welded Attachment	1
F-A		Supports	
of Code Case N-491	F1.10	Piping Supports	25
	F1.40	Valve Supports	3
C-B	C2.21	RHR Heat Exchanger Nozzles without Reinforcing Plate in Vessels greater than ½" thickness	2
C-B	C2.22	RHR Heat Exchanger Nozzle Inside Radius Section	2
C-G	C6.20	Valve Body Welds	1
F-A of Code Case N-491	F1.40	Steam Generator Secondary Side Support	1

Owner:	TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant:	WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996		Certificate of Authorization: National Board Number for Unit:	N/A N/A

SUMMARY OF
REQUESTS FOR RELIEF (RFRs)

Two RFRs are required to be written for ISI components examined during this inspection. The RFRs summarized below are required as the result of not obtaining code coverage due to limitations. The RFRs will be submitted under separate letter to the NRC.

Proposed RFR 1-ISI-05

ISI Component Number(s):	RCF-D2-2-SE, RCF-D4-2-SE, RCF-F2-1-SE, RCF-F3-1-SE
Component Description:	Steam Generator Nozzle-to-Safe End Butt Weld
Examination Category/Item No.:	B-F, B5.70
Report Numbers:	R0385, R0401, R0384, R0393
Summary:	Due to geometric configuration of the steam generator nozzles, volumetric examination of four nozzle-to-safe end butt welds during the Unit 1 Cycle 2 refueling outage resulted in less than 100% of ASME code coverage being achieved. The geometric configuration of the nozzle prevents the performance of an ultrasonic scan from the generator side of the weld, thus preventing 100% examination of the required lower one-third volume. A surface examination was performed on each of the four welds and was found acceptable. Volumetric examination of this component is required in accordance with ASME Section XI Table IWB-2500-1, Examination Category B-F, Item Number B5.70. The lower one-third volume weld examination requirement is defined by Figure IWB-2500-8(c).

Proposed RFR 1-ISI-06

ISI Component Number(s):	W08-09-A
Component Description:	Reactor Vessel Head-to-Flange Weld
Examination Category/Item No.:	B-A, B1.40
Report Number:	R0512
Summary:	Due to geometric configuration of the reactor vessel head, volumetric examination of the head-to-flange weld during the Unit 1 Cycle 2 refueling outage resulted in less than 100% of ASME code coverage being achieved. The geometric configuration at the taper of the flange-to-head weld prevents the performance of an ultrasonic scan from the flange side of the weld, thus preventing 100% examination of the required full volume. The required surface examination was performed and was found acceptable. Volumetric examination of this component is required in accordance with Table IWB-2500-1, Examination Category B-A, Item Number B1.40. The full examination volume requirement is defined by Figure IWB-2500-5.

Owner:	TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant:	WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1		Certificate of Authorization:	N/A
Commercial Service Date: May 27, 1996		National Board Number for Unit:	N/A

APPENDIX I
CYCLE 2 ISI EXAMINATION PLAN

The following examination plan provides the list and results of examinations performed during the second cycle. This plan is sorted by examination category and item number and system. The headings are defined below:

System — System Title Abbreviation

AFWS	Auxiliary Feedwater System	RV	Reactor Vessel
CVCS	Chemical Volume and Control System	RHRS	Residual Heat Removal System
FWS	Feedwater System	RX	Main Loop Reactor Coolant System
MSS	Main Steam System	SG	Steam Generator
RCS	Reactor Coolant System	SIS	Safety Injection System

Component Number — ISI Component Identifier

ISO Drawing — ISI Drawing Number

Category — Code Examination Category

Item Number — Code Item Number

Exam Requirement — Examination Requirement

89E-01	Item examined per the requirements of the 1989 Edition of ASME Section XI for first interval code credit
P89001	Item examined per the requirements of the 1989 Edition of ASME Section XI for preservice credit (i.e. repaired/replaced item)
SR1-01	Supplemental examination

Exam Scheduled — Required Examination Method

NDE Procedure — TVA NDE Procedure Number

Calibration Standard — Calibration Standard Identifier

Component Diameter — Component Diameter

Nominal Thickness — Component Thickness

Exam Date — Date Examination Performed

Exam Report — Examination Report Number

Exam Results — Results of the Examination

- P = PASS, examination met the applicable acceptance standards
- F = FAIL, examination did not meet the applicable acceptance standards and was repaired or replaced
- E = EVALUATION, examination did not meet the applicable acceptance standards but was accepted by evaluation

Comments — Applicable Comments

Owner: TENNESSEE VALLEY AUTHORITY
Chattanooga Office Complex
1101 Market Street
Chattanooga, TN 37402

Plant: WATTS BAR NUCLEAR PLANT
P.O. Box 2000
Spring City, TN 37381-2000

Unit: 1
Commercial Service Date: May 27, 1996

Certificate of Authorization: N/A
National Board Number for Unit: N/A

System	Component Number	ISO Drawing	Category	Item Number	Exam Requirement	Exam Scheduled	NDE Procedure	Calibration Standard	Component Diameter	Nominal Thickness	Exam Date	Exam Report	Exam Results	Comments
RV	W08-09-A	CHM-2549-C 01	B-A	B1.40	89E-01	MT	N-MT-6			6.890	19990318	R0512	P	Limited Coverage/RFR 1-ISI-6
RV	W08-09-A	CHM-2549-C 01	B-A	B1.40	89E-01	UT	VENDOR	WB-51		6.890	19990318	R0512	P	Limited Coverage/RFR 1-ISI-6
SG	SG-1-2-2	CHM-2660-C 01	B-B	B2.40	89E-01	UT	N-UT-19	WB-57		5.000	19990303	R0435	P	
SG	SG-1-2-3	CHM-2660-C 01	B-B	B2.40	89E-01	UT	N-UT-19	WB-57		5.000	19990311	R0436	P	
RV	N15-IR	ISI-0427-C 01	B-D	B3.100	89E-01	UT	VENDOR	WB-49	28.94		19990316	R0512	P	SWRI REPORT 000600
RV	N16-IR	ISI-0427-C 01	B-D	B3.100	89E-01	UT	VENDOR	WB-49	28.94		19990316	R0512	P	SWRI REPORT 000700
RV	N17-IR	ISI-0427-C 01	B-D	B3.100	89E-01	UT	VENDOR	WB-49	28.94		19990316	R0512	P	SWRI REPORT 000800
RV	N18-IR	ISI-0427-C 01	B-D	B3.100	89E-01	UT	VENDOR	WB-49	28.94		19990316	R0512	P	SWRI REPORT 000900
SG	SG-2-C-IR	CHM-2660-C 01	B-D	B3.140	89E-01	UT	N-UT-55	SQ-59			19990306	R0389	P	
SG	SG-2-H-IR	CHM-2660-C 01	B-D	B3.140	89E-01	UT	N-UT-55	SQ-59			19990306	R0390	P	
SG	SG-3-C-IR	CHM-2660-C 01	B-D	B3.140	89E-01	UT	N-UT-55	SQ-59			19990306	R0387	P	
SG	SG-3-H-IR	CHM-2660-C 01	B-D	B3.140	89E-01	UT	N-UT-55	SQ-59			19990306	R0388	P	
RV	N15	ISI-0427-C 01	B-D	B3.90	89E-01	UT	VENDOR	SQ-53	28.94		19990316	R0512	P	SWRI REPORT 000200
RV	N16	ISI-0427-C 01	B-D	B3.90	89E-01	UT	VENDOR	SQ-53	28.94		19990316	R0512	P	SWRI REPORT 000300
RV	N17	ISI-0427-C 01	B-D	B3.90	89E-01	UT	VENDOR	SQ-53	28.94		19990316	R0512	P	SWRI REPORT 000400
RV	N18	ISI-0427-C 01	B-D	B3.90	89E-01	UT	VENDOR	SQ-53	28.94		19990316	R0512	P	SWRI REPORT 000500
RV	N15-SE	ISI-0427-C 06	B-F	B5.10	89E-01	PT	N-PT-9		29.00	2.450	19990317	R0494	P	
RV	N15-SE	ISI-0427-C 06	B-F	B5.10	89E-01	UT	VENDOR	WB-60	29.00	2.450	19990316	R0512	P	SWRI REPORT 001000
RV	N16-SE	ISI-0427-C 06	B-F	B5.10	89E-01	PT	N-PT-9		29.00	2.450	19990317	R0492	P	
RV	N16-SE	ISI-0427-C 06	B-F	B5.10	89E-01	UT	VENDOR	WB-60	29.00	2.450	19990316	R0512	P	SWRI REPORT 001100
RV	N17-SE	ISI-0427-C 06	B-F	B5.10	89E-01	PT	N-PT-9		29.00	2.450	19990317	R0499	P	
RV	N17-SE	ISI-0427-C 06	B-F	B5.10	89E-01	UT	VENDOR	WB-60	29.00	2.450	19990316	R0512	P	SWRI REPORT 001200
RV	N18-SE	ISI-0427-C 06	B-F	B5.10	89E-01	PT	N-PT-9		29.00	2.450	19990317	R0496	P	
RV	N18-SE	ISI-0427-C 06	B-F	B5.10	89E-01	UT	VENDOR	WB-60	29.00	2.450	19990316	R0512	P	SWRI REPORT 001300
SG	RCF-D2-2-SE	CHM-2547-C 01	B-F	B5.70	89E-01	PT	N-PT-9		31.00	2.600	19990303	R0381	P	
SG	RCF-D2-2-SE	CHM-2547-C 01	B-F	B5.70	89E-01	UT	N-UT-33	WB-60	31.00	2.600	19990304	R0385	P	LIMITED TO 65% COVERAGE / RFR 1-ISI-5
SG	RCF-D4-2-SE	CHM-2547-C 01	B-F	B5.70	89E-01	PT	N-PT-9		31.00	2.600	19990304	R0386	P	
SG	RCF-D4-2-SE	CHM-2547-C 01	B-F	B5.70	89E-01	UT	N-UT-33	WB-60	31.00	2.600	19990304	R0401	P	LIMITED TO 75% COVERAGE / RFR 1-ISI-5
SG	RCF-F2-1-SE	CHM-2547-C 01	B-F	B5.70	89E-01	PT	N-PT-9		31.00	2.600	19990303	R0377	P	
SG	RCF-F2-1-SE	CHM-2547-C 01	B-F	B5.70	89E-01	UT	N-UT-33	WB-60	31.00	2.600	19990304	R0384	P	LIMITED TO 75% COVERAGE / RFR 1-ISI-5
SG	RCF-F3-1-SE	CHM-2547-C 01	B-F	B5.70	89E-01	PT	N-PT-9		31.00	2.600	19990304	R0383	P	

Owner: TENNESSEE VALLEY AUTHORITY
Chattanooga Office Complex
1101 Market Street
Chattanooga, TN 37402

Unit: 1
Commercial Service Date: May 27, 1996

Plant: WATTS BAR NUCLEAR PLANT
P.O. Box 2000
Spring City, TN 37381-2000

Certificate of Authorization: N/A
National Board Number for Unit: N/A

System	Component Number	ISO Drawing	Category	Item Number	Exam Requirement	Exam Scheduled	NDE Procedure	Calibration Standard	Component Diameter	Nominal Thickness	Exam Date	Exam Report	Exam Results	Comments
SG	RCF-F3-1-SE	CHM-2547-C 01	B-F	B5.70	89E-01	UT	N-UT-33	WB-60	31.00	2.600	19990304	R0393	P	LIMITED TO 75% COVERAGE / RFR 1-ISI-5
RV	RVNUT-01	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-02	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-03	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-04	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-05	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-06	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-07	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-08	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-09	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-10	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-11	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-12	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-13	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-14	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-15	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-16	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-17	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVNUT-18	ISI-0427-C 03	B-G-1	B6.10	89E-01	MT	N-MT-6		07.00	07.09	19990319	R0512	P	SWRI REPORT MT002/MT004
RV	RVSTUD-01	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-01	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-02	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-02	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-03	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-03	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-04	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-04	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-05	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-05	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-06	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-06	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001

Owner: TENNESSEE VALLEY AUTHORITY
Chattanooga Office Complex
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Plant: WATTS BAR NUCLEAR PLANT
P.O. Box 2000
Spring City, TN 37381-2000

Certificate of Authorization: N/A
National Board Number for Unit: N/A

System	Component Number	ISO Drawing	Category	Item Number	Exam Requirement	Exam Scheduled	NDE Procedure	Calibration Standard	Component Diameter	Nominal Thickness	Exam Date	Exam Report	Exam Results	Comments
RV	RVSTUD-07	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-07	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-08	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-08	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-09	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-09	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-10	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-10	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-11	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-11	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-12	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-12	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-13	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-13	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-14	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-14	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-15	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-15	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-16	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-16	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-17	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-17	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVSTUD-18	ISI-0427-C 03	B-G-1	B6.30	89E-01	MT	N-MT-6		07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT MT001/MT003
RV	RVSTUD-18	ISI-0427-C 03	B-G-1	B6.30	89E-01	UT	N-UT-37	WB-76	07.00	64.57	19990319	R0512	P	SWRI EXAM REPORT UT0001
RV	RVLIG-01	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-02	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-03	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-04	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-05	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-06	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-07	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	

Owner: TENNE[redacted]E VALLEY AUTHORITY
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P.O. Box 2000
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Certificate of Authorization: N/A
National Board Number for Unit: N/A

System	Component Number	ISO Drawing	Category	Item Number	Exam Requirement	Exam Scheduled	NDE Procedure	Calibration Standard	Component Diameter	Nominal Thickness	Exam Date	Exam Report	Exam Results	Comments
RV	RVLIG-08	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-09	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-10	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-11	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-12	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-13	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-14	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-15	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-16	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-17	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVLIG-18	ISI-0427-C 03	B-G-1	B6.40	89E-01	UT	N-UT-37	WB-76	6.00		19990304	R0402	P	
RV	RVWASHER-01	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-02	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-03	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-04	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-05	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-06	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-07	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-08	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-09	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-10	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-11	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-12	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-13	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-14	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-15	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-16	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-17	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
RV	RVWASHER-18	ISI-0427-C 03	B-G-1	B6.50	89E-01	VT-1	VENDOR		07.00	01.48	19990319	R0512	P	SWRI EXAM REPORT 280001
CVCS	CVC-05-BC	ISI-0050-C 04	B-G-2	B7.50	89E-01	VT-1	N-VT-1		01.50	0.281	19990310	R0425	P	
RCS	RC-03-BC	ISI-0365-C 01	B-G-2	B7.50	P89000	VT-1	N-VT-1				19990309	R0466	P	

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P.O. Box 2000
Spring City, TN 37381-2000

Certificate of Authorization: N/A
National Board Number for Unit: N/A

System	Component Number	ISO Drawing	Category	Item Number	Exam Requirement	Exam Scheduled	NDE Procedure	Calibration Standard	Component Diameter	Nominal Thickness	Exam Date	Exam Report	Exam Results	Comments
RCS	RC-04-BC	ISI-0365-C 01	B-G-2	B7.50	P89000	VT-1	N-VT-1				19990309	R0468	P	
RCS	RC-05-BC	ISI-0365-C 01	B-G-2	B7.50	P89000	VT-1	N-VT-1				19990310	R0467	P	
SIS	SI-04-BC	CHM-2758-C 13	B-G-2	B7.50	89E-01	VT-1	N-VT-1				19990312	R0443	P	
RCS	68-563-BC	ISI-0365-C 01	B-G-2	B7.70	P89000	VT-1	N-VT-1				19990329	R0518	P	
RCS	68-564-BC	ISI-0365-C 01	B-G-2	B7.70	P89000	VT-1	N-VT-1				19990319	R0505	P	
RCS	68-565-BC	ISI-0365-C 01	B-G-2	B7.70	P89000	VT-1	N-VT-1				19990319	R0504	P	
RHRS	63-640-BC	CHM-2636-C 07	B-G-2	B7.70	89E-01	VT-1	N-VT-1		08.00		19990305	R0414	P	
RCS	RCF-D232-01	ISI-0365-C 01	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990313	R0470	P	
RCS	RCF-D232-01	ISI-0365-C 01	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990313	R0469	P	
RCS	RCF-D232-01B	ISI-0365-C 01	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990312	R0458	P	
RCS	RCF-D232-01B	ISI-0365-C 01	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990312	R0478	P	
RCS	RCF-D233-15	ISI-0365-C 02	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.719	19990312	R0456	P	
RCS	RCF-D233-15	ISI-0365-C 02	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.719	19990312	R0461	P	
RCS	RCS-022	ISI-0365-C 01	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990312	R0457	P	
RCS	RCS-022	ISI-0365-C 01	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990312	R0477	P	
RCS	RCS-036	ISI-0365-C 02	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990312	R0455	P	
RCS	RCS-036	ISI-0365-C 02	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990312	R0462	P	
RCS	RCS-047	ISI-0365-C 02	B-J	B9.11	89E-01	PT	N-PT-9		04.00	0.531	19990315	R0479	P	
RCS	RCS-047	ISI-0365-C 02	B-J	B9.11	89E-01	UT	N-UT-18	WB-40	04.00	0.531	19990315	R0485	P	
RHRS	RHRF-D055-13	CHM-2636-C 08	B-J	B9.11	89E-01	PT	N-PT-9		08.00	0.906	19990305	R0416	P	
RHRS	RHRF-D055-13	CHM-2636-C 08	B-J	B9.11	89E-01	UT	N-UT-18	WB-02	08.00	0.906	19990306	R0408	P	
RHRS	RHRF-D055-15	CHM-2636-C 08	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990305	R0417	P	
RHRS	RHRF-D055-15	CHM-2636-C 08	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990309	R0482	P	
RHRS	RHRS-152A	CHM-2636-C 08	B-J	B9.11	89E-01	PT	N-PT-9		08.00	0.906	19990305	R0415	P	
RHRS	RHRS-152A	CHM-2636-C 08	B-J	B9.11	89E-01	UT	N-UT-18	WB-02	08.00	0.906	19990306	R0407	P	
RHRS	RHRS-154	CHM-2636-C 08	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990305	R0419	P	
RHRS	RHRS-154	CHM-2636-C 08	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990309	R0405	P	
RHRS	RHRS-155	CHM-2636-C 08	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990305	R0418	P	
RHRS	RHRS-155	CHM-2636-C 08	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990306	R0406	P	
RX	RCF-D1-1	CHM-2547-C 01	B-J	B9.11	89E-01	PT	N-PT-9		29.00	2.450	19990317	R0493	P	
RX	RCF-D1-1	CHM-2547-C 01	B-J	B9.11	89E-01	UT	VENDOR	WB-60	29.00	2.450	19990316	R0512	P	SWRI EXAM REPORT EXAM 23 & EXAM 24
RX	RCF-D2-1	CHM-2547-C 01	B-J	B9.11	89E-01	PT	N-PT-9		29.00	2.450	19990317	R0498	P	
RX	RCF-D2-1	CHM-2547-C 01	B-J	B9.11	89E-01	UT	VENDOR	WB-60	29.00	2.450	19990316	R0512	P	SWRI EXAM REPORT EXAM 19 & EXAM 20

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Unit: 1
Commercial Service Date: May 27, 1996

Certificate of Authorization: N/A
National Board Number for Unit: N/A

System	Component Number	ISO Drawing	Category	Item Number	Exam Requirement	Exam Scheduled	NDE Procedure	Calibration Standard	Component Diameter	Nominal Thickness	Exam Date	Exam Report	Exam Results	Comments
RX	RCF-D4-1	CHM-2547-C 01	B-J	B9.11	89E-01	PT	N-PT-9		29.00	2.450	19990317	R0500	P	
RX	RCF-D4-1	CHM-2547-C 01	B-J	B9.11	89E-01	UT	VENDOR	WB-60	29.00	2.450	19990316	R0512	P	SWR EXAM REPORT EXAM 15 & EXAM 16
RX	RCF-D5-1	CHM-2547-C 01	B-J	B9.11	89E-01	PT	N-PT-9		29.00	2.450	19990317	R0495	P	
RX	RCF-D5-1	CHM-2547-C 01	B-J	B9.11	89E-01	UT	VENDOR	WB-60	29.00	2.450	19990316	R0512	P	SWRI EXAM REPORT EXAM 11 & EXAM 12
SIS	SIF-D089-11	CHM-2758-C 07	B-J	B9.11	89E-01	PT	N-PT-9		10.00	1.000	19990306	R0410	P	
SIS	SIF-D089-11	CHM-2758-C 07	B-J	B9.11	89E-01	UT	N-UT-18	WB-33	10.00	1.000	19990310	R0460	P	
SIS	SIF-D092-03	CHM-2758-C 10	B-J	B9.11	89E-01	PT	N-PT-9		10.00	1.000	19990318	R0488	P	
SIS	SIF-D092-03	CHM-2758-C 10	B-J	B9.11	89E-01	UT	N-UT-18	WB-33	10.00	1.000	19990319	R0503	P	
SIS	SIF-D092-07	CHM-2758-C 10	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990318	R0502	P	
SIS	SIF-D092-07	CHM-2758-C 10	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990318	R0486	P	
SIS	SIS-089	CHM-2758-C 07	B-J	B9.11	89E-01	PT	N-PT-9		10.00	1.000	19990306	R0411	P	
SIS	SIS-089	CHM-2758-C 07	B-J	B9.11	89E-01	UT	N-UT-18	WB-33	10.00	1.000	19990306	R0403	P	
SIS	SIS-090	CHM-2758-C 07	B-J	B9.11	89E-01	PT	N-PT-9		10.00	1.000	19990306	R0409	P	
SIS	SIS-090	CHM-2758-C 07	B-J	B9.11	89E-01	UT	N-UT-18	WB-33	10.00	1.000	19990306	R0404	P	
SIS	SIS-092	CHM-2758-C 07	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990318	R0497	P	
SIS	SIS-092	CHM-2758-C 07	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990318	R0489	P	
SIS	SIS-095	CHM-2758-C 07	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990306	R0412	P	
SIS	SIS-095	CHM-2758-C 07	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990308	R0484	P	
SIS	SIS-120	CHM-2758-C 10	B-J	B9.11	89E-01	PT	N-PT-9		10.00	1.000	19990312	R0454	P	
SIS	SIS-120	CHM-2758-C 10	B-J	B9.11	89E-01	UT	N-UT-18	WB-33	10.00	1.000	19990316	R0490	P	
SIS	SIS-129	CHM-2758-C 10	B-J	B9.11	89E-01	PT	N-PT-9		06.00	0.718	19990318	R0501	P	
SIS	SIS-129	CHM-2758-C 10	B-J	B9.11	89E-01	UT	N-UT-18	WB-01	06.00	0.718	19990318	R0487	P	
CVCS	CVCF-B-T199-15	ISI-0005-C 02	B-J	B9.21	89E-01	PT	N-PT-9		03.00	0.438	19990315	R0475	P	
CVCS	CVCF-B-T199-16	ISI-0005-C 02	B-J	B9.21	89E-01	PT	N-PT-9		03.00	0.438	19990315	R0476	P	
CVCS	CVCF-B-T199-19	ISI-0005-C 02	B-J	B9.21	89E-01	PT	N-PT-9		03.00	0.438	19990316	R0480	P	
CVCS	CVCF-B-T199-20	ISI-0005-C 02	B-J	B9.21	89E-01	PT	N-PT-9		03.00	0.438	19990309	R0394	P	
CVCS	CVCF-D036-12	ISI-0005-C 01	B-J	B9.21	89E-01	PT	N-PT-9		03.00	0.438	19990311	R0431	P	
CVCS	CVCF-D036-37	ISI-0005-C 01	B-J	B9.21	89E-01	PT	N-PT-9		03.00	0.438	19990311	R0452	P	
CVCS	CVCF-D036-38	ISI-0005-C 01	B-J	B9.21	89E-01	PT	N-PT-9		03.00	0.438	19990311	R0453	P	
CVCS	CVCS-005	ISI-0005-C 01	B-J	B9.21	89E-01	PT	N-PT-9		03.00	0.438	19990311	R0432	P	
RCS	RCS-025	ISI-0365-C 01	B-J	B9.21	89E-01	PT	N-PT-9		03.00	0.438	19990312	R0451	P	
SIS	SIF-D086-06	CHM-2758-C 04	B-J	B9.21	89E-01	PT	N-PT-9		02.50	0.375	19990302	R0376	P	
SIS	SIF-D086-07	CHM-2758-C 04	B-J	B9.21	89E-01	PT	N-PT-9		02.50	0.375	19990302	R0380	P	

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System	Component Number	ISO Drawing	Category	Item Number	Exam Requirement	Exam Scheduled	NDE Procedure	Calibration Standard	Component Diameter	Nominal Thickness	Exam Date	Exam Report	Exam Results	Comments
SIS	SIS-055	CHM-2758-C 04	B-J	B9.21	89E-01	PT	N-PT-9		02.50	0.375	19990302	R0378	P	
SIS	SIS-056	CHM-2758-C 04	B-J	B9.21	89E-01	PT	N-PT-9		02.50	0.375	19990302	R0379	P	
RX	RCS-3-5	CHM-2547-C 01	B-J	B9.31	89E-01	PT	N-PT-9		10.00	2.490	19990308	R0398	P	
RX	RCS-3-5	CHM-2547-C 01	B-J	B9.31	89E-01	UT	N-UT-33	WB-59	10.00	2.490	19990316	R0491	P	
CVCS	CVCW-03	ISI-0005-C 01	B-J	B9.32	89E-01	PT	N-PT-9		03.00	1.313	19990311	R0430	P	
RX	1-TW-68-24C	CHM-2547-C 02	B-J	B9.32	89E-01	PT	N-PT-9		02.50		19990304	R0382	P	
SIS	SIW-11	CHM-2758-C 04	B-J	B9.32	89E-01	PT	N-PT-9		01.50		19990310	R0428	P	
RCS	1-68-415-IA	ISI-0364-C 01	B-K-1	B10.20	89E-01	PT	N-PT-9				19990310	R0429	P	
RCS	68-563	ISI-0365-C 01	B-M-2	B12.50	P89000	VT-1	N-VT-1		06.00		19980605	R0361	P	
RCS	68-564	ISI-0365-C 01	B-M-2	B12.50	P89000	VT-1	N-VT-1				19980604	R0360	P	
RCS	68-565	ISI-0365-C 01	B-M-2	B12.50	P89000	VT-1	N-VT-1				19980603	R0359	P	
RHRS	RHRHX-3-1A	CHM-2662-C 01	C-B	C2.21	89E-01	PT	N-PT-9		14.00	1.000	19990310	R0433	P	
RHRS	RHRHX-3-1A	CHM-2662-C 01	C-B	C2.21	89E-01	UT	N-UT-73	WB-77	14.00	1.000	19990310	R0420	P	Sup. PT Exam perf. from ID included
RHRS	RHRHX-4-1A	CHM-2662-C 01	C-B	C2.21	89E-01	PT	N-PT-9		14.00	1.000	19990310	R0434	P	
RHRS	RHRHX-4-1A	CHM-2662-C 01	C-B	C2.21	89E-01	UT	N-UT-73	WB-77	14.00	1.000	19990310	R0421	P	Sup. PT Exam perf. from ID included
RHRS	RHRHX-3-1A-IR	CHM-2662-C 01	C-B	C2.22	89E-01	UT	N-UT-73	WB-77	14.00		19990311	R0423	P	Sup. PT Exam perf. from ID included
RHRS	RHRHX-4-1A-IR	CHM-2662-C 01	C-B	C2.22	89E-01	UT	N-UT-73	WB-77	14.00		19990311	R0422	P	Sup. PT Exam perf. from ID included
FWS	FWF-D372-05	CHM-2671-C 06	C-F-2	C5.51	P89000	MT	N-MT-6		06.00	0.432	19990324	R0510	P	
FWS	FWF-D372-05	CHM-2671-C 06	C-F-2	C5.51	P89000	UT	N-UT-18	WB-37	06.00	0.432	19990324	R0514	P	
FWS	FWF-D372-28	CHM-2671-C 06	C-F-2	C5.51	P89000	MT	N-MT-6		06.00	0.432	19990324	R0511	P	
FWS	FWF-D372-28	CHM-2671-C 06	C-F-2	C5.51	P89000	UT	N-UT-18	WB-37	06.00	0.432	19990324	R0513	P	
MSS	MSVS-1-530-BS062	ISI-0081-C 01	C-G	C6.20	89E-01	MT	N-MT-6		10.00		19990309	R0399	P	
CVCS	1-68-047	ISI-0026-C 02	F-A	F1.10A	89E-01	VT-3	N-VT-1		03.00		19990308	R0397	P	
RCS	1-68-092	ISI-0364-C 01	F-A	F1.10A	89E-01	VT-3	N-VT-1		03.00		19990310	R0427	P	
RHRS	1-63-343	ISI-0020-C 08	F-A	F1.10A	89E-01	VT-3	N-VT-1		08.00		19990302	R0372	P	
SIS	1-63-005	ISI-0021-C 07	F-A	F1.10A	89E-01	VT-3	N-VT-1		10.00		19990301	R0375	P	
SIS	1-63-153	ISI-0021-C 08	F-A	F1.10A	89E-01	VT-3	N-VT-1		02.50		19990301	R0368	P	
SIS	1-63-482	ISI-0021-C 07	F-A	F1.10A	89E-01	VT-3	N-VT-1		10.00		19990311	R0440	P	
CVCS	1-62A-306	ISI-0026-C 01	F-A	F1.10B	89E-01	VT-3	N-VT-1		03.00		19990319	R0396	P	
CVCS	1-62A-383	ISI-0026-C 02	F-A	F1.10B	89E-01	VT-3	N-VT-1		03.00		19990313	R0473	P	
RCS	1-68-055	ISI-0364-C 02	F-A	F1.10B	89E-01	VT-3	N-VT-1		06.00		19990310	R0426	P	
RX	RCL-CLR-2	ISI-0438-C 01	F-A	F1.10B	89E-01	VT-3	N-VT-1				19990227	R0392	P	

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Unit: 1
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System	Component Number	ISO Drawing	Category	Item Number	Exam Requirement	Exam Scheduled	NDE Procedure	Calibration Standard	Component Diameter	Nominal Thickness	Exam Date	Exam Report	Exam Results	Comments
SIS	1-63-010	ISI-0021-C 07	F-A	F1.10B	89E-01	VT-3	N-VT-1		06.00		19990311	R0444	P	
SIS	1-63-192	ISI-0021-C 08	F-A	F1.10B	89E-01	VT-3	N-VT-1		02.50		19990301	R0367	P	
SIS	1-63-198	ISI-0021-C 08	F-A	F1.10B	89E-01	VT-3	N-VT-1		02.50		19990313	R0471	P	
SIS	1-63-215	ISI-0021-C 12	F-A	F1.10B	89E-01	VT-3	N-VT-1		01.50		19990311	R0446	P	
SIS	1-63-218	ISI-0021-C 12	F-A	F1.10B	89E-01	VT-3	N-VT-1		01.50		19990311	R0445	P	
RCS	1-68-025	ISI-0364-C 02	F-A	F1.10C	89E-01	VT-3	N-VT-1		04.00		19990301	R0366	P	ACC. RANGE 886 TO 978 POUNDS
SIS	1-63-444	ISI-0021-C 07	F-A	F1.10C	89E-01	VT-3	N-VT-1		10.00		19990311	R0438	P	ACC. RANGE 2377 TO 2628 POUNDS
CVCS	1-62A-006	ISI-0063-C 01	F-A	F1.10D	89E-01	VT-3	N-VT-1		02.00		19990301	R0370	P	
CVCS	1-62A-065	ISI-0063-C 02	F-A	F1.10D	89E-01	VT-3	N-VT-1		02.00		19990301	R0371	P	
RCS	1-68-415	ISI-0364-C 01	F-A	F1.10D	P89000	VT-3	N-VT-1		03.00		19990319	R0506	P	
RCS	1-68-415	ISI-0364-C 01	F-A	F1.10D	89E-01	VT-3	N-VT-1		03.00		19990310	R0424	P	
RHRS	1-63-596	ISI-0020-C 08	F-A	F1.10D	89E-01	VT-3	N-VT-1		02.00		19990305	R0413	P	
SIS	1-63-156	ISI-0021-C 13	F-A	F1.10D	89E-01	VT-3	N-VT-1		01.50		19990312	R0442	P	
SIS	1-63-196	ISI-0021-C 08	F-A	F1.10D	89E-01	VT-3	N-VT-1		02.50		19990313	R0472	P	
SIS	1-63-462	ISI-0021-C 07	F-A	F1.10D	89E-01	VT-3	N-VT-1		06.00		19990312	R0439	P	
SIS	1-63-465	ISI-0021-C 10	F-A	F1.10D	89E-01	VT-3	N-VT-1		02.00		19990312	R0441	P	
FWS	1-03A-498	ISI-0062-C 08	F-A	F1.20A	P89000	VT-3	N-VT-1		06.00		19990405	R0527	P	
FWS	1-03A-499	ISI-0062-C 08	F-A	F1.20B	P89000	VT-3	N-VT-1		06.00		19990405	R0528	P	
FWS	1-03A-500	ISI-0062-C 08	F-A	F1.20B	P89000	VT-3	N-VT-1		06.00		19990405	R0529	P	
MSS	1-01A-389	ISI-0011-C 03	F-A	F1.20C	P89000	VT-3	N-VT-1		32.00		19990405	R0526	P	
FWS	1-03A-374	ISI-0062-C 05	F-A	F1.20D	P89000	VT-3	N-VT-1		06.00		19990402	R0522	P	
CVCS	47A406-09-051	ISI-0026-C 01	F-A	F1.40A	89E-01	VT-3	N-VT-1		03.00		19990315	R0481	P	
SG	SGH-1-1	CHM-2660-C 03	F-A	F1.40B	P89000	VT-3	N-VT-1				19990325	R0515	P	
SG	SGH-1-2	CHM-2660-C 03	F-A	F1.40B	P89000	VT-3	N-VT-1				19990325	R0516	P	
SG	SGH-1-2	CHM-2660-C 03	F-A	F1.40B	89E-01	VT-3	N-VT-1				19990302	R0391	P	
SG	SGH-1-4	CHM-2660-C 03	F-A	F1.40B	P89000	VT-3	N-VT-1				19990329	R0517	P	
CVCS	47A406-09-050	ISI-0026-C 01	F-A	F1.40D	89E-01	VT-3	N-VT-1		03.00		19990308	R0395	P	
RCS	1-68-023	ISI-0364-C 02	F-A	F1.40D	89E-01	VT-3	N-VT-1		04.00		19990302	R0369	P	

Owner:	TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant:	WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1		Certificate of Authorization:	N/A
Commercial Service Date: May 27, 1996		National Board Number for Unit:	N/A

APPENDIX II
STEAM GENERATOR TUBE EDDY CURRENT SUMMARY

The attached table summarizes the examinations and results of the steam generator tube eddy current examinations performed during the cycle 2 refueling outage.

Owner:	TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant:	WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1		Certificate of Authorization:	N/A
Commercial Service Date: May 27, 1996		National Board Number for Unit:	N/A

CLASSIFICATION OF INSPECTION RESULTS

WATTS BAR NUCLEAR PLANT UNIT 1 CYCLE 2 SG INSPECTION

Initial Eddy Current Exam	SG1	SG2	SG3	SG4
Full Length Bobbin Coil	4667	4674	4672	4667
U-Bend Plus Point	137	137	137	137
Top of Tubesheet RPC	4667	4674	4672	4667
Dented TSP Plus Point	0	3	2	9
Freespan Ding Plus Point	16	22	30	40
Diagnostic Plus Point	25	27	37	19

Expansion	SG1	SG2	SG3	SG4
Full Length Bobbin Coil	0 (1)	0 (1)	0	0 (1)
U-Bend Plus Point	0	0	0	0
Top of Tubesheet RPC	0	0 (1)	0	0
Dented TSP Plus Point	0	0	0	0
Freespan Ding Plus Point	0	0	0	0
Total Exams Completed	9508	9537	9550	9539
Total Tubes Examined	4667	4674	4672	4667

Indications	SG1	SG2	SG3	SG4
AVB Wear	3	4	2	13
PWSCC HTS Axial	0	1	0	0
Loose Parts Damage	11	1	0	1
Total Indications	15	6	2	14

Plugging Status	SG1	SG2	SG3	SG4
Previously Plugged Tubes	7	0	2	7
Plugged Current Outage by Damage Mechanism				
AVB Wear	0	0	0	0
PWSCC HTS Axial	0	1	0	0
Loose Parts Damage	11	1	0	1
Plugged Preventively	2	5	0	0
Total	20	7	2	8

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

CLASSIFICATION OF INSPECTION RESULTS
WATTS BAR NUCLEAR PLANT UNIT 1 CYCLE 2 SG INSPECTION

Classification of Inspection Results	SG1	SG2	SG3	SG4
Full Length Bobbin Coil	C-2 (1)	C-2 (1)	C-1	C-2 (1)
U-Bend Plus Point	C-1	C-1	C-1	C-1
Top of Tubesheet RPC	C-1	C-2 (1)	C-1	C-1
Dented Plus Point	C-1	C-1	C-1	C-1
Freespan Ding Plus Point	C-1	C-1	C-1	C-1

Inspection Classification Category	Inspection Results
C-1	Less than 5% of the total tubes inspected are degraded tubes and none of the inspected tubes are defective.
C-2	One or more tubes, but not more than 1% of the total tubes inspected are defective, or between 5 and 10% of the total tubes inspected are degraded tubes
C-3	More than 10% of the total tubes inspected are degraded tubes or more than 1% of the inspected tubes are defective.

Note (1): Initial sample was 100% of population; therefore, no expansion sample required.

Owner:	TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant:	WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1		Certificate of Authorization:	N/A
Commercial Service Date: May 27, 1996		National Board Number for Unit:	N/A

APPENDIX III
PRESSURE TEST SUMMARY

The following summarizes the tests and results of the system pressure tests performed during the second cycle.

Owner: TENNESSEE VALLEY AUTHORITY
Chattanooga Office Complex
1101 Market Street
Chattanooga, TN 37402

Unit: 1
Commercial Service Date: May 27, 1996

Plant: WATTS BAR NUCLEAR P
P.O. Box 2000
Spring City, TN 37381-2000

Certificate of Authorization: N/A
National Board Number for Unit: N/A

WBN Unit 1 Cycle 2 RFO Pressure Test Report
[First Inspection Interval, first period]

System	Procedure No.	Test Type	Exam	Performance Date	Test Results
Auxiliary Feedwater System - Train A Auxiliary Feedwater System Code Class 2 and 3 piping and components associated with the 1A-A Auxiliary Feedwater Pump.	1-TRI-3-901-A	System Inservice	VT-2	2/27 through 4/10/99	Satisfactory
Auxiliary Feedwater System - Train A Auxiliary Feedwater System Code Class 2 and 3 piping and components associated with the 1A-S Auxiliary Feedwater Pump	1-TRI-3-902	System Inservice	VT-2	Note 3	Satisfactory
Main Feedwater System - Main feedwater system Code Class 2 piping and components located inside the reactor building, including the secondary side of the steam generators.	1-TRI-3-903	System Inservice	VT-2	4/10 through 4/14/99	Satisfactory
Auxiliary Feedwater System - Essential Raw Cooling Water System supply to the 1A-A and 1A-S Auxiliary Feedwater Pumps Code Class 3 piping and components	1-TRI-3-904-A	System Functional	VT-2	1/28/99	Satisfactory
Auxiliary Feedwater System - Essential Raw Cooling Water System supply to the 1B-B and 1A-S Auxiliary Feedwater Pumps Code Class 3 piping and components	1-TRI-3-904-B	System Functional	VT-2	1/21/99	Satisfactory
Main Feedwater System - Main feedwater system Code Class 2 piping and components located outside the reactor building.	1-TRI-3-905	System Inservice	VT-2	4/21/99 Note 1	Satisfactory
Main Control Room Chilled Water System - Train A Main Control Room Chilled Water System piping and components	0-TRI-31-902-A	System Inservice	VT-2	1/12/99 Note 2	Satisfactory
Main Control Room Chilled Water System - Train B Main Control Room Chilled Water System piping and components	0-TRI-31-902-B	System Inservice	VT-2	1/15/99 Note 2	Satisfactory
Electric Board Room Chilled Water System - Train A Electric Board Room Chilled Water System piping and components	0-TRI-31-903-A	System Inservice	VT-2	1/5/99 Note 2	Satisfactory
Electric Board Room Chilled Water System - Train B Electric Board Room Chilled Water System piping and components	0-TRI-31-903-B	System Inservice	VT-2	11/19/98 Note 2	Satisfactory
Shutdown Board Room Chilled Water System - Train A Shutdown Board Room Chilled Water System piping and components	0-TRI-31-904-A	System Inservice	VT-2	1/8/99 Note 2	Satisfactory
Shutdown Board Room Chilled Water System - Train B Shutdown Board Room Chilled Water System piping and components	0-TRI-31-904-B	System Inservice	VT-2	1/22/99 Note 2	Satisfactory
Station Drainage - Code Class 3 open ended drain lines from Accumulator Rooms 3 and 4 to inside the polar crane wall.	1-TRI-40-901	System Inservice	Un-impaired Flow	3/20/99	Satisfactory
Demineralized Water - Code Class 2 piping and components associated with the Demineralized Water System penetration through containment.	1-TRI-59-901	System Functional	VT-2	1/28/99 Note 2	Satisfactory
Ice Condenser - Code Class 3 floor drain piping and components	1-SI-61-9	System Inservice	Un-impaired Flow	4/4/99	Satisfactory
Ice Condenser - Code Class 2 piping and components associated with the Ice Condenser System penetrations through containment	1-TRI-61-901	System Inservice	VT-2	2/3/99	Satisfactory
Chemical and Volume Control System - Code Class 2 and 3 piping and components located outside containment associated with charging, letdown, seal injection, high head safety injection, and boric acid batching and storage.	1-TRI-62-902 1-TRI-62-903	System Inservice	VT-2	2/5 through 2/27/99	Satisfactory

Owner: TENNESSEE VALLEY AUTHORITY
Chattanooga Office Complex
1101 Market Street
Chattanooga, TN 37402
Unit: 1
Commercial Service Date: May 27, 1996

Plant: WATTS BAR NUCLEAR P
P.O. Box 2000
Spring City, TN 37381-2000

Certificate of Authorization: N/A
National Board Number for Unit: N/A

WBN Unit 1 Cycle 2 RFO Pressure Test Report
[First Inspection Interval, first period]

System	Procedure No.	Test Type	Exam	Performance Date	Test Results
Safety Injection - Train A and Common Code Class 2 safety injection system piping and components located outside containment	1-TRI-63-901-A	System Functional	VT-2	2/8/99 Note 2	Satisfactory
Safety Injection - Train B Code Class 2 safety injection system piping and components located outside containment	1-TRI-63-901-B	System Functional	VT-2	11/25/98 Note 2	Satisfactory
Safety Injection - Code Class 2 safety injection system piping and components located inside containment, exclusive of the high safety injection system piping.	1-TRI-63-902	System Functional	VT-2	3/20 through 4/16/99	Satisfactory
Safety injection - Code Class 2 high head safety injection piping and components from the interface with the Chemical and Volume Control System to the interface with the Code Class 1 boundary.	1-TRI-63-903	System Functional	VT-2	3/20/99	Satisfactory
Safety Injection - Code Class 2 safety and relief valve discharge header	1-TRI-63-904	System Functional	VT-2	3/31/99	Satisfactory
Essential Raw Cooling Water - Train A Code Class 3 ERCW piping and components supplying the Reactor Coolant Pump motor coolers.	1-TRI-67-901-A	System Inservice	VT-2	2/28/99	Satisfactory
Essential Raw Cooling Water - Train B Code Class 3 ERCW piping and components supplying the Reactor Coolant Pump motor coolers.	1-TRI-67-901-B	System Inservice	VT-2	2/28/99	Satisfactory
Essential Raw Cooling Water - Train A Code Class 3 buried supply piping	0-TRI-67-902-A	System Inservice	Delta Flow	4/5/99	Satisfactory
Essential Raw Cooling Water - Train B Code Class 3 buried supply piping	0-TRI-67-902-B	System Inservice	Delta Flow	4/5/99	Satisfactory
Essential Raw Cooling Water - Train A Code Class 3 buried discharge piping	0-TRI-67-902-A	System Inservice	Adequate Flow	4/5/99	Satisfactory
Essential Raw Cooling Water - Train B Code Class 3 buried discharge piping	0-TRI-67-902-B	System Inservice	Adequate Flow	4/5/99	Satisfactory
Essential Raw Cooling Water - Train A Code Class 3 piping and components located in the Intake Pumping Station	0-TRI-67-903-A	System inservice	VT-2	1/16 through 1/20/99 Note 2	Satisfactory
Essential Raw Cooling Water - Train B Code Class 3 piping and components located in the Intake Pumping Station	0-TRI-67-903-B	System inservice	VT-2	1/16 through 1/20/99 Note 2	Satisfactory
Essential Raw Cooling Water - Train A Code Class 3 piping and components located in the Auxiliary, Turbine, and Diesel Generator Buildings	0-TRI-67-904-A	System Inservice	VT-2	1/26 through 1/31/99 Note 2	Satisfactory
Essential Raw Cooling Water - Train B Code Class 3 piping and components located in the Auxiliary, Turbine, and Diesel Generator Buildings	0-TRI-67-904-B	System Inservice	VT-2	1/26 through 1/31/99 Note 2	Satisfactory
Essential Raw Cooling Water - Train A Code Class 3 supply and discharge piping to the Containment Spray heat exchanger 1A-A.	1-TRI-67-905-A	System Functional	VT-2	3/16/99	Satisfactory

Owner: TENNESSEE VALLEY AUTHORITY
Chattanooga Office Complex
1101 Market Street
Chattanooga, TN 37402
Unit: 1
Commercial Service Date: May 27, 1996

Plant: WATTS BAR NUCLEAR P
P.O. Box 2000
Spring City, TN 37381-2000

Certificate of Authorization: N/A
National Board Number for Unit: N/A

WBN Unit 1 Cycle 2 RFO Pressure Test Report
[First Inspection Interval, first period]

System	Procedure No.	Test Type	Exam	Performance Date	Test Results
Essential Raw Cooling Water - Train B Code Class 3 supply and discharge piping to the Containment Spray heat exchanger 1B-B.	1-TRI-67-905-B	System Functional	VT-2	3/16/99	Satisfactory
Reactor Coolant System - Code Class 1 Reactor Coolant and interfacing system piping and components	1-TRI-68-6	System Leakage	VT-2	4/10/99	Satisfactory
Reactor Coolant System - Code Class 1 bolted joints	1-TRI-68-7	System Leakage	VT-2 N-533	3/2 through 3/16/99	Satisfactory
Component Cooling System - Train 1A Code Class 3 Component Cooling System piping and components located outside the reactor building.	1-TRI-70-902-A	System Inservice	VT-2	2/1/99 Note 2	Satisfactory
Component Cooling System - Train B Code Class 3 Component Cooling System piping and components located outside the reactor building	0-TRI-70-902-B	System Inservice	VT-2	1/27/99 Note 2	Satisfactory
Component Cooling System - Train 2A Code Class 3 Component Cooling System piping and components located outside the reactor building.	2-TRI-70-902-A	System Inservice	VT-2	1/27/99 Note 2	Satisfactory
Containment Spray - Train 1A Code Class 2 Containment Spray System piping and components	1-TRI-72-901-A	System Functional	VT-2	1/7/99 Note 2	Satisfactory
Containment Spray - Train 1B Code Class 2 Containment Spray System piping and components	1-TRI-72-901-B	System Functional	VT-2	1/7/99 Note 2	Satisfactory
Residual Heat Removal - Train 1B Code Class 2 Residual Heat Removal System piping and components located outside containment	1-TRI-74-901-B	System Functional	VT-2	4/6/99	Satisfactory
Residual Heat Removal - Train 1A and 1B Code Class 2 and 3 Sampling System piping and components from the interface with RHR to the Code Class break.	1-TRI-74-902	System Functional	VT-2	3/4/99	Satisfactory
Waste Disposal - Code Class 2 piping and components associated with the Reactor Coolant Drain Tank Pump discharge line penetration through the containment	1-SI-77-701	System Inservice	App. J N-522	3/11/99	Satisfactory
Spent Fuel Pool Cooling - Train A Code Class 3 Spent Fuel Pool Cooling System piping and components	0-TRI-78-901-A	System Inservice	VT-2	1/6/99 Note 2	Satisfactory
Spent Fuel Pool Cooling - Train B Code Class 3 Spent Fuel Pool Cooling System piping and components	0-TRI-78-901-B	System Inservice	VT-2	11/25/98 Note 2	Satisfactory
Spent Fuel Pool Cooling - Common Code Class 3 Spent Fuel Pool Cooling System piping and components	0-TRI-78-901-S	System Inservice	VT-2	12/22/98 Note 2	Satisfactory
Spent Fuel Pool Cooling - Common Code Class 2 Spent Fuel Pool Cooling System piping and components associated with the reactor cavity cleanup containment penetration	1-TRI-78-902	System Inservice	VT-2	3/6/99	Satisfactory

Owner: TENNESSEE VALLEY AUTHORITY
Chattanooga Office Complex
1101 Market Street
Chattanooga, TN 37402
Unit: 1
Commercial Service Date: May 27, 1996

Plant: WATTS BAR NUCLEAR P
P.O. Box 2000
Spring City, TN 37381-2000

Certificate of Authorization: N/A
National Board Number for Unit: N/A

Notes:

1. This test was completed during power escalation following the Cycle 2 outage.
2. This test was completed as part of the pre-outage work before removing the unit from service for the start of the Cycle 2 outage.
3. This test was completed during RFO1, but was inadvertently not included in the RFO1 report.
4. One remaining test, to be performed under 1-SI-43-901-A, will be performed on the containment penetrations associated with the Post Accident Sampling System return lines to containment prior to May 26, 1999.

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

APPENDIX IV
REPORT FOR REPAIRS AND REPLACEMENTS
ASME FORM NIS-2

Attached are the ASME Form NIS-2s, Report for Repairs and Replacements, for the period from September 1, 1997 to completion of the second cycle refueling outage, April 16, 1999.

The following table lists by tracking number the NIS-2s included in this report.

TRACKING NUMBER	CODE CLASS	COMPONENT	DESCRIPTION
RR-02-004	2	1-MISC-043-SPARE	Repair valve. Tackweld 3 bonnet to body welds
RR-02-009	1	1-DRV-068-0566	Revise piping class from CC2 to CC1 for 3/4" loop seal drain line from PRZ safety RFVs up to and including 1-LT-068-0320.
RR-02-013	2	1-DRV-001-0536	Repair valve
RR-02-014	2	1-ISV-001-0542	Replace valve
RR-02-015	2	1-PPG-078	Install 2" pipe w/cap over 1" coupling and plug to stop leak.
RR-02-024	2	1-CKV-063-0725	Remove/replace seal weld on bonnet
RR-02-025	1	1-PCV-068-0334	Repair valve, replace disk
RR-02-030	1	1-PMP-068-0073	Replace cartridge seal and #1 seal on RCP 4
RR-02-031	2	1-RFV-062-0649-S	Replace RFV
RR-02-033	1	1-RFV-068-0563	Remove/replace Pressurizer safety relief valves and some bolting
RR-02-035	1	1-PCV-068-334-B	Remove/replace safety relief valve
RR-02-036	2	1-RFV-062-0626-A	Remove/replace safety relief valves
RR-02-037	2	1-CKV-003-0508	Remove/replace safety relief valve
RR-02-039	1	1-PCV-068-0340-A	Remove/replace valve
RR-02-040	1	1-PMP-068-0031	Replace cartridge seal on RCP
RR-02-041	2	1-SGEN-068-SG4	Replace upper support splice bolts on SG #4
RR-02-043	2	1-SGEN-068-SG2	Replace upper support splice bolts on SG #2
RR-02-044	2	1-SGEN-068-SG1	Replace upper support splice bolts on SG #1
RR-02-045	2	1-PIPE-015	Replace piping due to FAC
RR-02-046	2	1-PIPE-015	Replace piping due to FAC
RR-02-047	2	1-PIPE-015	Replace piping due to FAC
RR-02-048	2	1-PIPE-015	Replace piping due to FAC
RR-02-049	2	1-PIPE-003	Replace piping due to FAC
RR-02-050	2	1-PIPE-003	Replace piping due to FAC
RR-02-051	2	1-PIPE-003	Replace piping due to FAC
RR-02-052	2	1-PIPE-003	Replace piping due to FAC
RR-02-059	2	ELHx	Replace head flange studs
RR-02-061	2	1-CKV-067-0580C-A	Replaced disc
RR-02-086	1	1068-1-68-415	Replace bolts and nuts on pipe clamp
RR-02-087	2	1-SGEN-068-SG4	Replaced secondary manway cover
RR-02-088	2	1-SNUB-062-62A242	Replace snubber
RR-02-089	2	1-SGEN-068-SG2	Repair secondary manway cover
RR-02-090	2	1-PIPE-015	Replace 4 x 2 reducers on LP 1 and 4

Owner: TENNESSEE VALLEY AUTHORITY Chattanooga Office Complex 1101 Market Street Chattanooga, TN 37402	Plant: WATTS BAR NUCLEAR PLANT P.O. Box 2000 Spring City, TN 37381-2000
Unit: 1 Commercial Service Date: May 27, 1996	Certificate of Authorization: N/A National Board Number for Unit: N/A

TRACKING NUMBER	CODE CLASS	COMPONENT	DESCRIPTION
RR-02-090	2	1-PIPE-015	Replace 4 x 2 reducers on LP 1 and 4
RR-02-091	2	1-PIPE-015	Replace 4 x 2 reducers on LP 2 and 3
RR-02-092	1	CRDM-13	Repair canopy seal weld
RR-02-093	2	1-PIPE-61	Add 2" tee to re-route bypass pipe around 1-FCV-061-0122
RR-02-094	2	1-PIPE-61	Add 2" tee to re-route bypass pipe around 1-FCV-061-0097
RR-02-096	2	1-SGEN-068-SG3	Replace secondary manway cover studs
RR-02-099	2	1-SNUB-003-03A482U	Replace snubber
RR-02-100	2	1-SNUB-015-4006188	Replace snubber
RR-02-101	2	1-SNUB-015-4006199	Replace snubber

Copy 6/5/98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name)
400 W. Summit Hill Drive, Knoxville, TN (Address)

Date 05-29-98
Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name)
P. O. Box 2000, Spring City, TN, 37381 (Address)

Unit Unit 1
WO # 97-014550-000 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by WATTS BAR NUCLEAR PLANT (Name)
P.O. Box 2000 Spring City, TN 37381 (Address)

Type Code Symbol Stamp ____
Authorization No N/A
Expiration Date KLL 5/29/98

4. Identification of system 043 Sampling

5. (a) Applicable Construction Code SEC. III DIV 1 19 80 Edition, W-80 Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No	National Board No	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
(FCV) VALVE	Target Rock Corporation	8	NONE	1-MISC 043 STAKE VALVE	1983	REPAIRED	YES

7. Description of Work Repair Valve. Tackweld Bonnet to Body. (3) Tack Welds

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure ____ psi Test Temp ____ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks NPV-1

Additional Manufacturer's Data Reports to Be Attached

Tracking # RR-02-04

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed [signature] - Mech. Engr (Owner or Owner's Designee, Title) Date 6/4/98 19 98

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 TENNESSEE and employed by THE HSB I.I. C.E. of HARTFORD, C.T. have inspected the components described in this Owner's Report during the period 2-13-98 to 6-4-98 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.

C.E. Mitcoff (Inspector's Signature) Commissions NB-6260 (National Board, State, Province, and Endorsements)

Date JUNE 5 19 98

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FORM NPV-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES*

As Required by the Provisions of the ASME Code, Section III, Div. 1

1. Manufactured by Target Rock Corporation 1966E Broadhollow Rd E. Farmingdale, N.Y. 11735
(Name and Address of N Certificate Holder)
2. Manufactured for Tennessee Valley Authority Chattanooga, Tennessee
(Name and Address of Purchaser or Owner)
3. Location of Installation Watts Bar Nuclear Plant, Unit 2 Near Spring, Tennessee
(Name and Address)
4. Pump or Valve Valve Nominal Inlet Size 3/8 (inch) Outlet Size 3/8 (inch)

	(a) Model No., Series No. or Type	(b) N Certificate Holder's Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Nat'l Bd. No.	(g) Year Built
(1)	82KK	4,6,8,12,14	-----	82KK-003	3	-----	1983
(2)	82KK	18,22,26,28,30	-----	82KK-003	3	-----	1983
(3)	*82KK	4,8,14,18,30	----	82KK-003-1	2	----	1984
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

5. POST ACCIDENT SAMPLING (CONTAINMENT AIR)
(Brief description of service for which equipment was designed)

6. Design Conditions 50 (Pressure) psi 110/*427 (Temperature) °F or Valve Pressure Class 150 (1)
7. Cold Working Pressure 230 psi at 100°F
8. Pressure Retaining Pieces

	Mark No.	Material Spec. No	Manufacturer	Remarks
(a) Castings				
(b) Forgings				

TVA 15 CMK

WBN [illegible]
PAGE 5 OF

(1) For manually operated valves only

* Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8½" x 11", (2) information in items 1, 2 and 5 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

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FORM NPV-1 (Back)

Mark No.	Material Spec. No.	Manufacturer	Remarks
(c) Bolting			
(d) Other Parts			
Nipple	ASME SA 213 SS 316L	Teledyne Columbia-Sumerill	
Bonnet	ASME SA 479 SS 316	Universal Cyclops	
Bonnet	ASME SA 479 SS 316	Carpenter Tech.	
Disc	ASME SA 479 SS 316	ARMCO	
Body	ASME SA 479 SS 316L	Universal Cyclops	
Body	ASME SA 479 SS 316L	Carpenter Tech.	

9. Hydrostatic test 350 psi. Disk Differential test pressure 275 psi.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump, or valve, conforms to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Div. 1, Edition 1980, Addenda W-80 (Date), Code Case No. ----- Date -----

Signed Target Rock Corporation (N Certificate Holder) by [signature] Date 7-83

Our ASME Certificate of Authorization No. 1947 to use the [blank] (N) symbol expires 12/9/83 (Date)

G. Arruzzo, Mgr. of Quality

TVA 15 CMK

CERTIFICATION OF DESIGN

Design information on file at Target Rock Corporation

Stress analysis report (Class 1 only) on file at -----

Design specifications certified by (1) Arle F. Massey Jr.

PE State NJ Reg. No. 013459

Stress analysis certified by (1) -----

PE State ----- Reg. No. -----

(1) Signature not required. List name only.

CERTIFICATE OF SHOP 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 New York and employed by Commercial Union Insurance of Boston, Mass. have inspected the pump, or valve, described in this Data Report on 11/9 19 83 and state that to the best of my knowledge and belief, the N Certificate Holder has constructed this pump, or valve, 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 equipment described in this 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 11/9 19 83

[signature] Inspector

Commissions NEW YORK STATE COMMISSION NO. 2288

ALSO COMMISSIONED IN Penn, Ohio & Conn.

Nat'l Bd. State, Prov. and No.

PAGE 10 OF 107

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Target Rock Corporation, 1956E Broadhollow Rd., P.O. Box V, Farmingdale, N.Y. 11735-0917

SUBSIDIARY, CURTISS-WRIGHT CORPORATION

CERTIFICATE OF CONFORMANCE

CUSTOMER: Tennessee Valley Authority

FOR: Watts Bar Nuclear Plant

CUSTOMER P.O. #: 93NNS-75918A C/O # 4

TRC PROJECT #: 93Z-507

MODEL #: 82KK-003-1

PRODUCT: 3/8" Solenoid Valve
P.O. Item 001, QTY 5

S/N	Tag No.
4	1-FSV-43-207
8	1-FSV-43-434
14	1-FSV-43-202
18	1-FSV-43-208
30	1-FSV-43-436

We certify that the parts noted herein meet all the requirements of the Purchase Order, Drawing and Specifications. Further we certify that the detailed fabrication, inspection and test records quoted in the order and specifications are traceable and are on file.

TRC Quality Manual, Edition 5, Revision 8, Dated 10/13/92 is applicable.

E. Champey / / Date
Director, Quality Assurance

WBN-
PAGE

FAX: (516) 293-3839 Telephone: (516) 293-3800 EASYLINK: 5106000141

PAGE 7 OF 187

Target Rock Corporation, 1966E Broadhollow Rd., P.O. Box V, Farmingdale, N.Y. 11735-0917

SUBSIDIARY, CURTISS-WRIGHT CORPORATION

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CERTIFICATE OF CONFORMANCE

CUSTOMER:	Tennessee Valley Authority
FOR:	Watts Bar Nuclear Plant
CUSTOMER P.O. #:	93NNS-75918A C/O # 4
TRC PROJECT #:	93Z-507
MODEL #:	82KK-003-1
PRODUCT:	Current Control Unit P.O. Item 002, QTY 5 S/N's 001-005

We certify that the parts noted herein meet all the requirements of the Purchase Order, Drawing and Specifications. Further we certify that the detailed fabrication, inspection and test records quoted in the order and specifications are traceable and are on file.

TRC Quality Manual, Edition 5, Revision 8, Dated 10/13/92 is applicable.

E. Champey / / Date
Director, Quality Assurance

WBN [illegible]
PAGE 1 OF

FAX: (516) 293-4849 Telephone: (516) 293-3800 EASYLINK: 5106000141

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Tracking No. RR-02-09

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name)
400 W. Summit Hill Drive, Knoxville, TN (Address)

Date 5-18-98

Sheet 1 of 2

2. Plant Watts Bar Nuclear Plant (Name)
P. O. Box 2000, Spring City, TN, 37381 (Address)

Unit Unit 1

S-39842-A (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by Site Engineering Mechanical (Name)
EQB-2N (Address)

Type Code Symbol Stamp N/A

Authorization No N/A

Expiration Date N/A

4. Identification of system Reactor Coolant System (RCS) 068

5. (a) Applicable Construction Code ASME III 19 74 Edition, Winter 1974 Addenda, N/A Code Case

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-DRV-068-0566	Kerotest	KZ29-8 *	N/A	TVD-D-9954(2)	1976	Replacement	N/A
1-DRV-068-0567	Kerotest	KZ28-18 *	N/A	TVD-D-9954(2)	1976	Replacement	N/A
1-DRV-068-0568	Kerotest	KZ24-3 *	N/A	TVD-D-9954(2)	1976	Replacement	N/A
1-RTV-068-0441A	Kerotest	KZ29-10 *	N/A	TVD-D-9954(2)	1976	Replacement	N/A
1-RTV-068-0569	Kerotest	KZ22-10 *	N/A	TVD-D-9954(2)	1976	Replacement	N/A

7. Description of Work Revise Piping Class from SC-2 to SC-1 for 3/4" loop seal drain line from pressurizer safety relief valves 1-RFV-068-563, -564 & -565 up to and including instrument loop to 1-LT-068-0320.

* Associated with N5 package X68-F1

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks Tracking No. RR-02-09

Applicable Manufacturer's Data Reports to be Attached

No physical work has been performed on these valves per DCN S-39842-A. This DCN documents Safety Class reclassification for subject Valves. Requirements of NB-3513 for minimum wall thickness have been reviewed and valves meet min. wall requirements. Hydro-test per NB-3531 (Table NB-3531-9) have been performed per existing NPV-1 forms for valves listed on page 1.

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed Robert D Briggs Date June 3 19 98

Owner or Owner's Designee, Title

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 Tennessee and employed by Hartford Steam Boiler I & I Co. of Hartford, Connecticut have inspected the components described in this Owner's Report during the period 4-12-97 to 6-3-98 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.

George Deaton Commissions TN 3178

Inspector's Signature National Board, State, Province, and Endorsements

Date 6-3 19 98

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Name
400 W. Summit Hill Drive, Knoxville, TN — Address

Date 6/17/98
Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant — Name
P. O. Box 2000, Spring City, TN, 37381 — Address

Unit Unit 1
WO # 98-002830-001 — Repair Organization P.O. No., Job No., etc.

3. Work Performed by WATTS BAR Nuclear Plant — Name
P.O. Box 2000 Spring City, TN. 37381 — Address

Type Code Symbol Stamp NA
Authorization No NA
Expiration Date NA

4. Identification of system 001 MAIN STEAM

5. (a) Applicable Construction Code Sec. III Cl 2 19 74 Edition, Winter 1974 Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Globe VALVE	YARWAY CORP.	8810	NONE	1-DRV-001-0536	1977	REPLACED	YES
REV 1 GLOBE VALVE	YARWAY CORP	6927	NONE	2-DRV-001-0537	1977	REPLACE-MENT.	YES

7. Description of Work REV. 1, REPLACE VALVE

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☑
Other ☐ Pressure NOP psi Test Temp NOT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

BACK

FORM NIS-2 (Back)

9. Remarks Reference Code CASE N-416-1
Additional Manufacturer's Data Reports to be Attached
Tracking # RR-02-13 RR elbow

CERTIFICATE OF COMPLIANCE Rev. 1 REPLACE Q# 3/22/99

We certify that the statements made in the report are correct and this ~~Repair~~ repair or replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp NONE

Certificate of Authorization No. NA

Signed D L Collins Mech Engr. Date 5/28 19 99
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I&I Co. of Hartford CT. have inspected the components described in this Owner's Report during the period 6/18/98 to 6/1/99 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.

Bruce M. Earnigh Commissions TN. 2534 "I" "N" "A"
Inspector's Signature National Board, State, Province, and Endorsements

Date 6/1 19 99

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PO 79013

FORM NPV-1 MANUFACTURERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES

As Required by the Provisions of the ASME Code Rules

Manufactured by Yarway Corporation, Blue Bell, Pa. Order No. 45082
(Name & Address of Manufacturer)

Manufactured for Dravo Corporation Order No. SEE MASTER IDENTIFICATION LIST
(Name and Address)

W 860724K1471 (4)

1. Owner Tennessee Valley Authority

2. Location of Plant Spring City, Tenn.

3. Pump or Valve Identification Nuclear Service Line Valves, 2" Globe , Serial Nos.
6905 Thru 6929
(Brief description of service for which equipment was designed)

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4. (a) Drawing No. 103271-07 Prepared by Yarway Corporation

(b) National Board No. None

6. Design Conditions 2665 (Pressure) psi 700 (Temperature) °F or Pressure Class 1500 PSI (1)

7. The material, design, construction, and workmanship complies with ASME Code Section III, Class 2

Edition 1974, Addenda Date Winter 1974, Case No. -

	Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings	A6-A7	AMS 5382	Nova/Howmet	Disc
(b) Forgings	3	SA105	Pittsburgh Forging Body	
	YW 728	SA 193-B 7	Republic Steel	Backseat Bushing

(1) For manually operated valves only.

*Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8½" x 11", (2) information in items 1, 2, 3, and 4 on this data report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

12-21-76 DATE INITIAL

This form (E00037) may be obtained from the Order Dept., ASME, 345 E. 47 St., New York, N.Y. 10017.

PAGE 1 OF 2

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FORM NPV-1 (back)

Mark No.	Material Spec. No.	Manufacturer	Remarks
(c) Bolting			
None			
(d) Other Parts			
None			

8. Hydrostatic test 5400 psi.

CERTIFICATION OF DESIGN

FILMED FROM BEST AVAILABLE COPY

Design information on file at T.V.A. Knoxville, Tenn.

Stress analysis report on file at Not Required

Design specifications certified by George F. Dilworth (1) Prof. Eng. State Tenn Reg. No. 4965

Stress analysis report certified by Not Required (1) Prof. Eng. State ____ Reg. No. ____

(1) Signature not required. List name only.

We certify that the statements made in this report are correct.

Date Nov. 22, 1976 Signed Yarway Corporation (Manufacturer) By W. A. Voiger

Certificate of Authorization No. N899 expires Oct. 28, 1977

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Province of Pennsylvania and employed by Phila. Manufacturers Mutual Ins. Co. of Philadelphia, Pa. have inspected the equipment described in this Data Report on November 22, 1976, and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Code, Section III.

By signing this certificate, neither the inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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 November 22, 1976

12-21-76 DATE

David L. Bartley (Inspector)

NB 7525 Pa. 2159 (National Board, State, Province and No.)

*Part of the Factory Mutual System

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 5/6/99
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — w/o # 98-02830-00 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by WATTS BAR NUCLEAR PLANT (Name) — Type Code Symbol Stamp N/A
P O Box 2000 SPRING CITY, TN 37381 (Address) — Authorization No N/A
Expiration Date N/A

4. Identification of system CO1 MAIN STEAM

5. (a) Applicable Construction Code ASME Sec III Cl 1 1974 Edition, W74 Addenda, NONE Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Globe Valve	YARWAY CORP	8733	NONE	1-FCV-001-0512	77	~~REPAIRED~~ REPLACED	YES
Globe Valve	YARWAY CORP	8730	NONE	2-DRU-063-0505	77	~~REPLACEMENT~~ ~~REPLACED~~ REPAIRED	YES

REV. 1

7. Description of Work REV 0 - REPAIR VALVE ; REV 1 REPLACED VALVE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☑
Other ☐ Pressure NOP psi Test Temp NOT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks Reference Code Case N-416-1
Applicable Manufacturer's Data Reports to be Attached
Tracking # RR-02-14 RR 6/10/98

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this ~~repair~~ REPLACEMENT 3/22/99 conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed [signature] - Mech Engr Date 5/6 19 99
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I & I CO. of Hartford CT. have inspected the components described in this Owner's Report during the period 6/13/98 to 5/10/99 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.

Bruce M Earnigh Commissions TN 2534 "I" "N" "A"
Inspector's Signature National Board, State, Province, and Endorsements

Date 5/10 19 99

FORM NPV-1 MANUFACTURERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES

As Required by the Provisions of the ASME Code Rules

EXISTING CI VLV S/N 8733

CI VLV SN 8730

Manufactured by Yarway Corporation, Blue Bell, Pa. Order No. 45092
(Name & Address of Manufacturer)

2. Manufactured for Bravo Corporation Order No. E2S97 & E2S98
(Name and Address)

3. Owner Tennessee Valley Authority W860724K1554 (2)

4. Location of Plant Spring City, Tenn.

5. Pump or Valve Identification Nuclear Service Line Valves, 2" and smaller, Serial Nos. 8728 Thru 8752
(Brief description of service for which equipment was designed)

(a) Drawing No. 103271-07 Prepared by Yarway Corporation

(b) National Board No. None

6. Design Conditions 2665 (Pressure) psi 700 (Temperature) °F or Pressure Class 1 500 PSI

7. The material, design, construction, and workmanship complies with ASME Code Section III, Class 2

Edition 1974, Addenda Date Winter 1974, Case No.

	Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings	A7 & A8	AMS 5382	Nova/Howret	Disc
(b) Forgings	3 & 6	SA105	Pittsburgh Forging	Body
	YW 781	SA 182 F6	Al Tech Steel	Backseat Bushing

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AUTHORIZED NUCLEAR INSPECTOR H.S.B.

(1) For manually operated valves only.

*Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8½" x 11", (2) information in items 1, 2, 3a and 3b on this data report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

3/75

This form (E00037, may be obtained from the Order Dept., ASME, 345 E. 47 St., New York, N.Y. 10017.

PAGE 1 OF

FORM NPV-1 (back)

	Item No.	Material Spec. No.	Manufacturer	Remarks
(c) Bolting	None			
(d) Other Parts	None			

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8. Hydrostatic test 5400 psi.

CERTIFICATION OF DESIGN

Design information on file at T.V.A. Knoxville, Tenn.

Stress analysis report on file at Not Required

Design specifications certified by George F. Dilworth (1) P.E. State

Stress analysis report certified by Not Required (1) P.E. State

(1) Signature not required. List name only.

We certify that the statements made in this report are correct.

Date March 25, 19 77 Signed Yarway Corporation (Manufacturer) By W. A. Volgy

Certificate of Authorization No. N899 expires Oct. 28, 1977

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Province of Pennsylvania and employed by Phila. Manufacturers Mutual Ins. Co. of Philadelphia, Pa. have inspected the equipment described in this Data Report on March 25, 19 77, and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Sections of ASME Code, Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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 March 25, 19 77

D. Daullary Commissions NB 7525 Pa. 2159

(Inspector) (National Board, State, Province and No.)

David L. Daullary

*Part of the Factory Mutual System

PAGE 19 OF 197

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 07/07/98

400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 0

P. O. Box 2000, Spring City, TN, 37381 (Address) — Work Order 98-007689-000 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by Mech. Maint. WBN (Name) — Type Code Symbol Stamp ____

P.O. Box 2000, Spring City, TN. 37385 (Address) — Authorization No ____

Expiration Date ____ N/A 7-14-98

4. Identification of system 078, SPENT FUEL PIT COOLING

5. (a) Applicable Construction Code SEC III, CL. 2 19 71 Edition, SUMMER 73 Addenda, N/A Code Case

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
PIPING	N/A	N/A	N/A	N A	NA	REPLACED	NO

7. Description of Work Install 2" pipe w/cap over 1" cplg. and plug to stop leak.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure N/A psi Test Temp N/A °F Static Head Pressure only

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

9844458

FORM NIS-2 (Back)

9. Remarks Tracking # RR-02-15
Applicable Manufacturer's Data Reports to be Attached

CODE CASE N-416-1 WELDING

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp _____

Certificate of Authorization No. N/R

Signed James R Cowles Steamfitter Foreman Date 7-24-98 19 ____
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB IEI CO. of Hartford conn. have inspected the components described in this Owner's Report during the period 7/7/98 to 7/24/98 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.

Bruce M Esmagh Commissions TN 2534
Inspector's Signature National Board, State, Province, and Endorsements

Date 7/24 19 98

WO # 98-008416-001

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 09/20/98
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____
2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — MMG 98-008416-001
3. Work Performed by WATTS BAR NUCLEAR PLANT (Name) — Repair Organization P.O. No., Job No., etc. Type Code Symbol Stamp N/A
P.O. BOX 2000, SPRING CITY, TN 37381 (Address) — Authorization No N/A
Expiration Date N/A
4. Identification of system SIS, SAFETY INJECTION SYSTEM, 063
5. (a) Applicable Construction Code ASME SEC. III 19 74 Edition, S'75 Addenda, NONE. Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-CKV-063-0725	ROCKWELL INTERNATIONAL	~~CD187 & CD186~~ CD787	N/A	NONE	1987	REPAIR	YES
1-CKV-063-0725	ROCKWELL INTERNATIONAL	CD787	N/A	BONNET	1987	REPAIR	YES

7. Description of Work REMOVE/REPLACE SEAL WELD ON BONNET.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure X
Other ☐ Pressure 100 psi Test Temp 400 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

DAEC

WO # 98-008416-001

FORM NIS-2 (Back)

9. Remarks _____
Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-24 Rev 9/21/98

REF. CODE CASE N416-1

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE.

Certificate of Authorization No. NONE.

Signed _____ Date 4-5 19 99
Owner or Owner's Designee, Title

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 TN and employed by HSB I&I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 9-21-98 to 4-5-99 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.

_____ Commissions TN 2533
Inspector's Signature National Board, State, Province, and Endorsements

Date 45 19 99

WC 4 10 57 SCT 21-5

49-00941G

as required by the Provisions of the ASME Code, Sec. III, Div. 1 — Page 1 of 2

1 Manufactured by Rockwell International, P.O. Box 501, Sulphur Springs, Texas 75482
(Name and Address of N Certificate Holder)

2 Manufactured for Tennessee Valley Authority, 111 Lupton Bldg., Chattanooga, TN 37401
(Name and Address of Purchaser or Owner)

3 Location of Installation Tennessee Valley Authority, Watts Bar Nuclear Plant, Spring City, TN 37381
(Name and Address)

4 Type of Valve Valve - Check Nominal Inlet Size 3" (inch) Outlet Size — (inch)

	(a) Model No., Series No. or Type	(b) N Certificate Holder's Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Nat'l Bd No.	(g) Year Built
(1)	BJ6174F316JT2 CD787-CD788	NA	BM 1607432		NA		1987
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

5 Rockwell International Assembly Lot No. H7 Qty. 2
(Brief description or service for which equipment was designed)
ACD Drawing No. C-1607432-None

6 Design Conditions 2250 psi (Pressure) 800 °F (Temperature) or Valve Pressure Class 1500 (1)

7 Cold Working Pressure 3000 psi at 100°F

8 Pressure Retaining Pieces

	Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings				
	Disks C1308#1	A567GR1	Consolidated	Heat
	Disks C0823#1	A567GR1	Consolidated	Heat
(b) Forgings				
	Bodies SK501 HT#2	SA182F316	Texas Forge	LDV Steel Heat 8650309
	Bodies FKE	SA182F316	Trinity Forge	Carpenter Heat 66474

(1) For manually operated valves only.

* Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8-1/2" x 11", (2) information in items 1, 2 and 5 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

(10/77) This form (600037) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

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Item No.	Material Spec. No.	Manufacturer	Remarks
(c) Bonnet			
NA			
			WO 4 PCF&T SC
			NRC 9-14-93
			93-00344-001
(d) Other Parts			
Covers GO790	SA479T316	Coulter	Slater Heat 89049
Sealweld Filler	SFA5.9ER308	Teledyne McKay	Heat C-7066

g Hydrostatic test 5400 psi Disc Differential test pressure 3600 psi

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump, or valve, conforms to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Div 1, Edition 1974 Addenda Summer 1975 (Date) Code Case No. None Date 6-2-87

Signed Rockwell International (N Certificate Holder) by [signature]

Our ASME Certificate of Authorization No. N-1814 to use the (N) (N) symbol expires 8/12/89 (Date)

CERTIFICATION OF DESIGN

Design information on file at Rockwell International, Sulphur Springs, Texas

Stress analysis report (Class 1 only) on file at Not Applicable

Design specifications certified by (1) L. Ike Ezekoye

PE State PA Reg. No. 18379-E

Stress analysis certified by (1) Not Applicable

PE State Reg. No.

(1) Signature not required. List name only.

CERTIFICATE OF SHOP 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 Texas and employed by Victoria Lloyds' Ins. Co. of Houston, Texas 77098 have inspected the pump, or valve, described in this Data Report on 6-1 19 87, and state that to the best of my knowledge and belief, the N Certificate Holder has constructed this pump, or valve, 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 equipment described in this 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 6-2 19 87

[signature] (Inspector) Commissions Texas 595 (Nat'l Bd., State, Prov. and No.)

SEQUOYAH NP
Page [illegible]

30

WBN
PAGE
CS

PAGE 24 OF 187

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 03/23/1999
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____
2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — Contract 1241878
3. Work Performed by Target Rock (Name) — Repair Organization P.O. No., Job No., etc.
1966E Broadhollow Rd, E. Farmingdale, NY 11735 (Address) — Type Code Symbol Stamp N/A
(note work performed at Wyle Labs) — Authorization No N/A
Expiration Date N/A
4. Identification of system 068, Reactor Coolant System
5. (a) Applicable Construction Code ASME Sec III 19 80 Edition, W80 Addenda, n/a Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PCV-68-340A-A	Target Rock	5		Model 83A	83	repaired	Y
main disc	Target Rock	8		P/N 300891-1	97	replacement	Y
main seat insert	Target Rock	n/a		P/N 200783-1	85	replacement	N
pilot disc	Target Rock	n/a		P/N 202918-1	95	replacement	N
1-PCV-68-0334-B	Target Rock	4		Model 83A	83	repaired	Y

7. Description of Work serial number 5 - replaced main seat disc & insert & pilot disc; seal welded both valves

Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other x Pressure 2235 psi Test Temp ambient °F
Wyle test procedure #1056

Note: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks Tracking Number RR-02-025
Applicable Manufacturer's Data Reports to be Attached

Valve serial number 4 was installed under WO 98-012709-000.

Valve serial number 5 was installed under WO 98-013995-000.

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp n/a

Certificate of Authorization No. n/a

Signed Kevin E Casey ISI SPECIALIST Date 6/3 19 99
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I & I Co. of Hartford CT. have inspected the components described in this Owner's Report during the period 9/30/98 to 6/7/99 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.

Bruce M Earnigh Commissions TN2534 "I" "N" "A"
Inspector's Signature National Board, State, Province, and Endorsements

Date 6/7 19 99

FORM NPV-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES*

As Required by the Provisions of the ASME Code, Section III, Div. 1

7

1. Manufactured by Tyrer Rock Corporation 19662 Broadhollow Rd E. Farmingdale, N.Y.
(Name and Address of N Certificate Holder)

2. Manufactured for Tennessee Valley Authority Chattanooga, Tennessee
(Name and Address of Purchaser or Owner)

3. Location of Installation Sequoyah Nuclear Plant, Daisy, Tennessee
(Name and Address)

4. Pump or Valve Valve. Nominal Inlet Size 3 (inch) Outlet Size 3 (inch)

	(a) Model No., Series No. or Type	(b) N Certificate Holder's Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Nat'l. Bd. No.	(g) Year Built
(1)	83A	S 6		82WW-001	1		1983
(2)							
(3)							
(4)				W860724K1153 (2)			
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

FILMED FROM BEST AVAILABLE COPY

5. PRESSURIZED RELIEF POWER RELIEF VALVE
(Brief description of service for which equipment was designed)

6. Design Conditions 2485 (Pressure) psi 680 (Temperature) °F or Valve Pressure Class 1707 (1)

Cold Working Pressure 4100 psi at 100°F.

7. Pressure Retaining Pieces

Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
(b) Forgings			
Body	ASME SA 182, F316L	Carmel Forge	

TVA 15 CMK

RECEIVED DEC 08 1983

209 No. 1

(1) For manually operated valves only.

* Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8-1/2" x 11", (2) information in items 1, 2 and 5 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

FORM NPV-1 (Back)

Mark No.	Material Spec. No.	Manufacturer	Remarks
Fitting			
(d) Other Parts			
Bonnet	ASME SA479 316	Joslyn Stainless Steel	
Main Disc	ASME SA 479, SS347	Joslyn Stainless Steel	
Indicator Tube	ASME SA 479, SS316	Universal Cyclops	
Flange	ASME SA 182, 316	Carpenter Tech. & Universal Cyclops	
Seat Insert	ASME SA 479, 316L	Joslyn & Carpenter Tech.	

9. Hydrostatic test 6150 psi. Disk Differential test pressure 4510 psi.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump, or valve, conforms to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Div. 1., Edition 1980. Addenda Winter 1980 (Date). Code Case No. ——— Date ———

Signed Target Rock Corporation (N Certificate Holder) by R. Ruvolo 11/18/83 R.G. Abruzzo, Mgr. of Quality

Our ASME Certificate of Authorization No. 1947 to use the (N) symbol expires 12/9/83 (Date).

CERTIFICATION OF DESIGN

Design information on file at Target Rock Corporation

Stress analysis report (Class 1 only) on file at Target Rock Corporation

Design specifications certified by (1) Marvin V. Miller

PE State TN Reg. No. 013995

Stress analysis certified by (1) Marvin Gladstone

PE State NY Reg. No. 31940

(1) Signature not required. List name only.

CERTIFICATE OF SHOP 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 New York and employed by Commercial Union Ins. of Boston, Mass. have inspected the pump, or valve, described in this Data Report on 11/18 1983, and state that to the best of my knowledge and belief, the N Certificate Holder has constructed this pump, or valve, 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 equipment described in this 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 11/18 1983 NEW YORK STATE COMMISSION NO. 2288

William A. Rebard (Inspector) Commissions ALSO COMMISSIONED IN Penn, Ohio & Conn. (Nat'l Bd., State, Prov. and No.)

TENNESSEE VALLEY AUTHORITY
SHIPPING TICKET

No. S62-99-0252

SHIPPER CHRIS LONGWITH

POINT OF ORIGIN SPRING CITY, TN. 37381 12-22 19 98

SHIPPING STOREROOM WATTS BAR NUCLEAR PLANT

AUTHORITY JERRY CLOTHIER MANAGER

SHIP TO
WYLE LABORATORIES
7800 HIGHWAY 20 WEST
HUNTSVILLE, AL 35806
ATTN: GREG MASON

BILL TO

ACCT NO. DEBIT (DO NOT INCLUDE TRANSPORTATION CHARGES)

RECORD ONLY ØØØ WZF4

CREDIT

ITEM	QTY ORDERED	DESCRIPTION	PSC-ITEM NO. BIN NO.	QTY DELIVERED	UNIT	UNIT PRICE	AMOUNT
1	1	SEAT, VALVE, INSERT P/N: 200783-1 CONTRACT # 342533 IT-20, QA LEVEL I	BCW-672F	1	EA		
2	1	DISK, VALVE, PILOT, P/N: 202918-1 RLSE: 1038087 IT-74 QA LEVEL I	BGM-743X	1	EA		
3	1	DISK, VALVE, MAIN P/N: 300891-1, S/N: 8 RLSE: 1181193 QA LEVEL I	BEQ-124P	1	EA		
		REF RLSE'S: 1299520 & 1241878					
		THIS MATERIAL CONTAINS NO RADIOACTIVITY					

Shipping Weight

Distribution of Transportation Charges

Date Shipped 12-22-98 G.B.L. No. TV

Method of Shipment TVAT

Distribute as needed

TVA 144 (5-1970) [6-1996]

FORM N-2 CERTIFICATE HOLDERS' DATA REPORT FOR IDENTICAL NUCLEAR PARTS AND APPURTENANCES*

As Required by the Provisions of the ASME Code, Section III

Not to Exceed One Day's Production

1 Manufactured and certified by Target Rock, 1966E Broadhollow Rd, E Farmingdale, NY 11735
(name and address of NPT Certificate Holder)

2 Manufactured for Tennessee Valley Authority, Chattanooga, TN 37402-2801
(name and address of Purchaser)

3 Location of installation Watts Bar Nuclear Plant, Spring City, TN 37381
(name and address)

4 Type 300891-1 (drawing no) | SA479 347 (mat'l spec no) | 75 ksi (tensile strength) | N/A (CRN) | 1997 (year built)

5 ASME Code, Section III, Division 1 | 1980 (edition) | Winter 1980 (addenda date) | 1 (class) | None (Code Case no)

6 Fabricated in accordance with Const. Spec. (Div 2 only) N/A (no) Revision N/A Date N/A

7 Remarks Main Disc Assembly

Spare parts for valve Model No 82UU-001

8 Nom Thickness (in) N/A Min design thickness (in) N/A Dia ID (ft & in) N/A Length overall (ft & in) N/A

9 When applicable Certificate Holders' Data Reports are attached for each item of this report

Part or Appurtenance Serial Number	National Board NO In Numerical Order
(1) 8	N/A
(2) 9	
(3) N/A	
(4)	
(5)	
(6)	
(7)	
(8)	
(9)	
(10)	
(11)	
(12)	
(13)	
(14)	
(15)	
(16)	
(17)	
(18)	
(19)	
(20)	
(21)	
(22)	
(23)	
(24)	
(25)	

Part or Appurtenance Serial Number	National Board NO In Numerical Order
(26)	
(27)	
(28)	
(29)	
(30)	
(31)	
(32)	
(33)	
(34)	
(35)	
(36)	
(37)	
(38)	
(39)	
(40)	
(41)	
(42)	
(43)	
(44)	
(45)	
(46)	
(47)	
(48)	
(49)	
(50)	

10 Design pressure N/A psi Temp N/A F Hydro Test pressure 4510 psig at temp F (when applicable) Ambient

* Supplemental information in form of lists, sketches, or drawings may be used provided (1) size is 8½ x 11, (2) information in items 1 through 4 on this Data Report is included on each sheet, (3) each sheet is numbered and the number of sheets is recorded at the top of this form

(12/88) This form (E00040) may be obtained from the Order Dept., ASME, 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300 REPRINT (7/91)

FORM N-2 (BACK - Pg. 2 of 2)

Certificate Holder's Serial Nos 8 through 9

CERTIFICATION OF DESIGN

Design specifications certified by Marvin v Miller (when applicable) P E State TN Reg No 013995

Design report* certified by Martin Goldstone (when applicable) P E State NY Reg No 031940

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this (these) Part conforms to the rules for construction of the ASME Code, Section III, Division 1

NPT Certificate of Authorization No N-1948 Expires 12/12/98

Date [illegible] Name Target Rock (NPT Certificate Holder) Signed [signature] R E Glazier, Manager, Q E (authorized representative)

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 Province of New York and employed by Commercial Union Insurance Co of Boston, MA have inspected the pump, or valve, described in this Data Report on 7/24/97, and state that to the best of my knowledge and belief, the Certificate Holder has fabricated these parts or appurtenances in accordance with the ASME Code, Section III, Division 1. Each part listed has been authorized for stamping on the date shown above.

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

Date 7/24/97 Signed [signature] Commissions N. Y. STATE COMMISSION NO. 2288 ALSO COMMISSIONED IN PENN., OHIO & CONN.

(Authorized Inspector) (Nat'l Bd (incl endorsements) and state or prov and no.)

WBN-TVA-R97-1252
PAGE 4 OF 19

PAGE 31 OF 187

Target Rock Corporation, 1966E Broadhollow Road, P O Box 379 Farmingdale N Y 11735-0379

CERTIFICATE OF CONFORMANCE

CUSTOMER: Tennessee Valley Authority

FOR: Watts Bar Nuclear Plant

CUSTOMER P.O. #: P87ZNR-467870-000 Release # 1181193

PROJECT #: 97S-102

PRODUCT:

	P O ITEM	P/N	QTY	S/N	CURE DATE	EXP DATE
Main Disc Assembly	0001	300891-1	2	8, 9	-	-
Gasket	0002	200989-2	4	-	3Q95	3Q2015

We certify that the parts noted herein meet all the requirements of the purchase order, drawing and specifications Further we certify that all final inspections and tests required to verify conformance of the items have been performed, and that the detailed fabrication, inspection and test records quoted in the order and specifications are traceable and are on file

The shelf life of Silicone Rubber (Item No 002) is 20 years when the material is stored in clean dry containers, away from contaminates, sunlight and radiation, at a temperature not to exceed 120°F

Target Rock Quality Assurance Manual, Edition 7, Revision 0, dated 05/22/97 is applicable

We certify that the items supplied are the same in design and materials and were manufactured under the same process and quality controls as those items qualified by Target Rock Qualification Test Report Nos 3524 Rev A and 3543 Rev. Original.

WBN-TVA-R97-1292
PAGE 2 OF 19

7/24/97
R. E. Glazier Date
Manager, Quality Engineering

(800)

FAX (516) 293-[illegible]

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Target Rock Corporation, P.O. Box V, 1966E Broadhollow Rd., East Farmingdale, N.Y. 11735 / Phone (516) 293-3800

TRACKING NO. 9400050258 63
PAGE 62 OF 69
593523

CUSTOMER: TENNESSEE VALLEY AUTHORITY

DATE: February 4, 1985

P.O. NO.: 84P72-342533

T.R. PROJECT: 84S-135-2

CERTIFICATE OF COMPLIANCE

TARGET ROCK CORPORATION hereby certifies that the below listed material furnished on this contract are in full compliance with all specification and contract requirements.

ITEM	QTY.	DESCRIPTION	PART NUMBER	NSN
2	2	Disc, Pilot	202918-1	
3	2	Rod, Disc	202819-1	
7	2	Rod	102670-17	
10	2	Core, Fixed	202551-2	
18 *	4	O-Ring	300-2034	
19 *	4	Gasket	200989-2	
20	2	Seat Insert	200783-1	

*ITEM 18 - CURE DATE: 2Q84
SHELF LIFE: 10 YEARS

*ITEM 19 - CURE DATE: 3Q84
SHELF LIFE: 10 YEARS

J. Schindler
Manager, Spare Parts

PAGE 33 OF 187

Target Rock Corporation, 1966E Broadhollow Rd., P.O. Box V, Farmingdale, N.Y. 11735-0917

140

CERTIFICATE OF CONFORMANCE

CUSTOMER: Tennessee Valley Authority

FOR: Watts Bar Nuclear Plant

CUSTOMER P.O. #: P-87ZNR-467870 Release # 1038087 Supplement 002

TRC PROJECT #: 94S-281

PRODUCT:	P.O. ITEM	P/N	QTY.	S/N
Pilot Disc	74	202918-1	1	42

We certify that the parts noted herein meet all the requirements of the Purchase Order, Drawing and Specifications. Further we certify that the detailed fabrication, inspection and test records quoted in the order and specifications are traceable and are on file.

TRC Quality Manual, Edition 5, Revision 9, Dated 9/30/94 is applicable.

We certify that the items meet the requirements applicable to the items as originally specified by TVA Contract No. 82K22-831934 (Model 82UU-001).

2/28/95

for E. Champey Date
Director, Quality Assurance

4
9502000549888
PS 2 OF 3

Telephone: (516) 293-3800

FAX: (516) 293-6144

PAGE 34 OF 187

FORM NPV-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES*

As Required by the Provisions of the ASME Code, Section III, Div. 1

1. Manufactured by Target Rock Corporation 1966 E. Broadhollow Rd E. Farmingdale, N.Y.
(Name and Address of N Certificate Holder)

2. Manufactured for Tennessee Valley Authority Chattanooga, Tennessee
(Name and Address of Purchaser or Owner)

3. Location of Installation Watts Bar Nuclear Plant, Units 1 & 2, Spring City, Tennessee
(Name and Address)

4. Pump or Valve Valve. Nominal Inlet Size 3 (inch) Outlet Size 3 (inch)

	(a) Model No., Series No or Type	(b) N Certificate Holder's Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Nat'l. Bd. No.	(g) Year Built
(1)	8200	1,2,3,4	-----	8200-001	1	-----	1983
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

W860724K0532 (2)

Contract No. 83-1934

R.D. or S.T. No.

ECN No. 83-3382

5. PRESSURIZED RELIEF POWER OPERATED RELIEF VALVE
(Brief description of service for which equipment was designed)

6. Design Conditions 2485 (Pressure) psi 680 (Temperature) F or Valve Pressure Class ----- (1)

Cold Working Pressure 4100 psi at 100°F

8. Pressure Retaining Pieces

Mark No	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
(b) Forgings			
Body	ASME-SA 182 SS 316L	Carmel	

QC&R FEB 17 1983

AUTHORIZED NOV 16 1983 NUCLEAR INSPECTOR H.S.

(1) For manually operated valves only.

* Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8-1/2" x 11", (2) information in

Mark No.	Material Spec. No	Manufacturer	Remarks
(c) Bolting			
(d) Other Parts			
Bonnet	ASME SA 479 SS 316	ARMCO	
Main Disc	ASME SA 479 SS 347	Joslyn	
Indicator Tube	ASME SA 479 SS 316	Universal Cyclops	
Flange	ASME SA 182 SS 316	Carpenter	
Seat Insert	ASME SA 479 SS 316L	Joslyn	

9. Hydrostatic test 6150 psi Disk Differential test pressure 4510 psi

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump, or valve, conforms to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Div. 1., Edition 1980 Addenda Winter 1980 (Date). Code Case No ----- Date -----

Signed Target Rock Corporation (N Certificate Holder) by G. Abruzzo, Mgr. of Quality 12-4-83

Our ASME Certificate of Authorization No. 1947 to use the ___ (N) symbol expires 12/9/83 (Date)

CERTIFICATION OF DESIGN

Design information on file at Target Rock Corporation

Stress analysis report (Class 1 only) on file at Target Rock Corporation

Design specifications certified by (1) Marvin V. Miller

PE State TN Reg. No. 013995

Stress analysis certified by (1) Martin Goldstone

PE State NY Reg. No. 31940

(1) Signature not required. List name only.

CERTIFICATE OF SHOP 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 New York and employed by Commercial Union Insurance of Boston, Mass. have inspected the pump, or valve, described in this Data Report on 2/4 19 83, and state that to the best of my knowledge and belief, the N Certificate Holder has constructed this pump, or valve, 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 equipment described in this 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 12/4 19 83 NEW YORK STATE COMMISSION NO. 2238

98002396000

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 10/19/98
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — MMG 98-002396-000 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by MECH MAINT W&ND (Name) — Type Code Symbol Stamp 1
PO BOX 2000 SPRING CITY TN 37381 (Address) — Authorization No N/A
Expiration Date ✓

4. Identification of system REACTOR COOLANT SYSTEM 068

5. (a) Applicable Construction Code ASME SECT III 1971 Edition, SUMMER 72 Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
CARTRIDGE SEAL	WESTINGHOUSE	2181 ~~2183~~ CW 5/25/99	N/A	PN - 50-573-2-1401	70	REPLACE	N

7. Description of Work REPLACE CARTRIDGE SEAL SEAL INSPECTED UNDER W.O. 96-018330-002 SERIAL NO. 2181, CW 5/25/99 SEAL REMOVED FROM RCP #1 UNDER W.O. 96-018330-001 TO BE INSTALLED IN RCP #1

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure 2300 CW 5/25/99 psi Test Temp 550 °F 1-TRI-68-6

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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FORM NIS-2 (Back)

9. Remarks TRACKING NO. 3R-02-307 1-16-98
Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE

Certificate of Authorization No. NA

Signed D H Collins Mech Engr. (Owner or Owner's Designee, Title) Date 4/13 19 99

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 TENNESSEE and employed by HSB I&I CO of HARTFORD CT. have inspected the components described in this Owner's Report during the period 10/20/98 to 4/15/99 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.

Bruce M. Carnigh (Inspector's Signature) Commissions TN 2534 "I" "N" "A" (National Board, State, Province, and Endorsements)

Date 4/15 19 99

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WORKPLAN K-P035YN-3
Page IC-268

98002396000

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 1/20/94
P.O. BOX 2000 SPRING CITY, TN (Address) Sheet 1 of 1
2. Plant WATTS BAR NUCLEAR PLANT (Name) Unit 1
P.O. BOX 2000 SPRING CITY TN (Address) ~~WORK PLAN~~ CW WORK PLAN K-P)3579N-3 * (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by TVA (Name) Type Code Symbol Stamp N/A
P.O. BOX 2000 SPRING CITY TN (Address) Authorization No. N/A
Expiration Date N/A
4. Identification of System REACTOR COOLANT SYSTEM (62)
5. (a) Applicable Construction Code USAS B 31 1967 Edition, Summer 72 Addenda, N Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989 NC
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Reactor Coolant Pump 1 # 2 Seal Housing	Westinghouse	2131	N/A	P/N 5055D24G01	1990	Replacement	No
Reactor Coolant Pump 2 # 2 Seal Housing	Westinghouse	2133	N/A	P/N 5055D24G01	1990	Replacement	No
Reactor Coolant Pump 3 # 2 Seal Housing	Westinghouse	2237	N/A	P/N 5055D24G01	1990	Replacement	No
Reactor Coolant Pump 4 # 2 Seal Housing	Westinghouse	2296	N/A	P/N 5055D24G01	1990	Replacement	No

7. Description of Work Installation of 2CP cartridge seals included new #2 seal housings.
8. Tests Conducted: Hydrostatic [X] Pneumatic [ ] Nominal Operating Pressure [ ]
Other [ ] Pressure _____ psi Test Temp. _____ °F

* This form will be added to WP-K-P035-3 after approval as a corrective action to WBPER930414. CW 1/27/94

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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WESTINGHOUSE ELECTRIC CORPORATION

CR ____ - 30[illegible] REV ____

(E-EMD) (P-PENSACOLA)
(N-NEED) (T-TAMPA)

98002396000

BUY S.O. / CUST. SALE P. O.	PROJECT P. O.	PROJECT	REQ S. O. NO.	DATE MO DAY YR.
71C62-34114-1	NA	WAT	125	02 27 90

CER NO.	DIV./ PLANT S.O.NO.	PARTBASE	PARTPROJ	CHIBASE	CHIPROJ
CO-42067	0094	NA	NA	NA	NA

EQUIP.SPEC.NO.& REV.(BASE)	EQUIP.SPEC.NO.&REV.(PROJECT)	DRAWING NO.	REV.	ITEM
NA	NA	114E921	11	52

S.O. ITEM NUMBER	SPIN NUMBER	PART NAME	QTY. RELEASED
NA	RCPCPI	Cartridge Seal Assemoly	2

SERIAL OR IDENTIFICATION NUMBERS

See Attached PA 2217

The attributes listed below have been reviewed and approved by QC/QA as noted by an A in the status column. Non-applicable items are lined out. Records are available for review. Contingent items are identified by "C" in the status column and explained in the remarks section.

STATUS		STATUS		STATUS	
A	Material Certifications	____	~~Operating Electrical Test Records~~	____	~~ASME Data Report Forms~~ ATTACHED
A	Heat Treat Records	____	~~Non-Operating Elec. Test Records~~	____	Certified Mtrls Report
____	RT Film and Records	A	Pressure Test Records	____	~~Certified Welding Procedure & Welder Qual.~~
A	PT Records	____	~~Seat Tightness Test Records~~	A	Performance Test
____	~~MT Records~~	A	Performance Test Records	____	Certification - Attached
____	UT Records	A	Welding Personnel Qual. Cert.	A	General Assemoly Drawing -
A	Visual Inspection Records	A	NDE Personnel Qual. Cert.	____	Attached
A	Dimensional Inspection	____	~~Painting~~	____	____
A	Cleanliness	A	Packaging	____	____

CUSTOMER QA DATA PACKAGE REQUIRED BY PURCHASE ORDER: ☒ YES ☐ NO DEVIATION NOTICE(S): ☒ NONE ☐ APPLICABLE SNSI LISTED BY SN NUMBER BELOW (COPY ATTACHED TO SHIPPING PAPERS)

THE SUPPLIER CERTIFIES that for the equipment and material released, all contractual requirements have been met. Approved deviations, if any, are listed above.

SUPPLIER: NA — P.O. NUMBER: NA

SUPPLIER SIGNATURE: NA — DATE: NA

Equipment shown hereon is released by ☒ Quality Assurance. Shipment may be made subject to authorization by ☒ Purchasing.

The equipment supplier has certified that the equipment above meets all requirements of the purchase order drawings and specifications. Westinghouse has reviewed evidence supporting this release and except as specified above has detected no deviations from such requirements. This release does not waive any rights Westinghouse may have under the purchase order including Westinghouse's right to reject the equipment upon discovery of any such deviations after arrival at destination.

Westinghouse Quality Assurance Representative

TO: WESTINGHOUSE
CHESWICK, PA 15024

SHOP ORDER: Q094	THIS SHIPMENT: 1	DATE: 2/23/90	OR: E [redacted]245-C
GENERAL ORDER NO.: C042067	TOTAL ON ORDER: 107	DOMESTIC: X / EXPORT:	SIGNATURES
PURCHASE ORDER NO.: 71C62-54114-1	TOTAL DEL'D TO DATE: 104	FLAMMABLE: No	PLANNER: J. Clink 2-23-90
SPIN NUMBER: RQPCP1	PARTIAL: X / FINAL:	NUMBER OF CONTAINERS: 8	EXPEDITOR: 2-23-90
CUSTOMER WITNESS REQ: Yes			PACKER: 2-23-90
			PACKING INSPECTOR: 2-23-90
			QA RECORDS: 2-23-90

SERIAL NUMBER	PURCHASE ORDER NO.	PART NUMBER/ DRAWING	REV	DESCRIPTION	QTY	CUSTOMER ID	PACKAGING	PARTS AND PKG INSPECTOR
2181		2D74703G01	6	Cart. Seal Assy	1		0623	GM 1
20747		03 G01 is	tem 52 of Gener	l Assembly dwg. 114E921 G03,	which	consists of the	llowing Seals a	nd No. 2 Hous
7805		5053066 G01	13	No. 2 Seal Ring			039	GM 1
4738		5053D75 G02	16	No. 2 Seal Runner			039	GM 1
2999		1D99105 G01	3	No. 3 Seal Ring			039	GM 1
5493		1741C57 H02	13	No. 3 Seal Runner			039	GM 1
2181		5055D24 G01	12	Seal Housing			039	GM 1

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Page

WO 676681

9800239000

9800239600O

FORM NPV-1 MANUFACTURERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES*

As Required by the Provisions of the ASME Code Rules

1. Manufactured by Westinghouse Electro-Mechanical Division, Cheswick Avenue, Cheswick, PA 15024 (Name & Address of Manufacturer) Order No. U-363

2. Manufactured for Westinghouse--PWRSD, Monroeville, PA 15230 (Name and Address) Order No. 546-NRC-151792-BN

3. Owner Tennessee Valley Authority W860724K0959 (7)

4. Location of Plant Spring City, Tennessee

5. Pump or Valve Identification S/N 4-114E921-G01

Provide Reactor Coolant Flow in Westinghouse Pressurized Water Reactor
(Brief description of service for which equipment was designed)

(a) Drawing No. 114E921 Prepared by Westinghouse Electric Corporation

(b) National Board No. N/A

6. Design Conditions 2500 (Pressure) psi 650 (Temperature) °F

The material, design, construction, and workmanship complies with ASME Code Section III, Class 1

Edition 1971, Addenda Date Summer 1972, Case No. N/A

See Attachments 1 through 4 for Items (a) through (d) below

Mark No	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
(b) Forgings			

Contract No. 54117-1 Item # 1
P.O. or S.T. No. [illegible] 125
209 No. [illegible]

*Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8½" x 11", (2) information in Items 1, 2, 3a and 3b on this data report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

FORM NPV-1 (back) 98002396000

Mark No.	Material Spec. No.	Manufacturer	Remarks
Bolting			
(d) Other Parts			

8. Hydrostatic test 3750 psi. (Pump Code Parts)

Contract No. 54114-1 Unit 1

R.D. or S.T. No. ACCEPT

209 No. 76-6474 50"/25

CERTIFICATION OF DESIGN

Design information on file at Westinghouse Electro-Mechanical Division

Stress analysis report on file at Westinghouse Electro-Mechanical Division

Design specifications certified by Robert L. Sylvester (1) Prof. Eng. State PA Reg. No. 15441-E

Stress analysis report certified by Dr. O. Hagen (1) Prof. Eng. State PA Reg. No. 09091-E

(1) Signature not required. List name only.

We certify that the statements made in this report are correct.

Date October 13 19 81 Signed Westinghouse Electro-Mechanical Division (Manufacturer) By [signature]

Certificate of Authorization No. N-1385 expires May 14, 1982

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of PENNSYLVANIA and employed by LUMBERMEN'S MUTUAL CASUALTY CO. of LONG GROVE, ILLINOIS have inspected the equipment described in this Data Report on DEC. 4 19 74, and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Code, Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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.

C R Miller (INSPECTOR) COMMISSIONS PA 1784 (NATIONAL BOARD, STATE, PROVINCE AND NO.)

Date OCT. 13 1981

WITNESSED COMPLETED PUMP ASSEMBLY HYDROSTATIC TEST: ~~3107~~ 3136 psi, for 10 minutes.

Westinghouse Representative Charles D. Bice Date 10-24-81

E M Mylan 10-24-81 Commissions NB5608 TN692

(Inspector) (Date) (National Board, State, Province and No.)

Printed in U.S.A. (6/72) This form (E37) is obtainable from the ASME, 345 E. 47th St., New York, N.Y. 10017

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QUALITY RELEASE 9800239600

WESTINGHOUSE ELECTRIC CORPORATION

QA E - 15457 REV 1

(E-EMD) (P-PENSACOLA)
(N-NEED) (T-TAMPA)

BASE P. O.	PROJECT P. O.	PROJECT	WEC S. O. NO.	DATE MO DAY YR.
N/A	1519 Rev 2	WAT	125	10 13 81

GENERAL ORDER NO.	DIV./PLANT S.O.NO.	PARI(BASE)	PARI(PROJ)	CHI(BASE)	CHI(PROJ)
CD-62003-ARSAR1	U-363	N/A	N/A	N/A	23

SUP.SPEC.NO.& REV.	EQUIP.SPEC.NO.& REV.(PROJECT)	DRAWING NO.	REV.	GROUP/ITEM
3-677188 Rev. 1	678814 Rev. 4 with Interim Revisions 1-5	114E921	8	G01

SERIAL NUMBER	SPIR NUMBER	PART NAME	QTY. BY GROUP
N/A	WAT-RCPCPI-04	Reactor Coolant Pump Internals	1

MATERIAL OR IDENTIFICATION NUMBERS
S/N 4-114E921-G01

The attributes listed below have been reviewed and approved by QC/QA as noted by an A in the status column. Non-applicable items are lined out. Records are available for review. Contingent items are identified by "C" on the status column and explained in the remarks section.

STATUS		STATUS		STATUS	
A	Material Certifications	~~Operating Electrical Test Records~~		A	ASME Data Report Form(s) NPV-1 (Attached)
A	Heat Treat Records	~~Non-Operating Elec. Test Records~~		A	Certified Stress Report
A	RT Film and Records	A	Pressure Test Records	A	Special Handling, Storage & Install. Instruc.
A	PT Records	~~Seal Tightness Test Records~~			
	T Records	A	Performance Test Records		
	UT Records	A	Welding Personnel Qual. Cert.		
A	Visual Inspection Records	A	NDE Personnel Qual. Cert.		
A	Dimensional Inspection	~~Painting~~			
A	Cleanliness	A	Packaging		

CUSTOMER QA DATA PACKAGE REQUIRED BY PURCHASE ORDER ☒ YES ☐ NO (IF NOT, DISPOSITION NOTIFIED) ☒ NONE ☐ APPLICABLE ONES LISTED BY ON NUMBER BELOW (COPY ATTACHED TO SHIPPING PAPERS)

This quality release revision is issued to communicate that all contingencies listed on the original quality release have been cleared and authorize application of the "N" symbol stamp to the pump assembly nameplate after completion of site system cold hydro.

THE SUPPLIER CERTIFIES that for the equipment and material ...ed, all contractual requirements have been met. Approved ...ions, if any, are listed above.

SUPPLIER	P.O. NUMBER
N/A	N/A
SUPPLIER SIGNATURE	DATE
N/A	N/A

Equipment shown hereon is released by (M) Quality Assurance. Shipment may be made subject to authorization by (M) Purchasing.

The equipment supplier has certified that the equipment above meets all requirements of the purchase order ... and specifications. Westinghouse has reviewed evidence supporting this release and except as specified ... has obtained no deviations from such requirements. This release does not waive any rights Westinghouse may ... to which the purchase order, including Westinghouse's right to reject this equipment, may be entitled by reason of any such ... after arrival at destination.

Westinghouse Quality Assurance Representative

ATTACHMENT TO FORM NPV-1

Manufactured by Westinghouse Electro-Mechanical Division
Cheswick Avenue, Cheswick, Pa. 15024 Order No. U-363

Manufactured for Westinghouse--PWRSD
Monroeville, PA Order No. 546-NRC-151972-BN

Drawing Number 114E921 Serial Number 4-114E921G01

National Board Number N/A

Component	Part Number	Material Spec. No.	Manufacturer	Serial Number(s)
1A Main Flange	929C854G 01	SA-351 Gr CF8	Esco Corp.	005
1B Thermowell	1306C07G 01	SA-479 Type 304 & SA-213 Grade TP304	Ionics	1588
2 Main Flange Bolts (24)	913C495G01	SA-540 Grade B24	J. Dyson	9077 9074 9004 9079 9078 8387 8391 8920 9073 9042 8922 8928 8926 8929 9045 9043 8386 9044 9041 9046 9075 9040 9076 9072
3 Lower Seal Housing Bolts (12)	4129A37H16	SA-193 Grade B7	Radtorm Tool	2439 2440 2444 2452 2456 2464 2493 2495 2497 2499 2500 2510
4 Upper Seal Housing Bolts (12)	4129A36H10	SA-193 Grade B7	Safety Socket	2085 2235 2621 2098 2236 2623 2106 2252 2659 2233 2589 2698

ATTACHMENT TO FORM NPV-1

Manufactured by Westinghouse Electro-Mechanical Division
Cheswick Avenue, Cheswick, Pa. 15024 Order No. U-363

Manufactured for Westinghouse--PWRSD
Monroeville, PA Order No. 546-NRC-151972-BN

Drawing Number 114E921 Serial Number 4-114E921G01

National Board Number N/A

Component	Part Number	Material Spec. No.	Manufacturer	Serial Number(s)
5 Thermal Barrier	510F365G01	Not Applicable		
5A Flange	510F364G01	SA-182 Grade F 304	Standard Steel	917
5B Water Connection	925B950G02	Not Applicable		
5B.1 Flange	955B758H05	SA-182 Grade 316	Western Forge	2686 2661 267
Pipe	925B950H05	SA-312 Grade Tp 305	Babcock & Wilcox	2869 2867 296
5C Pressure Tap	925B949G___	Not Applicable		
5C.1 Flange	955B798H___	SA-182 Grade 316		N/A
5C.2 Pipe	925B949H___	SA-312 Grade Tp 304		N/A
5C.3 Reducer	955B799H___	SA-182 Grade 316		N/A

ATTACHMENT TO FORM NPV-1

[redacted]ctured by Westinghouse Electro-Mechanical Division
Cheswick Avenue, Cheswick, Pa. 15024 Order No. U-363

Manufactured for Westinghouse--PWRSD
Monroeville, PA Order No. 546-NRC-151972-BN

Drawing Number 114E921 Serial Number 4-114E921G01

National Board Number N/A

Component	Part Number	Material Spec. No.	Manufacturer	Serial Number(s)
6 Lower Seal Housing (Spool)	933D313 H03	SA-182 F304	Standard Steel	862
6A Thermowell	955B797H 02	SA-479 Type 304	Simonds Steel	1560
6B No. 1 Leak Off Connection	913C741G 02	Not Applicable		
[redacted] Flange	955B758H 02	SA-182 Grade 316	Western Forge	2658
6B.2 Pipe	913C741H 05	SA-312 Grade Tp 304		2891
6C Lift Off Connection	913C533G 02	Not Applicable		
6C.1 Flange	955B756H 02	SA-182 Grade 316	Western Forge	2628
6C.2 Pipe	913C533H 05	SA-312 Grade Tp 304	Allegheny Ludlum	2896
7 Upper Seal Housing (Spool)	933D309 H04	SA-182 F304	Standard Steel	871
7A No. 2 Leak Off Connection	929C852G 04	Not Applicable		
7A.1 Flange	955B798H 02	SA-182 Grade 316	Western Forge	2756
[redacted] Pipe	929C852H 07	SA-312 Grade Tp 304	U.S. Steel	2900

ATTACHMENT TO FORM NPV-1

Manufactured by Westinghouse Electro-Mechanical Division
Cheswick Avenue, Cheswick, PA 15024 Shop Order U-363

Manufactured for Westinghouse--PWRSD
Monroeville, PA Purchase Order 546-NRC-151972-8N

Drawing Number 114E921

National Board No. N/A Serial No. 4-114E921G01

The following Reactor Coolant Pump Casing is covered by its own Manufacturers' Data Repo-t (N-2 Form).

Serial Number	Part Number	Manufacturer
927	114E968H01	Esco Corp.

WO # 98-008211-004

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Date 10/07/98
   Name
   400 W. Summit Hill Drive, Knoxville, TN — Sheet ____ of ____
   Address
2. Plant Watts Bar Nuclear Plant — Unit Unit 1
   Name
   P. O. Box 2000, Spring City, TN, 37381 — MMG 98-008211-004
   Address — Repair Organization P.O. No., Job No., etc.
3. Work Performed by WATTS BAR NUCLEAR PLANT — Type Code Symbol Stamp N/A
   Name
   P.O. BOX 2000, SPRING CITY, TN 37381 — Authorization No N/A
   Address
   Expiration Date N/A
4. Identification of system 062, CHEMICAL VOLUME CONTROL
5. (a) Applicable Construction Code ASME SEC. III 19 71 Edition, S'72 Addenda, NONE. Code Case
   (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-RFV-062-0649-S	CROSBY VALVE	N56900-00-0019	180	NONE	75	REPLACE-MENT	YES
1-RFV-062-0649-S	CROSBY VALVE	N56900-00-0005	180	NONE	75	REPLACED	YES

7. Description of Work REMOVE/REPLACE SAFETY RELIEF VALVE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure X*
   Other ☐ Pressure 200 psi Test Temp 225 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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WO # 98-008211-004

FORM NIS-2 (Back)

Remarks Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-31 ECP 10/6/97

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE.

Certificate of Authorization No. NONE.

Signed _____ Date _____ 19 ____
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I&I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 10-20-97 to 4-7-99 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.

_____ Commissions TN 2533
Inspector's Signature National Board, State, Province, and Endorsements

Date 4-7 19 99

W860811 0082 (2)

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MASS

(4)

$10.320

Q.C.-448

FORM NV-1 FOR SAFETY AND SAFETY RELIEF VALVES
As required by the Provisions of the ASME Code Rules

DATA REPORT
Safety and Safety Relief Valves

NB-180

1. Manufactured By Crosby Valve & Gage Company, 41 Kendrick Street, Wrentham, Ma. 02093
Name and Address

Model No. JB-35-TD-WB Order No. W-10206 Contract Date 3-30-73

Westinghouse Electric Corp., Nuclear
2. Manufactured For Energy Systems, Pittsburgh, Pa. 15230 Order No. SVP-CCR-183421-BN
Name and Address

3. Owner Tennessee Valley Authority, Watts Bar Nuclear Power Station Unit #2
Name and Address

4. Location of Plant Near Spring City, Tennessee 37381

5. Valve Identification RV-2-8133-WBT Serial No. N56300-00-0019 Drawing No. DSCA 56900 Rev. A

Type Relief Orifice Size J Pipe Size - Inlet 2 Outlet 3
Safety Safety Relief Pilot Power Actuated inch inch inch inch

6. Set Pressure (PSIG) 150 150° F
Rated Temperature

Stamped Capacity 190 GPM Water 10 % Overpressure - Blowdown 10% of S.P.

Hydrostatic Test (PSIG) Inlet 425 Outlet 425

7. The material, design, construction and workmanship comply with ASME Code Section III

Class 2 Edition 1971 Addenda Date Summer 1972

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Pressure Containing or Pressure Retaining Components

	Serial No. Identification	Material Specification Including Type or Grade
a. Castings		ASTM-A351-72 Gr. CF8M
Body	N90135-33-0002	ASME-SA351 Gr. CF8M
Bonnet	N90449-33-0005	ASTM-A216-70 Gr. WCB
		ASME-SA216 Gr. WCB
b. Bar Stock and Forgings		
Support Rods		
Nozzle	N90137-33-0037	ASME-SA479 Type 316
Disc Insert	N90449-33-0043	ASTM-A-479-71 Type 316
Spring Washers Top	N88631-33-0231	ASME-SA479 Type 316
Bottom	N88636-33-0161	ASTM-A193-70 Gr. B6
Adjusting Bolt	N88635-33-0097	ASME-SA193 Gr. B6
Spindle	N88669-33-0124	ASTM-A193-70 Gr. B6
		ASME-SA193 Gr. B6

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SO 220
REG. NO. 54114-1
ITEM NO. 5A
209 NO. 76-5213 A
DATE 2/19/76

S.O. 220

(5)

	Serial No. or Identification	Material Specification Including Type or Grade
c. Spring	[illegible]	ASTM-A313 Type 316
d. Bolting		
e. Other Parts such as Pivot Components		
Bonnet Stud	- 80184	ASTM-A453-70 Gr. 660 ASME-SA453 Gr. [illegible]
Bonnet Stud Nut	80183	ASTM-A194-[illegible] Gr. 8F ASME-SA194 Gr. 8F

We certify that the statements made in this report are correct.

Date 9-23-75 Signed Crosby Valve & Gage Co. By [signature]
Manufacturer QA Manager

Certificate of Authorization No. 326 expires October 1, 1977

HARD COPY RETAINED

FILMED FROM BEST AVAILABLE COPY

CERTIFICATE OF SHOP 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 [illegible] and employed by Factory Mutual System of [illegible] have inspected the equipment described in this Data Report on [illegible] 19[illegible] and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Section III.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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 [illegible] 19[illegible]

[signature] Commissions NB7325 [illegible]
Inspector's Signature National Board [illegible]

*Arkwright-Boston Manufacturers Mutual Insurance Company of Boston
Boiler & Machinery Division.

REG. NO. 54114-1
ITEM NO. 5A
209 NO. 2-22134

9.26.75
DATE

(41)

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~~WO # 98-008416-001~~ 3/8/99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Date 10/07/98
Name
400 W. Summit Hill Drive, Knoxville, TN — Sheet ____ of ____
Address
2. Plant Watts Bar Nuclear Plant — Unit Unit 1
Name
P. O. Box 2000, Spring City, TN, 37381 — MMG 98-008211-008
Address — Repair Organization P.O. No., Job No., etc.
3. Work Performed by WATTS BAR NUCLEAR PLANT — Type Code Symbol Stamp N/A
Name
P.O. BOX 2000, SPRING CITY, TN 37381 — Authorization No N/A
Address — Expiration Date N/A
4. Identification of system 068, REACTOR COOLANT

5. (a) Applicable Construction Code ASME SEC. III 19 71 Edition, W'72 Addenda, NONE. Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-RFV-068-0563	CROSBY VALVE	N56964-10-0033	906		1983	REPLACEMENT	YES
1-RFV-068-0564	CROSBY VALVE	N56964-10-0029	905	N/A	1983	REPLACEMENT	YES
1-RFV-068-0565	CROSBY VALVE	N56964-10-0034	907		1983	REPLACEMENT	YES
1-RFV-068-0564	CROSBY VALVE	N56964-10-0029	N/A	1 STUD BOLT *	N/A	REPLACEMENT	YES
1-RFV-068-0565	CROSBY VALVE	N56964-10-0034 AC 0-69	N/A	2 STUD BOLTS *	N/A	REPLACEMENT	YES
STUDS REMOVED FROM SN: N56964-10-0096							

* DHC 4/5/99

7. Description of Work REMOVE/REPLACE PRZ. SAFETY RELIEF VALVES AND STUDS IN TWO RFV'S..

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure X*
Other ☐ Pressure 2235 psi Test Temp 650 °F
* TO BE PERFORMED BY 1-TRI-68-6.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 10/07/98
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — MMG 98-008211-008 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by WATTS BAR NUCLEAR PLANT (Name) — Type Code Symbol Stamp N/A
P.O. BOX 2000, SPRING CITY, TN 37381 (Address) — Authorization No N/A
Expiration Date N/A

4. Identification of system 068, REACTOR COOLANT

5. (a) Applicable Construction Code ASME SEC. III 19 71 Edition, W'72 Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-RFV-068-0563	CROSBY VALVE	N56964-10-0095				REPLACED	YES
1-RFV-068-0564	CROSBY VALVE	N56964-10-0097		NA		REPLACED	YES
1-RFV-068-0565	CROSBY VALVE	N56964-10-0096				REPLACED	YES

7. Description of Work REMOVED

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure X ISLT NA
Other ☐ Pressure _____ psi Test Temp _____ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

WO # 98-008211-008

FORM NIS-2 (Back)

9. Remarks

Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-33 RR 10/14/98

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE.

Certificate of Authorization No. NONE.

Signed D.F. Williams MAINT. SPEC. Date 4/4 19 99

Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I+I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 10-20-98 to 4-6-99 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.

Inspector's Signature Commissions TN2533

National Board, State, Province, and Endorsements

Date 4-6 19 99

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MASS

FORM NV-1 FOR SAFETY AND SAFETY RELIEF VALVES
As required by the Provisions of the ASME Code Rules

Q.C.-44C-1

DATA REPORT
Safety and Safety Relief Valves

1. Manufactured By Crosby Valve & Gage Co., 43 Kendrick St., Wrentham, MA 02093
Name and Address

Model No. HB-86-BP Order No N303153B Contract Date 1/26/83 National Board No. 907

2. Manufactured For Westinghouse Electric Corp., Nuclear Energy Systems, P.O. Box 3700, Pittsburgh, PA 15230 Order No. 546-CCK-178353-BN, C/N #010
Name and Address

3. Owner Tennessee Valley Authority, Watts Bar Nuclear Power Station
Name and Address

4. Location of Plant Spri. City, TN 37381 W860811K0101 (2)

5. Valve Identification 6RV38MSC Serial No. N56964-06-0034 Drawing No. DS-C-56964-6 Rev. E

Type Safety Orifice Size 2.154 Inch Pipe Size -- Inch Inlet 6 Inch Outlet 6 Inch
Safety, Safety Relief, Pilot, Power Actuated

6. Set Pressure (PSIG) 2485 650 F
Rated Temperature

Stamped Capacity 420,006 lbs/hr + 3 % Overpressure 5% Blowdown (PSIG) 125

Hydrostatic Test (PSIG) Inlet 4575 Complete Valve --

7. The material, design, construction and workmanship comply with ASME Code, Section III.

Class 1 Edition 1971, Addenda Date Winter 1972, Case No. --

Pressure Containing or Pressure Retaining Components

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Bar Stock & Forgings	Serial No. Identification	Material Specification Including Type or Grade
Body	N90490-33-0053	ASME SA182 Gr. F316
Bonnet	N90353-36-0054	ASME SA105 Gr. II
Support Rods		
Nozzle	N94209-31-0003	ASME SA182 Gr. F316
Disc Holder K57220-32-0046	N90553-32-0045	ASTM A637 Gr. 718
Spring Washers K56380-37-0081	N90350-34-0145 N90350-34-0148	ASME SA105 Gr. II
Adjusting Bolt	N90351-38-0085	ASME SA193 Gr. B6
Spindle Point K56381-34-0022	N90354-34-0022	ASME SA193 Gr. B6
Spindle Ball	N90355-0022	ASTM A276 Type 440C
Disc Insert	N94210-33-0013	ASME SA637 Gr. 718

Contract No. 54114-1
O. or S.T. No. 4687-HSBNS
209 No. 83-3915

PAGE 1 OF 2

	Serial No. or Identification	Material Specification Including Type or Grade
c. Spring K56380-37-0081	NX2761-0068	ASTM A304 Gr. 51B60H
d. Bolting		
e. Other Parts such as Pilot Components		
Bonnet Stud	100987	ASME SA453 Gr. 660
Bonnet Nut	89997	ASME SA193 Gr. B6
Inlet Stud	N90488	ASME SA453 Gr. 660
Inlet Nut	N90489	ASME SA193 Gr. B6

We certify that the statements made in this report are correct.

Date 5/11/ 19 83 Signed Crosby Valve & Gage Co. By
Manufacturer

Certificate of Authorization No. 1873 expires September 30, 1983

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CERTIFICATE OF SHOP 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 Mass. and employed by Arkwright-Boston Manufacturers Mutual Insurance Company have inspected the equipment described in this Data Report on 5-9-1983 and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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 05-14 1983 Factory Mutual System

(Inspector) Commissions NB # 7883 · MA 1274
National Board, State, Province and No.)

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MA

Q.C.-292, REV.A
SHEET 1 OF 2

REPAIR AND REPLACEMENT TO NUCLEAR COMPONENTS AND SYSTEMS IN NUCLEAR POWER PLANTS

1. Work performed by Crosby Valve & Gage Company 43 Kendrick St. Wrentham, MA 02093
(Name and Address)
(Repair organization's P.O. No., Job No., etc.). NV4000329

2. Owner TENNESSEE VALLEY AUTHORITY KNOXVILLE,TN
(Name and Address)

3. Name and Identification of Nuclear Power Plant WATTS BAR NUCLEAR PLANT

4. Address of Nuclear Power Plant SPRING CITY ,TN 37381

5. a. Identifying Nos. N56964-10-0034 907 - ----- 1983
(Mfr's Serial No.) (Nat'l Bd. No.) (Jurisdiction No.) (Other) (Year Built)
b. Identification of component repaired or replacement component SAFETY VALVE
c. Name of Manufacturer CROSBY VALVE & GAGE COMPANY

6. Tests conducted: Hydrostatic (X) Pneumatic ( ) Design Pressure ( ) Pressure 4575.0 psi

tification of System --

8. Applicable Section(s) III of ASME Code, 19 71 Edition

Addenda W72 Code Case --

9. Description of work VALVE MODIFICATION
(Use of additional sheet(s) or sketch(es) is acceptable if correctly identified)

10. Remarks: VALVE SERIAL NUMBER N56964-06-0034 WAS MODIFIED TO VALVE SERIAL NUMBER N56964-10-0034.NOZZLE N94209 WAS REPLACED TO N96523-33-0006. BELLOWS ASSEMBLY K57220 WAS MODIFIED TO K83206-32-0006.DISC INSERT N94210 WAS REPLACED WITH N96522-32-0013.THE INLET STUDS WERE REPLACED WITH TRACE#Y82 QTY 6.THE INLET NUTS WERE REPLACED WITH TRACE #OFG QTY 12.THE VALVE WAS TESTED FOR SET PRESSURE AND SEAT LEAKAGE IN ACCORDANCE WITH TEST PROCEDURE T-16690.

WBN TVA-RQS-0474
PAGE 38 OF 56

PAGE 58 OF 187

Certificate Holder's Serial No. N56964-10-0034

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and all design, material, and workmanship on this MOD (repair/replacement) conforms to the applicable section of the ASME Code.

Signed Lawrence J. Rice (Authorized Rep. of Repair Organization) QA Eng Manager (Title) 23 Jan (Date) 1995

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 Massachusetts and employed by Factory Mutual of Norwood, Massachusetts have inspected the repair or replacement described in this report on January 23, 1995 and state that to the best of my knowledge and belief, this repair or replacement has been made or constructed in accordance with the applicable section of the ASME Code.

By signing this certificate, neither the Inspector nor his employer makes any warrant, 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 1-23, 1995.

Signed (Inspector)

Factory Mutual Systems

Commissions NB10389 N' MA-1418 (Nat'l. Bd., State, Prov. and No.)

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MA

Q.C.-257, REV.B

FACTORY ORDER NUMBER: NV4000329
CUSTOMER ORDER NUMBER: 94N3F-101699-001
VALVE SERIAL NUMBER: N56964-10-0034
VALVE TAG NUMBER: N/A

REPAIR CERTIFICATION REPORT

Description of Repair:

VALVE SERIAL NUMBER N56964-06-0034 WAS MODIFIED TO VALVE SERIAL NUMBER N56964-10-0034. NOZZLE N94209 WAS REPLACED WITH N96523-33-0006 (CMTR, LP, UT AND WT REPORT ATTACHED). BELLOWS ASSEMBLY K57220 WAS MODIFIED TO K83206-32-0006. DISC INSERT N94210 WAS REPLACED WITH N96522-32-0013 (CMTR, LP, UT AND WT REPORTS ATTACHED).THE INLET STUDS WERE REPLACED WITH TRACE#YB2 QTY 6 (CMTR,LP ATTACHED).THE INLET NUTS WERE REPLACED WITH TRACE#OFG QTY 12 (CMTR,MAG ATTACHED).THE VALVE WAS REASSEMBLED,HYDROSTATICALLY, SET PRESSURE AND SEAT LEAK TESTED IN ACCORDANCE WITH T-16690 (REPORT ATTACHED). VALVE WAS INSPECTED TO DS-C-56964-10 AND PACKAGED IN ACCORDANCE WITH P-1769. VALVE IS IN ACCORDANCE WITH SPEC.G-678838 REV.0 .

WBN-TVA-R95-0474
PAGE 40 OF 56

Deborah Allsworth
QUALITY ASSURANCE

23 JANUARY 1995
DATE

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MASS

FORM NV-1 FOR SAFETY AND SAFETY RELIEF VALVES
As required by the Provisions of the ASME Code Rules

Q.C.-44C-1

DATA REPORT
Safety and Safety Relief Valves

W860811K0099 (a)

1. Manufactured By Crosby Valve & Gage Co., 43 Kendrick St., Wrentham, MA 02093
Name and Address

Model No. HB-86-BP Order No N303153B Contract Date 1/26/83 National Board No. 206

2. Manufactured For Westinghouse Electric Corp., Nuclear Energy Systems, P.O. Box 3700, Pittsburgh, PA 15230 Order No. 545-CCX-178353-BN, C/N 0010
Name and Address

3. Owner Tennessee Valley Authority, Watts Bar Nuclear Power Station
Name and Address

4. Location of Plant Spring City, TN 37381

5. Valve Identification 6RV68MSC Serial No. N56964-00-0033 Drawing No. DS-C-56964-6 Rev. E

Type Safety . Orifice Size 2.154 Pipe Size -- Inlet 6 Outlet 6
Safety, Safety Relief, Pilot, Power Actuated Inch Inch Inch Inch

6. Set Pressure (PSIG) 2485

650 F
Rated Temperature

Stamped Capacity 420,006 lbs/hr @ 3 % Overpressure 5% Blowdown (PSIG) 125

Hydrostatic Test (PSIG) Inlet 4575 Complete Valve ---

7. The material, design, construction and workmanship comply with ASME Code, Section III.

Class 1 Edition 1971, Addenda Date Winter 1972, Case No. ---

Pressure Containing or Pressure Retaining Components

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a. Bar Stock & Forgings	Serial No. Identification	Material Specification Including Type or Grade
Body	N90490-33-0047	ASME SA182 Gr. F316
Bonnet	N90353-36-0059	ASME SA105 Gr. II
Support Rods		
Nozzle	N94209-31-0001	ASME SA182 Gr. F316
Disc Holder K57220-32-0047	N90553-32-0038	ASTM A637 Gr. 718
Spring Washers K56380-37-0065	N90350-34-0121 N90350-34-0137	ASME SA105 Gr. II
Adjusting Bolt	N90351-39-0091	ASME SA193 Gr. B6
Spindle Point K56381-39-0089	N90354-42-0106	ASME SA193 Gr. B6
Spindle Ball	N90355-0089	ASTM A276 Type 440C
Disc Insert	N94210-33-0012	ASME SA637 Gr. 718

CO [illegible] NO. [illegible]
R.D. T. No. 48T-ASBNS
209 No. 83-3915

PAGE 6 OF [illegible]

	Serial No. or Identification	Material Specification Including Type or Grade
c. Spring K56380-37-0065	NX2761-0073	ASTM A304 Gr. 51360H
d. Bolting		
e. Other Parts such as Pilot Components		
Bonnet Stud	100987	ASME SA453 Gr. 660
Bonnet Nut	89997	ASME SA193 Gr. 36
Inlet Stud	N90488	ASME SA453 Gr. 660
Inlet Nut	N90489	ASME SA193 Gr. B6

We certify that the statements made in this report are correct.

Date 5/11/1983 Signed Crosby Valve & Gage Co. By

Manufacturer

Certificate of Authorization No. 1878 expires September 30, 1983

CERTIFICATE OF SHOP 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 Mass. and employed by Arkwright-Boston Manufacturers Mutual Insurance Company have inspected the equipment described in this Data Report on 5-9- 1983 and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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 05-11- 1983 Factory Mutual System

(Inspector) Commissions NB # 7883 ; MA 1274

(National Board, State, Province and No.)

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MA

Q.C.-292, REV.A
SHEET 1 OF 2

REPAIR AND REPLACEMENT TO NUCLEAR COMPONENTS AND SYSTEMS IN NUCLEAR POWER PLANTS

1. Work performed by Crosby Valve & Gage Company 43 Kendrick St. Wrentham, MA 02093
(Name and Address)
(Repair organization's P.O. No., Job No., etc.). NV4000329

2. Owner TENNESSEE VALLEY AUTHORITY KNOXVILLE,TN
(Name and Address)

3. Name and Identification of Nuclear Power Plant WATTS BAR NUCLEAR PLANT

4. Address of Nuclear Power Plant SPRING CITY ,TN 37381

5. a. Identifying Nos. N56964-10-0033 906 -- ----- 1983
(Mfr's Serial No.) (Nat'l Bd. No.) (Jurisdiction No.) (Other) (Year Built)
b. Identification of component repaired or replacement component SAFETY VALVE
c. Name of Manufacturer CROSBY VALVE & GAGE COMPANY

sts conducted: Hydrostatic (X) Pneumatic ( ) Design Pressure ( ) Pressure 4575.0 psi

7. Identification of System --

8. Applicable Section(s) III of ASME Code, 19 71 Edition
-- -- Addenda W72 Code Case --

9. Description of work VALVE MODIFICATION
(Use of additional sheet(s) or sketch(es) is acceptable if correctly identified)

10. Remarks: VALVE SERIAL NUMBER N56964-06-0033 WAS MODIFIED TO VALVE SERIAL NUMBER N56964-10-0033.NOZZLE N94209 WAS REPLACED TO N96523-33-0005. BELLOWS ASSEMBLY K57220 WAS MODIFIED TO K83206-32-0005.DISC INSERT N94210 WAS REPLACED WITH N96522-32-0011.THE INLET NUTS WERE REPLACED WITH TRACE#OFG QTY 12.THE VALVE WAS TESTED FOR SET PRESSURE AND SEAT LEAKAGE IN ACCORDANCE WITH TEST PROCEDURE T-16690 .

WBN TVA-R95-0474
PAGE 31 OF 36

PAGE 63 OF 187

Certificate Holder's Serial No. N56961-10-0033

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and all design, material, and workmanship on this MOD (repair/replacement) conforms to the applicable section of the ASME Code.

Signed Lawrence J. Lewis QA Eng Manager 23 Jan, 1995
(Authorized Rep. of Repair Organization) (Title) (Date)

WBN-[illegible]
PAGE 22 OF 56

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 Massachusetts and employed by Factory Mutual of Norwood, Massachusetts have inspected the repair or replacement described in this report on January 23, 1995 and state that to the best of my knowledge and belief, this repair or replacement has been made or constructed in accordance with the applicable section of the ASME Code.

By signing this certificate, neither the Inspector nor his employer makes any warrant, 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 1-23, 1995

Signed [signature] (Inspector)

Factory Mutual Systems

Commissions NB10289 N MA1418
(Nat'l. Bd., State, Prov. and No.)

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MA

Q.C.-257, REV.B

FACTORY ORDER NUMBER: NV4000329
CUSTOMER ORDER NUMBER: 94N3F-101699-001
VALVE SERIAL NUMBER: N56964-10-0033
VALVE TAG NUMBER: N/A

REPAIR CERTIFICATION REPORT

Description of Repair:

VALVE SERIAL NUMBER N56964-06-0033 WAS MODIFIED TO VALVE SERIAL NUMBER N56964-10-0033. NOZZLE N94209 WAS REPLACED WITH N96523-33-0005 (CMTR, LP, UT AND WT REPORT ATTACHED). BELLOWS ASSEMBLY K57220 WAS MODIFIED TO K83206-32-0005. DISC INSERT N94210 WAS REPLACED WITH N96522-32-0011 (CMTR, LP, UT AND WT REPORTS ATTACHED).THE INLET NUTS WERE REPLACED WITH TRACE#OFG QTY 12 (CMTR,MAG ATTACHED).
THE VALVE WAS REASSEMBLED,HYDROSTATICALLY,SET PRESSURE AND SEAT LEAK TESTED IN ACCORDANCE WITH T-16690 (REPORT ATTACHED). VALVE WAS INSPECTED TO DS-C-56964 -10 AND PACKAGED IN ACCORDANCE WITH P-1769.
VALVE IS IN ACCORDANCE WITH SPEC.G-678838 REV.0 .

WBN- TVA-R95-0474
PAGE 23 OF 56

Deborah Allsworth
QUALITY ASSURANCE

23 JANUARY 1995
DATE

PAGE 45 OF 147

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MASS

FORM NV-1 FOR SAFETY AND SAFETY RELIEF VALVES
As required by the Provisions of the ASME Code Rules

Q.C.-44C-1

DATA REPORT
Safety and Safety Relief Valves

W860811K0098 (2)

1. Manufactured By Crosby Valve & Gage Co., 43 Kendrick St., Wrentham, MA 02093
Name and Address

Model No. HB-86-BB Order No N303153B Contract Date 1/26/83 National Board No. 905

2. Manufactured For Westinghouse Electric Corp., Nuclear Energy Systems, P.O. Box 3700, Pittsburgh, PA 15230 Order No. 546-CCK-178353-BN, C/N 4010
Name and Address

3. Owner Tennessee Valley Authority, Watts Bar Nuclear Power Station
Name and Address

4. Location of Plant Spring City, TN 37381

5. Valve Identification 6RV88MSC Serial No. N56964-06-0029 Drawing No. DS-C-56964-6 Rev. E

Type Safety (Safety, Safety Relief, Pilot, Power Actuated) Orifice Size 2.154 inch Pipe Size -- inch Inlet 6 inch Outlet 8 inch

6. Set Pressure (PSIG) 2485 650 F
Rated Temperature

Stamped Capacity 420,006 lbs/hr @ 3 % Overpressure 5% Blowdown (PSIG) 125

Hydrostatic Test (PSIG) Inlet 4575 Complete Valve ---

7. The material, design, construction and workmanship comply with ASME Code, Section III.

Class 1 Edition 1971, Addenda Date Winter 1972, Case No. —

Pressure Containing or Pressure Retaining Components

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a. Bar Stock & Forgings	Serial No. Identification	Material Specification Including Type or Grade
Body	N90490-32-0033	ASME SA182 Gr. F316
Bonnet	N90353-36-0066	ASME SA105 Gr. II
[illegible]		
Support Rods		
Nozzle	N94209-31-0002	ASME SA182 Gr. F316
Disc Holder K57220-32-0045	N90553-32-0049	ASTM A637 Gr. 718
Spring Washers K56380-40-0025	N90350-33-0074 N90350-33-0059	ASME SA105 Gr. II
Adjusting Bolt	N90351-36-0076	ASME SA193 Gr. B6
Spindle Point K56381-37-0052	N90354-36-0070	ASME SA193 Gr. B6
Spindle Ball	N90355-0052	ASTM A276 Type 440C
Disc Insert	N94210-33-0010	ASME SA637 Gr. 718

or S.T. No. W87-ASBNS 83-3445

PAGE 66 OF 197

	Serial No. or Identification	Material Specification Including Type or Grade
c. Spring K56380-40-0025	NX2761-0051	ASTM A304 Gr. 51860H
d. Bolting		
e. Other Parts such as Pilot Components		
Bonnet Stud	100987	ASME SA453 Gr. 660
Bonnet Nut	89997	ASME SA193 Gr. 36
Inlet Stud	N90488	ASME SA453 Gr. 660
Inlet Nut	N90489	ASME SA193 Gr. 36

We certify that the statements made in this report are correct.

Date 5/11/1983 Signed Crosby Valve & Gage Co. By

Manufacturer

Certificate of Authorization No. 1378 expires September 30, 1983

CERTIFICATE OF SHOP 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 Mass. and employed by Arkwright-Boston Manufacturers Mutual Insurance Company have inspected the equipment described in this Data Report on 5-9- 1983 and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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 05- 11- 1983 Factory Mutual System

(Inspector)

Commissions NB # 7883 ; MA-1274

(National Board, State, Province and No.)

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MA

Q.C.-292, REV.A
SHEET 1 OF 2

REPAIR AND REPLACEMENT TO NUCLEAR COMPONENTS AND SYSTEMS IN NUCLEAR POWER PLANTS

1. Work performed by Crosby Valve & Gage Company 43 Kendrick St. Wrentham, MA 02093
(Name and Address)
(Repair organization's P.O. No., Job No., etc.). NV4000329

2. Owner TENNESSEE VALLEY AUTHORITY KNOXVILLE,TN
(Name and Address)

3. Name and Identification of Nuclear Power Plant WATTS BAR NUCLEAR PLANT

4. Address of Nuclear Power Plant SPRING CITY ,TN 37381

5. a. Identifying Nos. N56964-10-0029 905 -- ----- 1983
(Mfr's Serial No.) (Nat'l Bd. No.) (Jurisdiction No.) (Other) (Year Built)
b. Identification of component repaired or replacement component SAFETY VALVE
c. Name of Manufacturer CROSBY VALVE & GAGE COMPANY

6. sts conducted: Hydrostatic (X) Pneumatic ( ) Design Pressure ( ) Pressure 4575.0 psi

7. Identification of System --

8. Applicable Section(s) III of ASME Code, 19 71 Edition

Addenda W72 Code Case --

9. Description of work VALVE MODIFICATION
(Use of additional sheet(s) or sketch(es) is acceptable if correctly identified)

10. Remarks: VALVE SERIAL NUMBER N56964-06-0029 WAS MODIFIED TO VALVE SERIAL NUMBER N56964-10-0029.NOZZLE N94209 WAS REPLACED WITH N96523-33-0004.BELLOWS ASSEMBLY K57220 WAS MODIFIED TO K83206-32-0004.DISC INSERT N94210 WAS REPLACED WITH N96522-32-0010.THE INLET STUDS WERE REPLACED WITH TRACE# YB2 QTY 6.THE INLET NUTS WERE REPLACED WITH TRACE#OFG QTY 12.THE VALVE WAS TESTED FOR SET PRESSURE AND SEAT LEAKAGE IN ACCORDANCE WITH TEST PROCEDURE T-16690.

WBN TVA-TR95-01074
PAGE 2 OF 56

Certificate Holder's Serial No. N56964-10-0029

Q.C.-292, REV. A
SHEET 2 OF 2

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and all design, material, and workmanship on this MOD (repair/replacement) conforms to the applicable section of the ASME Code.

Signed Lawrence J Lucas (Authorized Rep. of Repair Organization) QA Eng Manager (Title) 23 Jan (Date), 1995

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 Massachusetts and employed by Factory Mutual of Norwood, Massachusetts have inspected the repair or replacement described in this report on January 23, 1995 and state that to the best of my knowledge and belief, this repair or replacement has been made or constructed in accordance with the applicable section of the ASME Code.

By signing this certificate, neither the Inspector nor his employer makes any warrant, 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.

Factory Mutual Systems

Date 1-23, 1995.

Signed [signature] (Inspector) Commissions NB 10289 N MA 1418 (Nat'l. Bd., State, Prov. and No.)

WBN-TVA-R95-0674
PAGE 3 OF 56

PAGE 69 OF 167

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MA

Q.C.-257, REV.B

FACTORY ORDER NUMBER: NV4000329
CUSTOMER ORDER NUMBER: 94N3F-101699-001
VALVE SERIAL NUMBER: N56964-10-0029
VALVE TAG NUMBER: N/A

REPAIR CERTIFICATION REPORT

Description of Repair:

VALVE SERIAL NUMBER N56964-06-0029 WAS MODIFIED TO VALVE SERIAL NUMBER N56964-10-0029. NOZZLE N94209 WAS REPLACED WITH N96523-33-0004 (CMTR, LP, UT AND WT REPORT ATTACHED). BELLOWS ASSEMBLY K57220 WAS MODIFIED TO K83206-32-0004. DISC INSERT N94210 WAS REPLACED WITH N96522-32-0010 (CMTR, LP, UT AND WT REPORTS ATTACHED).THE INLET STUDS WERE REPLACED WITH TRACE#YB2 QTY 6(CMTR,LP ATTACHED) AND THE INLET NUTS WERE REPLACED WITH TRACE#OFG QTY12(CMTR,MAG ATTACHED). THE VALVE WAS REASSEMBLED,HYDROSTATICALLY, SET PRESSURE AND SEAT LEAK TESTED IN ACCORDANCE WITH T-16690
(REPORT ATTACHED). VALVE WAS INSPECTED TO DS-C-56964 -10 AND PACKAGED IN ACCORDANCE WITH P-1769.
VALVE IS IN ACCORDANCE WITH SPEC.G-678838 REV.0 .

WBN- TVA-R95-0474
PAGE 4 OF 56

Deborah Allsworth
QUALITY ASSURANCE

23 JANUARY 1995
DATE

WO # 98-012709-000

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Date 10/18/98
Name
400 W. Summit Hill Drive, Knoxville, TN — Sheet ____ of ____
Address
2. Plant Watts Bar Nuclear Plant — Unit Unit 1
Name
P. O. Box 2000, Spring City, TN, 37381 — MMG 98-012709-000
Address — Repair Organization P.O. No., Job No., etc.
3. Work Performed by WATTS BAR NUCLEAR PLANT — Type Code Symbol Stamp N/A
Name
P.O. BOX 2000, SPRING CITY, TN 37381 — Authorization No N/A
Address — Expiration Date N/A

4. Identification of system 068, REACTOR COOLANT

5. (a) Applicable Construction Code ASME SEC. III 19 80 Edition, W'80 Addenda, NONE. Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PCV-068-0334-B	TARGET ROCK	S/N 11(removed) ~~S/N 4 installed~~ WAS 4/16/98	~~1947~~	82 U U	83	REPLACE	YES
1-PCV-068-0334-B	Target Rock	S/N 4(INSTALLED)	~~1947~~ CHS 4/16/98	82 U U	83	Replace	yes

7. Description of Work REMOVE/REPLACE SAFETY RELIEF VALVE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure X 1-TRI-68-6
Other ☐ Pressure 2210-2250 psi Test Temp 750 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

WO # 98-012709-000

FORM NIS-2 (Back)

9. Remarks _____
Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-35

N-546 CODE CASE

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE.

Certificate of Authorization No. NONE.

Signed [signature] - Mech Engr Date 4-6 19 99
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I & I of HARTFORD, CT have inspected the components described in this Owner's Report during the period 10-26-98 to 4-6-99 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 TN2533
Inspector's Signature National Board, State, Province, and Endorsements

Date 4-6 19 99

FORM NPV-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES*

As Required by the Provisions of the ASME Code, Section III, Div. 1

1. Manufactured by Target Rock Corporation 1966 E. Broadhollow Rd E. Farmingdale, N.Y.
(Name and Address of N Certificate Holder)
2. Manufactured for Tennessee Valley Authority Chattanooga, Tennessee
(Name and Address of Purchaser or Owner)
3. Location of Installation Watts Bar Nuclear Plant, Units 1 & 2, Spring City, Tennessee
(Name and Address)
4. Pump or Valve Valve. Nominal Inlet Size 3 (inch) Outlet Size 3 (inch)

	(a) Model No., Series No or Type	(b) N Certificate Holder's Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Nat'l Bd. No.	(g) Year Built
(1)	8210	1,2,3,4	-----	8200-001	1	-----	1983
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

W860724K0532 (2)

Contract No. 83-1934
R.D. or S.T. No.
209 No. 83-2382

5 PRESSURIZED RELIEF POWER OPERATED RELIEF VALVE
(Brief description of service for which equipment was designed)

6. Design Conditions 2485 (Pressure) psi 680 (Temperature) F or Valve Pressure Class ----- (1)
7. Cold Working Pressure 4100 psi at 100°F.
8. Pressure Retaining Pieces

Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
(b) Forgings			
Body	ASME-SA 182 SS 316L	Carmel	

GC&R FEB 17 1983

AUTHORIZED FEB 16 1983 NUCLEAR INSPECTOR H.S.B.

(1) For manually operated valves only.

* Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8-1/2" x 11", (2) information in items 1, 2 and 5 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets

Mark No.	Material Spec. No.	Manufacturer	Remarks
(c) Bolting			
(d) Other Parts			
Bonnet	ASME SA 479 SS 316	ARMCO	
Main Disc	ASME SA 479 SS 347	Joslyn	
Indicator Tube	ASME SA 479 SS 316	Universal Cyclops	
Flange	ASME SA 182 SS 316	Carpenter	
Seat Insert	ASME SA 479 SS 316L	Joslyn	

9. Hydrostatic test 6150 psi Disk Differential test pressure 4510 psi

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump, or valve, conforms to the rules of construction of the ASME Code for Nuclear Power Plant Components. Section III, Div. 1., Edition 1980 Addenda Winter 1980 (Date). Code Case No. ----- Date -----

Signed Target Rock Corporation (N Certificate Holder) by G. Abruzzo, Mgr. of Quality 2-4-83

Our ASME Certificate of Authorization No. 1947 to use the N (N) symbol expires 12/9/83 (Date)

CERTIFICATION OF DESIGN

Design information on file at Target Rock Corporation

Stress analysis report (Class 1 only) on file at Target Rock Corporation

Design specifications certified by (1) Marvin V. Miller

PE State TN Reg. No. 013945

Stress analysis certified by (1) Martin Goldstone

PE State NY Reg. No. 31940

(1) Signature not required. List name only.

CERTIFICATE OF SHOP 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 New York and employed by Commercial Union Insurance of Boston, Mass. have inspected the pump, or valve, described in this Data Report on 2/4 19 83, and state that to the best of my knowledge and belief, the N Certificate Holder has constructed this pump, or valve, 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 equipment described in this 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 2/4 19 83 William A. Roland Commissions NEW YORK STATE COMMISSION NO. 2288 ALSO COMMISSIONED IN Penn., Ohio & Conn.

PAGE 7 of 197

WO # 98-000896-000

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Name
400 W. Summit Hill Drive, Knoxville, TN — Address

Date 10/18/98
Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant — Name
P. O. Box 2000, Spring City, TN, 37381 — Address

Unit Unit 1
MMG 98-000896-000 — Repair Organization P.O. No., Job No., etc.

3. Work Performed by WATTS BAR NUCLEAR PLANT — Name
P.O. BOX 2000, SPRING CITY, TN 37381 — Address

Type Code Symbol Stamp N/A
Authorization No N/A
Expiration Date N/A

4. Identification of system 063, SAFETY INJECTION

5. (a) Applicable Construction Code ASME SEC. III 19 71 Edition, S'72 Addenda, NONE. Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-RFV-063-0626-A	CROSBY	N56702-00-0003	120	MODEL JB-35-TD-WR	75	REPLACEMENT	YES
1-RFV-063-0627-B	CROSBY	N56702-00-0004	121	MODEL JB-35-TD-WR	75	REPLACEMENT	YES
1-RFV-63-637-S	CROSBY	N56889-00-0049	255	Model JRAK-BS	77	REPLACEMENT	YES
1-RFV-063-0626-A	CROSBY	N56702-00-0009	187	MODEL JB-35-TD-WR	76	REPLACED	YES
1-RFV-063-0627-B	CROSBY	N56702-00-0010	188	MODEL JB-35-TD-WR	76	REPLACED	YES
1-RFV-063-037-S	CROSBY	N56884-00-0001	77	MODEL JRAK-BS	74	REPLACED	YES
		N/A					

7. Description of Work REMOVE/REPLACE SAFETY RELIEF VALVE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure X
Other ☐ Pressure 600 psi Test Temp 400 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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WO # 98-000896-000

FORM NIS-2 (Back)

9. Remarks

Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-36

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE.

Certificate of Authorization No. NONE.

Signed [signature] MAINT. SUPV. Date 4/6 19 99
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I & I of HARTFORD, CT have inspected the components described in this Owner's Report during the period 10-26-98 to ~~4-6-99~~ 4-6-99 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 TN 2533
Inspector's Signature National Board, State, Province, and Endorsements

Date 4-6 19 99

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MASS.

Q.C. 4B

FORM NV-1 FOR SAFETY AND SAFETY RELIEF VALVES
As required by the Provisions of the ASME Code Rules

DATA REPORT for Safety and Safety Relief Valves

NB-120

1. Manufactured By Crosby Valve & Gage Co., 43 Kendrick St., Wrentham, Mass. 02093
Name and Address
Order No. N302945 Contract Date 3/30/73
Model No. JB-35-TD-WR
2. Manufactured For Westinghouse Electric Corp., Pittsburgh, Pa. Order No. 8546-CC-183416-BN
Name and Address
Nuclear Energy Systems
3. Owner Tennessee Valley Authority W860811K0086 (2)
Name and Address
4. Location of Plant Spring City, Tennessee
5. Valve Identification TV-1-8856AWAT Serial No. N56902-00-0003 Drawing No. DS-C-56902 Rev. A
Type Relief Orifice Size J Inch Pipe Size Inlet 2 Inch Outlet 3 Inch
Safety, Safety Relief, Pilot, Power Actuated
Set Pressure (PSIG) 600 Rated Temperature 400
Stamped Capacity 400 GPM WATer Overpressure Blowdown (PSIG) 10% of S.P.
Hydrostatic Test (PSIG) Inlet 950 Outlet Complete Valve 425

7. The material, design, construction and workmanship comply with ASME Code Section III.
Class 2 Edition 1971 Addenda Date Summer 1972

N-5

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Pressure Containing or Pressure Retaining Components

	Serial No. Identification	Material Specification Including Type or Grade
a. Castings		ASTM A 351 72 Gr. CF8M
Body	N90450-31-0032	ASTM SA 351 72 Gr. CF8M
Bonnet	~~N90451-31-0014~~	ASTM A 216 70 Gr. WCB ~~ASME SA 216 Gr. WCB~~
b. Bar Stock and Forgings		
Support Rods		ASTM A 182 71 Type 316 ~~ASME SA 182 Type 316~~
Nozzle	N90137-31-0043	ASTM A 479 71 Type 316 ASME SA 479 Type 316
Disc	N90448-33-0075	ASTM A 193 70 Gr. B6 ASME SA 193 Gr. B6
Spring Washers	N88634-38-0102 N88634-38-0102	ASTM A 193 70 Gr. B6 ~~ASME SA 193 Gr. B6~~
Adjusting Bolt	N88635-39-0089	ASTM A 193 70 Gr. B6 ASME SA 193 Gr. B6
Spindle	N88669-34-0045	

REG. NO. 54114-1
ITEM NO. 5
209 NO. 75-7604

O.S.I. R. 3-12-76 DATE INITIAL

EVD

	Serial No. or Identification	Material Specification Including Type or Grade
c. Spring		
d. Bolting	NX 2600-0023	ASTM A 638-70 Gr. 660
e. Other Parts such as Pilot Components		
Bonnet Stud	89289	ASTM A 453-70 Gr. 660 / ASME SA-453 Gr. 660
Bonnet Stud Nut	89293	ASTM A 193-71 Gr. B6 / ASME SA 193 Gr. B6

REG. NO. 5-4114-1

ITEM NO. 45

209 NO. 75-7604

We certify that the statements made in this report are correct.

Date 3-12 19 75 Signed Crosby Valve & Gage Co. By [signature]
Manufacturer QA Manager

Certificate of Authorization No. 926 expires October 28, 1977

N-5

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CERTIFICATE OF SHOP 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 Mass. and employed by Factory Mutual System*, Norwood, Massachusetts have inspected the equipment described in this Data Report on March 12, 1975 and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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 March 12, 1975

Donald L. Chmura (Inspector) Commissions N.B. 6065 (National Board, State, Province and No.)

*Arkwright-Boston Manufacturers Mutual Insurance Company - Mutual Boiler and Machinery Division

PAGE 78 OF 187

Q.C. Shop 3-12-75 DATE INITIAL

CROSBY

CROSBY VALVE & GAGE COMPANY
WRENTHAM, MASS

Q.C.-44B

FORM NV-1 FOR SAFETY AND SAFETY RELIEF VALVES
As required by the Provisions of the ASME Code Rules

DATA REPORT
Safety and Safety Relief Valves

NB-121

1. Manufactured By Crosby Valve & Gage Co., 43 Kendrick St., Wrentham, Mass. 02093
Name and Address

Model No. JB-35-TD-WR Order No. N302945 Contract Date 3/30/73

2. Manufactured For Westinghouse Electric Corp. Nuclear Energy Systems Pittsburgh, Pa. Order No. 545-GCK-183416-BN
Name and Address

3. Owner Tennessee Valley Authority
Name and Address

4. Location of Plant Spring City, Tennessee W860811K0087 (2)

5. Valve Identification RV-1-9856BWAT Serial No. N56902-00-0006 Drawing No. DS-C-56902 Rev. A

Type Relief Orifice Size J Pipe Size ____ Inlet 2 Inch Outlet 3 Inch

Safety Safety Relief Pilot Power Actuated

Set Pressure (PSIG) 600 400 F Rated Temperature

Stamped Capacity 400 GPM 10 % Overpressure ____ Blowdown (PSIG) 10 % of S. P.

Hydrostatic Test (PSIG) Inlet 950 Outlet Complete Valve 425

7. The material, design, construction and workmanship comply with ASME Code Section III.

Class 2 Edition 1971 Addenda Date ~~SUMMER 1972~~

N-5

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Pressure Containing or Pressure Retaining Components

	Serial No. Identification	Material Specification Including Type or Grade
a. Castings		ASTM- A 351 72 GR CF8M
Body	~~N90450-31-6040~~ N90451-31-0002	~~ASME-SA 351 72 Gr. CF8M~~ ~~ASTM- A 216 70 Gr. WCB~~ ASME-SA 216 Gr. WCB
Bonnet		
b. Bar Stock and Forgings		
Support Rods	N90137-31-0006	ASTM- A 182 71 Type 316 ASME-SA 182 Type 316
Nozzle	~~N90448-31-0003~~ N88634-38-0151	ASTM- A 479 71 Type 316 ~~ASME-SA 479 Type 316~~
Disc	N88634-38-0142	ASTM- A 193 70 Gr. B6 ~~ASME-SA 193 70 Gr. B6~~
Spring Washers	N88635-39-0092	~~ASTM- A 193 70 Gr. B6~~ ~~ASME-SA 193 Gr. B6~~
Adjusting Bolt	N88669-34-0033	ASTM- A 193 70 Gr. B6 ASME-SA 193 Gr. B6
Spindle		

REG. NO. 541141
ITEM NO. 5
3-12-76 DATE
INITIAL

EU 67 EU 67

	Serial No. or Identification	Material Specification Including Type or Grade
c. Spring	NX-2600-0022	ASTM-A-638 Gr. 660
d. Bolting		
e. Other Parts such as Pilot Components		
Bonnet Stud	89289	ASTM-A-453 Gr. 660 / ASME-SA-453 Gr. 660
Bonnet Stud Nut	89293	ASTM-A-193 Gr. B6 / ASTM-SA-193 Gr. B6

REC. NO. 5411-1
ITEM NO. 5
JOB NO. 75-76.04

We certify that the statements made in this report are correct.

Date 3-12 19 75 Signed Crosby Valve & Gage Co. By [signature] QA Manager
Manufacturer

Certificate of Authorization No. 926 expires October 28, 1977

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CERTIFICATE OF SHOP 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 Mass. and employed by Factory Mutual System*, Norwood, Massachusetts have inspected the equipment described in this Data Report on March 13, 1975 and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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 March 13 19 75

Donald F. Chmura (Inspector) Commissions N.B. 6065 (National Board, State, Province and No.)

*Arkwright-Boston Manufacturers Mutual Insurance Company - Mutual Boiler and Machinery Division

C. Shea 3-12-76 DATE INITIAL

CROSBY VALVE & GAGE COMPANY

CROSBY

WRENTHAM, MASS

S.O.220

Q.C. 4C

FORM NV-1 FOR SAFETY AND SAFETY RELIEF VALVES
As required by the Provisions of the ASME Code Rules

DATA REPORT
Safety and Safety Relief Valves

3/4 RV-2-8842-WBT

1. Manufactured By Crosby Valve & Gage Co., 43 Kendrick St., Wrentham, Mass. 02093
Name and Address

Model No. JRAK-BS Order No. N302949 Contract Date 3/30/73 National Board No. 255

2. Manufactured For Westinghouse Electric Corp., Nuclear Energy Systems
P. O. Box 355, Pittsburgh, Pa. 15230 Order No. 546-CCK-183421-BN
Name and Address

3. Owner Tennessee Valley Authority, Watts Bar Nuclear Power Station, Unit #2
Name and Address

4. Location of Plant Near Spring City, Tennessee 37381 W8608-11K0045 (2)

5. Valve Identification RV-2-8842-WBT Serial No. N56884-00-0047 Drawing No. DS-C-AS6884 Rev. A

Type Relief Safety, Safety Relief, Pilot, Power Actuated Orifice Size SPL Inch Pipe Size Inlet 3/4 Inch Outlet 1 Inch

Rated Temperature 350° F

6. Set Pressure (PSIG) 600

Stamped Capacity 20 GPM Water . 10 % Overpressure Blowdown ~~XXXXX~~ 10% of S.P.

Hydrostatic Test (PSIG) Inlet 950 Outlet 425

7. The material, design, construction and workmanship comply with ASME Code, Section III.

Class 2 Edition 1971, Addenda Date Winter 1972 Case No.

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Pressure Containing or Pressure Retaining Components	Serial No. Identification	Material Specification Including Type or Grade
a. Castings	N90457-40-0074	ASME SA351 Gr. CF8M
Body	N90456-37-0130	ASTM A216-70 Gr. WCB ASME SA216 Gr. WCB
Bonnet		
b. Bar Stock and Forgings		
Support Rods	N90458-38-0050	ASME SA479 Type 316
Nozzle	N90455-34-0082	ASTM A479-71 Type 316 ASME SA479 Type 316
Disc Insert	N88613-33-0090	ASTM A193-72 Gr. B6
Spring Washers	N88613-33-0062	ASME SA193 Gr. B6
Adjusting Bolt	N90254-39-0208	ASTM A193-71 Gr. B6 ASME SA193 Gr. B6
Spindle K55158-40-0223	N88611-40-0223	ASTM A193-71 Gr. B6 ASME SA193 Gr. B6

50.220

REC. NO. 54114-1
DWG NO. 5A
SHT NO. 77-5059

PAGE 8/8 OF 187

REG. NO. 54114-1

ITEM NO. 5A

209 NO. 77-5059

S.O. 22...

	Serial No. or Identification	Material Specification Including Type or Grade
c. Spring		
d. Bolting	NX2613-0060	ASTM A313-70 Type 316
e. Other Parts such as Pilot Components		

We certify that the statements made in this report are correct.

Date 1-14 19 77 Signed Crosby Valve & Gage Co. By [signature] QA Manager

Manufacturer

Certificate of Authorization No. 926 expires October 28, 1977

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CERTIFICATE OF SHOP 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 Mass. and employed by Factory Mutual Systems*, Norwood, Mass. have inspected the equipment described in this Data Report on January 12, 19 77 and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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 January 19, 19 77

[signature] Commissions Mass. 1090

Inspector National Board, State, Province and No.

*Arkwright-Boston Manufacturers Mutual Insurance Company - Mutual Boiler & Machinery Division.

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98000731001

WO # 98-000731-001

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 10/18/98
400 W. Summit Hill Drive, Knoxville, TN (Address) Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name) Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) MMG 98-000731-001

3. Work Performed by WATTS BAR NUCLEAR PLANT (Name) Repair Organization P.O. No., Job No., etc. Type Code Symbol Stamp N/A
P.O. BOX 2000, SPRING CITY, TN 37381 (Address) Authorization No N/A
Expiration Date N/A

4. Identification of system 003, MAIN FEEDWATER

5. (a) Applicable Construction Code ASME SEC. III 19 74 Edition, NONE Addenda, ~~NONE~~. Code Case ~~N-416~~ N-416-1 10/18/98
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989 N-1-1-95

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-CKV-003-0508	WALWORTH	D66451	1712	Model 5353	73	REPAIR	Yes

7. Description of Work ~~REMOVE/REPLACE SAFETY RELIEF~~ REPAIR CHECK VALVE, HINGE PIN PLUG. N-416-1 10/18/98

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure X
Other ☐ Pressure 1185 psi Test Temp 600 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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98000731001

WO # 98-000731-001

FORM NIS-2 (Back)

9. Remarks Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-37

CODE CASE N416-1.

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE.

Certificate of Authorization No. NONE.

Signed D H Collins Mech Engr Date 4/14 19 95
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I & I of HARTFORD, CT have inspected the components described in this Owner's Report during the period 11/3/93 to 4/16/99 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.

Bruce M Earnigh Commissions TN 2534 I "N" "A"
Inspector's Signature National Board, State, Province, and Endorsements

Date 4/16 19 99

9800873100 1 W860808K0013 (2)

FORM NPV-1 MANUFACTURERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES

As Required by the Provisions of the ASME Code, Section III, Div. 1

1. Manufactured by Walworth Company, Greensburg Plant, Greensburg, Pa. 15601
(Name and Address of Manufacturer)

2. Manufactured for Tennessee Valley Authority, Spring City, Tennessee.
(Name and Address of Purchaser or Owner)

3. Location of Installation Watts Bar Nuclear Plant, Unit #1, Spring City, Tennessee
(Name and Address)

4. Pump or Valve Valve. Nominal Inlet Size 16" (inch) Outlet Size 16"

	(a) Model No., Series No. or Type	(b) Manufacturers' Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Nat'l Bd. No.	(g) Year Built
(1)	5353	D-66451	N/A	A-12986-M3	2	1712	1973
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

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5. Feedwater
(Brief description of service for which equipment was designed)

6. Design Conditions 1185 (Pressure) psi 600 (Temperature) °F or Valve Pressure Class _____ (1)

7. Cold Working Pressure 2160 psi at 100°F.

8. Pressure Retaining Pieces

Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
Body 175G	SA 352, LCB	Walworth Co.	Seal Welded Seat
Bonnet G381	SA 352, LCB	Walworth Co.	CoCrA Backseat
Disc G234 P4	SA 352, LCB	Walworth Co.	CoCrA Faced
			VALVE
			D66451
(b) Forgings			

AUTHORIZED INSPECTOR APR 28 1978

REC. NO. 32015
ITEM NO.
SEQ NO. 28-32015

SIRLI Inspected APR 28 1978

(1) For manually operated valves only.

* Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8-1/2" x 11", (2) information in items 1, 2 and 5 on this data report is included on each sheet and (3) each sheet is numbered and number of sheets recorded at top of this form.

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Mark No.	Material Spec. No.	Manufacturer	Remarks
(c) Bolting			
Stud 47089-(PL)	ASME SA 320, Gr. L7	REC	
Nut 9853E (OA)	ASME SA 194, Gr. 7	REC	
(d) Other Parts			
Plug - 61814	ASME SA 320, Gr. L7	McWilliams	

VALVE

HARD COPY RETAINED

D66451

SERIAL NO.

FILMED FROM BEST AVAILABLE COPY

1. Hydrostatic test 3150 psi.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump, or valve, conforms to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Div. 1, Edition 1974, Addenda N/A (Date), Code Case No. N/A, Date 11/12/79

Signed Walworth Company (Manufacturer) by G. J. M. Hill

Our ASME Certificate of Authorization No. 1951 to use the N (N) (NV) symbol expires 12/9/80 (Date)

CERTIFICATION OF DESIGN

Design information on file at Walworth Company, Greensburg, Pa. 15601

Stress analysis report (Class 1 only) on file at N/A

Design specifications certified by (1) M. N. Bressler

PE State [illegible] Reg. No. 9411

Stress analysis certified by (1) N/A

PE State _____ Reg. No. _____

(1) Signature not required. List name only.

REQ NO. 3361

ITEM NO.

JOB NO.

CERTIFICATE OF SHOP 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 Pennsylvania and employed by The Hartford Steam Boiler I&I C of Hartford, Conn. 06102 have inspected the pump, or valve, described in this Data Report on 11/12 19 79 and state that to the best of my knowledge and belief, the Manufacturer has constructed this pump, or valve, 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 equipment described in this 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 11/12 19 79

[illegible] (Inspector) Commissions NB 8257 PA 2220 (National, State, Prov. and No.)

PAGE 1 OF 2

ATTACHMENT # 1
WO. 98-000731-001

PG. 1 OF 2.

Records Correction Notice

Page 1 of 1

98000731001

Instructions

1. Complete Blocks 1-11 (if required information is known).
2. Each page shall be numbered (e.g., page 1 of 3, page 2 of 3, etc.).
3. Changes to approved records shall be reviewed, verified, and approved by the same organization that performed the original review, verification, and approval.
4. Submit the completed form and records to MS.

(If applicable)
RCN #
Page 1 of 2

1. Document Title/Subject/Identifier: Form NPV-1 Manufacturers' Data Report For Nuclear Pumps Or Valves			
2. Document Number: D66451	3. Revision Number: 0	4. Sheet Number: 2	5. Unit Number: 1
6. Document Date: 1/12/78	7. Effective Date of this Change: 10/29/98	8. QA Record ☒ YES ☐ NO	
9. Reel/Frame Number or Archive Location of Original Record (if available): W41349 - 0027 and E07228 - 1485			

10. Correction Action (check all that apply)

- ☐ Supplement Record (add additional pages to record)
- ☒ Correct Record (change existing information on record)
- ☐ Delete Records (list records to be deleted in the reason for change block below)
- ☐ Invalidate Records (list records to be invalidated in the reason for change block below)

11. Reason for Change/Description of Change

The "Material Specification No." section on FORM NPV-1 (Back) for Plug - 61814 listed in section 8.(d) incorrectly identified the material as ASME SA 320, Gr. LF2. The correct material specification is ASME SA 350, Gr. LF2. This was verified from the NPV-1 Data Report for Document No. D66450 and from Material Test Report No. 10614 from McWilliams Forge Company, Inc. and the Certification of Impact Testing Data WMT&R Report No. 7243 which are part of the Walworth documentation package for valve D66451 (Reel E07228 - Frame 1482). This was an obvious typographical error which was not picked up during the initial record review and completion.

Review/Verification/Approval

Signature	Robert D Briggs	Date	10-29-98	Signature		Date	
Signature		Date	10/29/98	Signature		Date	
Signature		Date	10/29/98	Signature		Date	
Signature		Date		Signature		Date	

PAGE

Mark No.	Material Spec. No.	Manufacturer	Remarks
(c) Bolting			
Stud 37089 (PL)	ASME SA-320, Gr. L7	REC	
Nut 9853E (OA)	ASME SA 194, Gr. 7	REC	
(d) Other Parts			
Plug - 61814	350 ASME SA ~~320~~ Gr. LF2	McWilliams	
	~~1968~~ 10-29-98		
			VALVE
			B66451
			SERIAL NO.

1. Hydrostatic test 3150 psi.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump, or valve, conforms to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Div. 1, Edition 1974 Addenda N/A (Date). Code Case No. N/A. Date 11/12/75

Signed Walworth Company (Manufacturer) by G. M. Hill

Our ASME Certificate of Authorization No. 1951 to use the N (N) (NPV) symbol expires 12/9/80 (Date)

CERTIFICATION OF DESIGN

Design information on file at Walworth Company, Greensburg, Pa. 15601

Stress analysis report (Class 1 only) on file at N/A

Design specifications certified by (1) M. N. Bressler

PE State Tenn. Reg. No. 9411

Stress analysis certified by (1) N/A

PE State _____ Reg. No. _____

(1) Signature not required. List name only.

CERTIFICATE OF SHOP 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 Pennsylvania and employed by The Hartford Steam Boiler I&I C of Hartford, Conn. 06102 have inspected the pump, or valve, described in this Data Report on 11/12 1975 and state that to the best of my knowledge and belief, the Manufacturer has constructed this pump, or valve, 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 equipment described in this 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 11/12 1975

(Inspector) Commissions NB 8251 PA 22210

(Nat'l Bd., State, Prov. and No.)

8

WO # 97-011734-000

SDD 4-6-99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 10/29/98
400 W. Summit Hill Drive, Knoxville, TN (Address) Sheet ____ of ____
2. Plant Watts Bar Nuclear Plant (Name) Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) MMG 97-011734-000 (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by WATTS BAR NUCLEAR PLANT (Name) Type Code Symbol Stamp N/A
P.O. BOX 2000, SPRING CITY, TN 37381 (Address) Authorization No N/A
Expiration Date N/A
4. Identification of system 062, CHEMICAL VOLUME CONTROL
5. (a) Applicable Construction Code ASME SEC. III 19 80 Edition, W'80 Addenda, ~~NONE~~ 6/2/99 Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989 11-3-98

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PCV-068-0340A-A	TARGET ROCK	5	1947	Model 83A	83	REPLACEMENT	Yes
1-PCV-68-340A-A	TARGET Rock	6	1947	Model 83A	83	REPLACED	Yes

7. Description of Work REPLACE VALVE.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure X ISLT PER 1-TRI-68-6.
Other ☐ Pressure 2250 psi Test Temp 650 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

PAGE 00

8

WO # 97-013995-000

SDD 4-6-99

FORM NIS-2 (Back)

9. Remarks

Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-39 11/3/98

REF. CODE CASE N416-1

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE.

Certificate of Authorization No. N/A

Signed D H Collins Mech Engr (Owner or Owner's Designee, Title) Date 4/5 19 99

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 Tennessee and employed by HSB I & I of HARTFORD, CT have inspected the components described in this Owner's Report during the period 11-3-98 to 4-5-99 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.

Inspector's Signature Commissions TN2533 (National Board, State, Province, and Endorsements)

Date 4-5-99 19

FORM NPV-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES*

As Required by the Provisions of the ASME Code, Section III, Div. 1

7

1. Manufactured by Tarzer Rock Corporation 1966E Broadhollow Rd E. Farmingdale, N.Y.
(Name and Address of N Certificate Holder)
2. Manufactured for Tennessee Valley Authority Chattanooga, Tennessee
(Name and Address of Purchaser or Owner)
3. Location of Installation Sequoyah Nuclear Plant, Daisy, Tennessee
(Name and Address)
4. Pump or Valve Valve. Nominal Inlet Size 3 (inch) Outlet Size 3 (inch)

	(a) Model No., Series No. or Type	(b) N Certificate Holder's Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Nat'l. Bd. No.	(g) Year Built
(1)	83A	5, 6		82WW-001	1		1983
(2)							
(3)							
(4)				W860724K1153 (2)			
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

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5. PRESSURIZED RELIEF POWER RELIEF VALVE
(Brief description of service for which equipment was designed)

6. Design Conditions 2485 (Pressure) psi 680 (Temperature) °F or Valve Pressure Class 1707 (1)
7. Cold Working Pressure 4100 psi at 100°F.
8. Pressure Retaining Pieces

Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
(b) Forgings			
Body	ASME SA 182, F316L	Carmel Forge	

TVA 15 CMK

AUTHORIZED INSPECTION N. I. B. DEC 08 1983

54-0690
209 No.

(1) For manually operated valves only.

* Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8-1/2" x 11", (2) information in items 1, 2 and 5 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

FORM NPV-1 (Back)

Mark No.	Material Spec. No.	Manufacturer	Remarks
Bolting			
(d) Other Parts			
Bonnet	ASME SA479 316	Joslyn Stainless Steel	
Main Disc	ASME SA 479, SS347	Joslyn Stainless Steel	
Indicator Tube	ASME SA 479, SS316	Universal Cyclops	
Flange	ASME SA 182, 316	Carpenter Tech. & Universal Cyclops	
Seat Insert	ASME SA 479, 316L	Joslyn & Carpenter Tech.	

9. Hydrostatic test 6150 psi. Disk Differential test pressure 4510 psi.

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CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump, or valve, conforms to the rules of construction of the ASME Code for Nuclear Power Plant Components. Section III, Div. 1., Edition 1980. Addenda Winter 1980 (Date). Code Case No. ——. Date ——

Signed Target Rock Corporation (N Certificate Holder) by R. Ruotolen 11/18/83 R.R.G. Abruzzo, Mgr. of Quality

Our ASME Certificate of Authorization No. 1947 to use the (N) symbol expires 12/9/83 (Date).

CERTIFICATION OF DESIGN

Design information on file at Target Rock Corporation

Stress analysis report (Class 1 only) on file at Target Rock Corporation

Design specifications certified by (1) Marvin V. Miller

PE State TN Reg. No. 013995

Stress analysis certified by (1) Marvin Gladstone

PE State NY Reg. No. 31940

(1) Signature not required. List name only.

CERTIFICATE OF SHOP 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 New York and employed by Commercial Union Ins. of Boston, Mass. have inspected the pump, or valve, described in this Data Report on 11/18 1983, and state that to the best of my knowledge and belief, the N Certificate Holder has constructed this pump, or valve, 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 equipment described in this 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 11/18 1983 William A. Rolland (Inspector) Commissions NEW YORK STATE COMMISSION NO. 2288 ALSO COMMISSIONED IN Penn, Ohio & Conn. (Nat'l Bd., State, Prov. and No.)

9800102300 0

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 11/5/98
400 W. Summit Hill Drive, Knoxville, TN (Address) Sheet ____ of ____
2. Plant Watts Bar Nuclear Plant (Name) Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) MMG 98-001023-000 (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by MAINT. WBNP (Name) Type Code Symbol Stamp NONE
P.O. BOX 2000, SPRING CITY, TENN. 37381 (Address) Authorization No NA
Expiration Date NA
4. Identification of system REACTOR COOLANT SYSTEM, 068
5. (a) Applicable Construction Code Sect III 19 71 Edition, S72 Addenda, NA Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
CARTRIDGE SEAL *	WESTINGHOUSE	2183	N/A	P/N 2055D24601	90	REPLACEMENT	N
* FOR 1-RMP-068-003							

7. Description of Work Replace cartridge seal. Seal was removed from RCP 2 during REO1 and was inspected under WO 96-18330-003. S/N 2183. To be installed in RCP 2.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☑
Other ☐ Pressure 2500 psi Test Temp 650 °F 1-TRI-68-6

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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FORM NIS-2 (Back)

9. Remarks TRACKING NO. RR-02-40 11/3/98
Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp NONE

Certificate of Authorization No. N/A

Signed B.H. Collins Mech Engr. Date 4/13 19 99
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I&I Co. of Hartford CT have inspected the components described in this Owner's Report during the period 11/5/98 to 4/15/99 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.

Bruce M. Eamigh Commissions TN2534 "I" "N" "A"
Inspector's Signature National Board, State, Province, and Endorsements

Date 4/15 19 99

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WORK PLAN K-935794-3
Page 1 - 263

98001023000

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 1/20/94
P.O. BOX 2000 SPRING CITY TN (Address) Sheet 1 of 1
2. Plant WATTS BAR NUCLEAR PLANT (Name) Unit 1
P.O. BOX 2000 SPRING CITY TN (Address) ~~Work Order No.~~ WORK PLAN K-935794-3 * (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by TVA (Name) Type Code Symbol Stamp N/A
P.O. BOX 2000 SPRING CITY TN (Address) Authorization No. N/A
Expiration Date N/A
4. Identification of System REACTOR COOLANT SYSTEM (62)
5. (a) Applicable Construction Code USAS B31.1 19 67 Edition Summer 68 Addenda N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 19 89 NC
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Reactor Coolant Pump 1 #2 Seal Housing	Westinghouse	2131	N/A	P/N 5055D24G01	1990	Replacement	No
Reactor Coolant Pump 2 #2 Seal Housing	Westinghouse	2133	N/A	P/N 5055D24G01	1990	Replacement	No
Reactor Coolant Pump 3 #2 Seal Housing	Westinghouse	2237	N/A	P/N 5055D24G01	1990	Replacement	No
Reactor Coolant Pump 4 #2 Seal Housing	Westinghouse	2236	N/A	P/N 5055D24G01	1990	Replacement	No

7. Description of Work Installation of RCP cartridge seals included new #2 seal housings.
8. Tests Conducted: Hydrostatic [X] Pneumatic [ ] Nominal Operating Pressure [ ]
Other [ ] Pressure _____ psi Test Temp. _____ °F

* This form will be added to WP-K-935-3 after approval as a corrective action to WB PER 930414. JCW 1/27/94

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ in. x 11 in., (2) information 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.

WESTINGHOUSE ELECT... ATION

SF ____ SE ____

(E-EMD) (P-PENSACOLA)
(N-NEED) (T-TAMPA)

9800102300O

SUB S.O. / CUST. ORDER P. O.	PROJECT P. O.	PROJECT	WHQ S. O. NO.	DATE
[redacted] 71C62-84114-1	NA	WAIT	125	MO DAY YR 02 27 98

ORDER NO.	DIV./ PLANT S.O. NO.	PARIS(BASE)	PARIS(PROJ)	CHI(BASE)	CHI(PROJ)
CO-42067	0094	NA	NA	NA	NA

EQUIP. SPEC. NO. & REV. (BASE)	EQUIP. SPEC. NO. & REV. (PROJECT)	DRAWING NO.	REV.	ITEM
NA	NA	114E921	11	32

S.O. ITEM NUMBER	SPIN NUMBER	PART NAME	QTY. RELEASED
NA	RCPCPI	Cartridge Seal Assembly	2

SERIAL OR IDENTIFICATION NUMBERS

See Attached PA 2217

The attributes listed below have been reviewed and approved by QC/QA as noted by an A in the status column. Non-applicable items are lined out. Records are available for review. Contingent items are identified by "C" in the status column and explained in the remarks section.

STATUS		STATUS		STATUS	
A	Material Certifications	____	Operating Electrical Test Records	____	ASME Data Sheet Forms (ATTACHED)
A	Heat Treat Records	____	Non-Destructive Exam Test Records	____	Surface Finish Record
____	RT Film and Records	A	Pressure Test Records	____	Source Inspection Memo & Report (SIR)
A	PT Records	____	Seal Emulsion Test Records	A	Performance Test
[redacted]	MT Records	A	Performance Test Records	____	Certification - Attached
____	UT Records	A	Welding Personnel Qual. Cert.	A	General Assembly Drawing
A	Visual Inspection Records	A	NDE Personnel Qual. Cert.	____	Attached
A	Dimensional Inspection	____	Painting	____	
A	Cleanliness	A	Packaging	____	

CUSTOMER QA DATA PACKAGE REQUIRED BY PURCHASE ORDER: ☒ YES ☐ NO DEVIATION NOTICE(S) ☒ NONE ☐ APPLICABLE DN(S) LISTED BY DN NUMBER BELOW (COPY ATTACHED TO SHIPPING PAPERS)

PAGE 96 OF 167

[redacted] THE SUPPLIER CERTIFIES that for the equipment and material released, all contractual requirements have been met. Approved deviations, if any, are listed above.

SUPPLIER	P.O. NUMBER
NA	NA
SUPPLIER SIGNATURE	DATE
NA	NA

The equipment shown hereon is released by ☒ Quality Assurance. Shipment may be made subject to authorization by ☒ Purchasing.

The equipment supplier has certified that the equipment above meets all requirements of the purchase order, drawings and specifications. Westinghouse has received evidence substantiating this release and accepts as specified above has detected no deviations from such requirements. This release does not waive any rights Westinghouse may have under the purchase order including Westinghouse's right to reject the equipment upon discovery of any such deviations after arrival at destination.

Westinghouse Quality Assurance Representative

INGHOUSE EMD
ESWICK, PA 15024

SHOP ORDER: Q094	QTY. THIS SHIPMENT: 1	DATE: 1/8/90	OR NUMBER: E-85945-1
GENERAL ORDER NO.: C042067	TOTAL ON ORDER: 107	DOMESTIC: X / EXPORT:	SIGNATURES
PURCHASE ORDER NO.: 71C62-54114-1	TOTAL DEL'D TO DATE: 103	FLAMMABLE: No	PLANNER: J. Clink — Clink 1-8
SPIN NUMBER: RCPCP1	PARTIAL: X / FINAL:	NUMBER OF CONTAINERS: 8	EXPEDITOR: Redmat
CUSTOMER WITNESS REQ: Yes			PACKER: J. Chrystian 2-23
			PACKING INSPECTOR: R. K 2-23
			QA RECORDS: Jim Sweeney

RE'L NO.	PURCHASE ORDER NO.	PART NUMBER/ DRAWING	REV	DESCRIPTION	QTY	CUSTOMER ID	PACKAGING	PARTS AND PKG INSPECTOR
63	EMD	2D74703G01	6	Carl Seal Assy	1		039	QM 1
074703 G01 is	tem 52 of Genera	l Assembly dwg. 1141C921 G03, wh	ich	consists of the fo	llowing Seals and			No. 2 Housing
1	EMD	5053066 G01	15	No. 2 Seal Ring	1		608	BJL 1
1	EMD	5053075 G02	15	No. 2 Seal Runner	1		608	BJL 1
1	EMD	1099105 G01	3	No. 3 Seal Ring	1		608	BJL 1
6	EMD	1741C57 H02	13	No. 3 Seal Runner	1		608	BJL 1
1	EMD	5055024 G01	12	Seal Housing	1		608	BJL 1

WORKPLAN K-Pass794-3 Page II-277

W.O. 476680

9800102000

9800102300O

FORM NPV-1 MANUFACTURERS' DATA REPORT FOR NUCLEAR PUMPS OR VALVES*

As Required by the Provisions of the ASME Code Rules

1. Manufactured by Westinghouse Electro-Mechanical Division, Cheswick Avenue, Cheswick, PA 15024 (Name & Address of Manufacturer) Order No. U-363

2. Manufactured for Westinghouse--PWRSD, Monroeville, PA 15230 (Name and Address) Order No. 546-NRC-1517

3. Owner Tennessee Valley Authority W860724K0781

4. Location of Plant Spring City, Tennessee

5. Pump or Valve Identification S/N 2-114E921-G01

Provide Reactor Coolant Flow in Westinghouse Pressurized Water Reactor
(Brief description of service for which equipment was designed)

(a) Drawing No. 114E921 Prepared by Westinghouse Electric Corporation

(b) National Board No. N/A

6. Design Conditions 2500 (Pressure) psi 650 (Temperature) °F

7. The material, design, construction, and workmanship complies with ASME Code Section III, Class 1

Edition 1971, Addenda Date Summer 1972, Case No. N/A

See Attachments 1 through 4 for Items (a) through (d) below

Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
(b) Forgings			

*Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8½" x 11", (2) information in items 1, 2, 3a and 3b on this data report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

FORM NPV-1 (back) 98001023000

Mark No.	Material Spec. No.	Manufacturer	Remarks
(c) Bolting			
(d) Other Parts			

9. Hydrostatic test 3750 psi. (Pump Code Parts)

CERTIFICATION OF DESIGN

Design information on file at Westinghouse Electro-Mechanical Division

Stress analysis report on file at Westinghouse Electro-Mechanical Division

Design specifications certified by Robert L. Sylvester (1) Prof. Eng. State PA Reg. No. 15441-E

Stress analysis report certified by Dr. O. Hagen (1) Prof. Eng. State PA Reg. No. 09091-E

(1) Signature not required. List name only.

We certify that the statements made in this report are correct.

Date October 13 19 81 Signed Westinghouse Electro-Mechanical Division (Manufacturer) By [signature]

Certificate of Authorization No. N-1385 expires May 14, 1982

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of PENNSYLVANIA and employed by LUMBERMEN'S MUTUAL CASUALTY CO of LONG GROVE, ILLINOIS have inspected the equipment described in this Data Report on NOV. 3 19 74, and state that to the best of my knowledge and belief, the Manufacturer has constructed this equipment in accordance with the applicable Subsections of ASME Code, Section III.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the equipment described in this 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.

C R Miller (INSPECTOR) COMMISSIONS PA.1734 (NATIONAL BOARD, STATE, PROVINCE AND NO.)

Date OCT. 13 1981 19

WITNESSED COMPLETED PUMP ASSEMBLY HYDROSTATIC TEST: ~~3750~~ 3136 psi, for 10 minutes.

Westinghouse Representative Charles E. Lee Date 10-24-51

E. M. Madison (Inspector) 10-24-51 (Date) Commissions NB 5607 TN 682 (National Board, State, Province and No.)

Printed in U.S.A. (6/72)

ATTACHMENT TO FORM NPV-1

Manufactured by Westinghouse Electro-Mechanical Division, Chestwick Avenue, Chestwick, Pa. 15024 — Order No. U-363

Manufactured for Westinghouse--PWRSD, Monroeville, PA — Order No. 546-NRC-151972-BN

Drawing Number 114E921 — Serial Number 2-114E921G01

National Board Number N/A

Component	Part Number	Material Spec. No.	Manufacturer	Serial Number(s)
1A Main Flange 1B Thermowell	929C354G 01 1306C07G 01	SA-351 Gr CF8 SA-479 Type 304 & SA-213 Grade TP304	Esco Corp. Ionics	890 1330
2 Main Flange Bolts (24)	913C495G01	SA-540 Grade B24	J. Dyson	9005 9007 90 8778 9083 9[illegible] 9086 9087 90[illegible] 9069 9064 90[illegible] 9070 9082 90[illegible] 9084 9080 90[illegible] 9081 9071 87[illegible] 9001 8777 90[illegible]
3 Lower Seal Housing Bolts (12)	4129A37H16	SA-194 Grade B7	Radform Tool	2472 2[illegible] 24[illegible] 2401 2399 24[illegible] 2397 2406 24[illegible] 2407 2459 24[illegible]
4 Upper Seal Housing Bolts (12)	4129A36H10	SA-193 Grade B7	Safety Socket	2111 2594 22[illegible] 2118 2597 22[illegible] 2667 2249 21[illegible] 2244 2089 22[illegible]

ATTACHMENT TO FORM NPV-1

Manufactured by Westinghouse Electro-Mechanical Division Cheswick Avenue, Cheswick, Pa. 15024 Order No. U-363

Manufactured for Westinghouse--PWRSD Monroeville, PA Order No. 546-NRC-151972-BN

Drawing Number 114E921 Serial Number 2-114E921G01

National Board Number N/A

Component	Part Number	Material Spec. No.	Manufacturer	Serial Number(
5 Thermal Barrier	510F365G01	Not Applicable		
5A Flange	510F364G01	SA-182 Grade F 304	Standard Steel	910
5B Water Connection	925B950G 02	Not Applicable		
Flange	955B758H 02	SA-182 Grade 316	Western Forge	2650 2656 26
5B.2 Pipe	925B950H 05	SA-312 Grade Tp 305	Babcock & Wilcox	2862 2863 28
5C Pressure Tap	925B949G___	Not Applicable		
5C.1 Flange	955B798H___	SA-182 Grade 316		N/A
5C.2 Pipe	925B949H___	SA-312 Grade Tp 304		N/A
5C.3 Reducer	955B799H___	SA-182 Grade 316		N/A

ATTACHMENT TO FORM NPV-1

Manufactured by Westinghouse Electro-Mechanical Division Cheswick Avenue, Cheswick, Pa. 15024 Order No. U-363

Manufactured for Westinghouse--PWRSD Monroeville, PA Order No. 546-NRC-151972-BN

Drawing Number 114E921 Serial Number 2-114E921G01

National Board Number N/A

Component	Part Number	Material Spec. No.	Manufacturer	Serial Number(s)
6 Lower Seal Housing (Spool)	933D313 H03	SA-182 F304	Standard Steel	853
6A Thermowell	955B797H 02	SA-479 Type 304	Simonds Steel	1573
6B No. 1 Leak Off Connection	913C741G 02	Not Applicable	FILMED FROM BEST AVAILABLE COPY	
6B.1 Flange	955B758H 02	SA-182 Grade 316	Western Forge	2662
6B.2 Pipe	913C741H 05	SA-312 Grade Tp 304	Babcock & Wilcox	2893
6C Lift Off Connection	913C533G 02	Not Applicable		
6C.1 Flange	955B756H 02	SA-182 Grade 316	Western Forge	2815
6C.2 Pipe	913C533H 05	SA-312 Grade Tp 304	Allegheny Ludlum	2754
7 Upper Seal Housing (Spool)	933D309 H04	SA-182 F304	Standard Steel	874
7A No. 2 Leak Off Connection	929C852G 04	Not Applicable		
7A.1 Flange	955B798H 02	SA-182 Grade 316	Western Forge	2747
7A.2 Pipe	929C852H 07	SA-312 Grade Tp 304	U.S. Steel	2899

ATTACHMENT TO FORM NPV-1

Manufactured by Westinghouse Electro-Mechanical Division
Cheswick Avenue, Cheswick, PA 15024

Shop Order U-363

Manufactured for Westinghouse--PWRSD
Monroeville, PA

Purchase Order 546-NRC-151972-

Drawing Number 114E921

National Board No. N/A

Serial No. 2-114E921G01

The following Reactor Coolant Pump Casing is covered by its own Manufacturers' Data Report (N-2 Form).

Serial Number	Part Number	Manufacturer
924	114E968H01	Esco Corp.

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 3-31-99
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____
2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — WORK ORDER 98-010243-003 (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by TVA MODIFICATIONS (Name) — Type Code Symbol Stamp N/A
WATTS BAR NUCLEAR PLANT (Address) — Authorization No N/A
Expiration Date N/A
4. Identification of system 068 - REACTOR COOLANT / 001 MAIN STEAM
5. (a) Applicable Construction Code ASC 7DI 19 __ Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STEAM GENERATOR BOLTS	NOVA	N/A	N/A	N/A	N/A	REPLACEMENT	NO

7. Description of Work REPLACE STEAM GENERATOR UPPER LATERAL RESTRAINT SPLICE BOLTING

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks Inconel # 98-02-41 11/6/98
Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed Howard A Connell CONST ENGR Date 31 MARCH 19 99
Owner or Owner's Designee, Title

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 TN and employed by HSB I+I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 1-10-98 to 4-1-99 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.

Inspector's Signature Commissions TN2533
National Board, State, Province, and Endorsements

Date 4-1 19 99

BACK

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 4-1-99
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet 1 of 2
2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — WORK ORDER 98-010243-001 (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by TVA MODIFICATIONS (Name) — Type Code Symbol Stamp N/A
WATTS BAR NUCLEAR PLANT (Address) — Authorization No N/A
Expiration Date N/A
4. Identification of system 068 - REACTOR COOLANT / 001 MAIN STEAM
5. (a) Applicable Construction Code AISC including 7th Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STEAM GENERATOR BOLTS	NOVA	N/A	N/A	N/A	N/A	REPLACEMENT	NO

7. Description of Work REPLACED ONE BOLT FOR SG 2 UPPER LATERAL RESTRAINT SPLICE PLATE

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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11/6/98

FORM NIS-2 (Back)

9. Remarks TURBINE # 98 RR-02-43

Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed Kenneth A Cornwell, CONST ENGR Date 1 APRIL 19 99

Owner or Owner's Designee, Title

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 Tennessee and employed by HSB IEI CO. of HARTFORD CT. have inspected the components described in this Owner's Report during the period 11/10/98 to 4/1/99 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.

Bruce M Eanigh Commissions TN 2534 "I" "N" "A"

Inspector's Signature National Board, State, Province, and Endorsements

Date 4/1 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name)
400 W. Summit Hill Drive, Knoxville, TN (Address)
Date 3-31-99
Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name)
P. O. Box 2000, Spring City, TN, 37381 (Address)
Unit Unit 1
WORK ORDER 98-010243-000 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by TVA MODIFICATIONS (Name)
WATTS BAR NUCLEAR PLANT (Address)
Type Code Symbol Stamp N/A
Authorization No N/A
Expiration Date N/

4. Identification of system 068-REACTOR COOLANT / 001 MAIN STEAM

5. (a) Applicable Construction Code AISC 19 7TH Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STEAM GENERATOR SUPPORT BOLTING	NOVA	N/A	N/A	N/A	N/A	REPLACEMENT	N

7. Description of Work REPLACE UPPER STEAM GENERATOR LATERAL RESTRAINT SPLICE BOLTING

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp N/A °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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WO# 98-10243-00 PAGE _____ OF _____

FORM NIS-2 (Back)

9. Remarks Tracing #22-02-44 11/6/98
Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed Bruce A Carroll CONST ENGR Date 31 MARCH 19 99
Owner or Owner's Designee, Title

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 TENNESSEE and employed by HSB I & I CO. of HARTFORD CT. have inspected the components described in this Owner's Report during the period 11/10/98 to 4/1/99 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.

Bruce M Eamigh Commissions TN2534 "I" "N" "A"
Inspector's Signature National Board, State, Province, and Endorsements

Date 4/1 19 99

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Page ~~167~~ F. 224
MKS
4.7.99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 4-12-99
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet 1 of 2
2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — Work Order # 98-007950-000 (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by TVA Modifications (Name) — Type Code Symbol Stamp N/A
Watts Bar Nuclear Plant (Address) — Authorization No N/A
Expiration Date N/A
4. Identification of system 015, Steam Generator Blowdown
5. (a) Applicable Construction Code ASME III 19 71 Edition, S73 Addenda, N-416-1 Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-015-B	N/A	N/A	N/A	N/A	N/A	REPLACEMENT	No

7. Description of Work Replaced piping section from 1-FCV-1-7 to 90 degree elbow upstream of 1-FE-1-152.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure 1075 psi Test Temp 553 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

181 EDCR

NIS 4.7.99

FORM NIS-2 (Back)

9. Remarks REF. CODE CASE N-416-1. TRACK NO. * RR-02-95-2 7/10/99
Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp NA Exp. 12-31

Certificate of Authorization No. NA Exp. 12-31

Signed [signature] CONSTRUCTION ENGINEER Date 4-12 19 99
Owner or Owner's Designee, Title

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 TENNESSEE and employed by HSB I&I CO of HARTFORD CT. have inspected the components described in this Owner's Report during the period 11/10/98 to 4/12/99 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.

Bruce M Eamigh Commissions TN 2534 I N A
Inspector's Signature National Board, State, Province, and Endorsements

Date 4/12 19 99

98-0[illegible]50-01

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Date 4-12-99
Name
400 W. Summit Hill Drive, Knoxville, TN — Sheet 1 of 2
Address
2. Plant Watts Bar Nuclear Plant — Unit Unit 1
Name
P. O. Box 2000, Spring City, TN, 37381 — WORK ORDER # 98-007950-001
Address — Repair Organization P.O. No., Job No., etc.
3. Work Performed by TVA MODIFICATIONS — Type Code Symbol Stamp N/A
Name
WATTS BAR NUCLEAR PLANT — Authorization No N/A
Address
Expiration Date N/A

4. Identification of system 015, Steam Generator Blowdown

5. (a) Applicable Construction Code ASME III 19 71 Edition, S73 Addenda, ~~N/A~~ 2FC 6/30/97 Code Case ~~N-416-1~~
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-015-B	N/A	N/A	N/A	N/A	N/A	REPLACEMENT	NO

7. Description of Work Replaced piping section from 1-FCV-1-14 to 90 degree elbow upstream of 1-FE-1-156

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure 1074 psi Test Temp 553 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

98-07950-01

FORM NIS-2 (Back)

9. Remarks Ref. Code Case N-416-1, TRACER # RP-02-46 2" 1000
Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N A Exp 4-12-99

Certificate of Authorization No. N A Exp 4-12-99

Signed [signature] Owner or Owner's Designee, Title Date 4-12- 19 99

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 TENNESSEE and employed by HSB IEI Co of HARTFORD CT. have inspected the components described in this Owner's Report during the period 11/10/98 to 4/12/99 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.

Bruce M. Earwood Commissions TN 2534 "I" "N" "A"
Inspector's Signature National Board, State, Province, and Endorsements

Date 4/12 19 99

PAGE 177 OF 211

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 4-12-93
400 W. Summit Hill Drive, Knoxville, TN (Address) Sheet 1 of 2
2. Plant Watts Bar Nuclear Plant (Name) Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) WORK ORDER # 98-007950-002 (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by TVA MODIFICATIONS (Name) Type Code Symbol Stamp N/A
WATTS BAR NUCLEAR PLANT (Address) Authorization No N/A
Expiration Date N/A
4. Identification of system 015, Steam Generator Blowdown
5. (a) Applicable Construction Code ASME III 19 71 Edition, S73 Addenda, ~~N/A~~ ~~N-416-1~~ 6/8/89 Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-015-B	N/A	N/A	N/A	N/A	N/A	REPLACEMENT	NO

7. Description of Work Replaced piping section from 1-FCV-1- to 90 degree elbow upstream of 1-FE-1-16
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure 1032 psi Test Temp 554 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks Ref. Code Case N-416-1. TRACKING # 2K-02-47
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp NA

Certificate of Authorization No. NA

Signed [signature] CONSTRUCTION ENGINEER Date 4-12 19 99
Owner or Owner's Designee, Title

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 TENNESSEE and employed by HSB I&I CO. of HARTFORD CT. have inspected the components described in this Owner's Report during the period 4/10/97 to 4/12/99 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 TN2534 "I" "N" "A"
Inspector's Signature National Board, State, Province, and Endorsements

Date 4/12 19 99

98-07950-03

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 4-12-99
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet 1 of 2
2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — WORK ORDER # 98-007950-003 (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by TVA MODIFICATIONS (Name) — Type Code Symbol Stamp N/A
WATTS BAR NUCLEAR PLANT (Address) — Authorization No N/A
Expiration Date N/A
4. Identification of system 015, Steam Generator Blowdown
5. (a) Applicable Construction Code ASME III 19 71 Edition, S73 Addenda, ~~N-416-1~~ 2/6/89 Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-015-B	N/A	N/A	N/A	N/A	N/A	REPLACEMENT	NO

7. Description of Work Replaced piping section from 1-FCV-1-32 to 90 degree elbow upstream of 1-FE-1-164.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure 1075 psi Test Temp 553 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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FORM NIS-2 (Back)

9. Remarks Ref. Code Case N-416-1. TRACKING # 98-02-23 [illegible]
Applicable Manufacturer's Data Reports to be attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp NJ

Certificate of Authorization No. N

Signed [signature] CONST ENGR Date 12 APRIL 19 99
Owner or Owner's Designee, Title

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 TENNESSEE and employed by HSB I&I CO of HARTFORD CT. have inspected the components described in this Owner's Report during the period 11/16/98 to 4/12/99 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 TN 2534 I N A
Inspector's Signature National Board, State, Province, and Endorsements

Date 4/12 19 99

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FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 4-4-99
400 W. Summit Hill Drive, Knoxville, TN (Address) Sheet 1 of 1

2. Plant Watts Bar Nuclear Plant (Name) Unit Unit 1
P. O. Box 2000, Spring City, TN. 37381 (Address) WO# 98-007954-000 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by TVA MECH MODS (Name) Type Code Symbol Stamp
WATTS BAR NUCLEAR PLANT (Address) Authorization No N/A 4-1-99
Expiration Date

4. Identification of system 003 - Feedwater

5. (a) Applicable Construction Code ASME III 19 71 Edition, ~~'73 Summer~~ 73 thru 11-1-96 Addenda, ~~N/A~~ 2RR 6/30/99 ~~N-416-1~~ Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-003-B	N/A	N/A	N/A	N/A	N/A	REPLACEMENT	NO
1-C3A-498	N/A	N/A	N/A	N/A	N/A	REPLACEMENT	NO
1-C3A-499	N/A	N/A	N/A	N/A	N/A	REPLACEMENT	NO
1-C3A-500	N/A	N/A	N/A	N/A	N/A	REPLACEMENT	NO

7. Description of Work Replace existing 6"ϕ Carbon Steel Piping with Chrome Moly.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure _____ psi Test Temp _____ °F

* SYSTEM LEAKAGE TEST DEFERRED TO 1-TRI-3-905 (WORK ORDER 98-015872-000) KMC 4-5-99

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks CODE CASE N-416-1 TRACKING # RR-02-49 Att. 1 pg 1 of 1

Applicable Manufacturer's Data Reports to Be Attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed Richard A Conwell CONST ENGR Date 5 APRIL 19 99

Owner or Owner's Designee, Title

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 TN and employed by HSB CT I Co of Hartford, CT have inspected the components described in this Owner's Report during the period 11-17-98 to 4-5-99 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.

Inspector's Signature Commissions TN2533

National Board, State, Province, and Endorsements

Date 4-5 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 4-5-99
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet 1 of 2
2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — WO# 98-007954-001 (Repair Organization P.O. No., Job No., etc)
3. Work Performed by TVA MODIFICATIONS (Name) — Type Code Symbol Stamp
WATTS BAR NUCLEAR PLANT (Address) — Authorization No
Expiration Date
4. Identification of system 003 - Feedwater
5. (a) Applicable Construction Code ASME III 19 71 Edition, ~~'73 Summer~~ 73 KHC 11-12-98 Addenda, ~~N/A~~ N/A N1C 6/8/99 ~~N-416-1~~ Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No	National Board No	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-003-B	N/A	N/A	N/A	N/A	N/A	REPLACEMENT	NO
1-03A-374	N/A	N/A	N/A	N/A	N/A	REPLACEMENT	NO

7. Description of Work Replace existing 6"ϕ Carbon Steel Piping with Chrome Moly. REPLACED U-BOLT ON 1-03A-374 DUE TO DAMAGE DURING REMOVAL KHC 4-5-99
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒ *
Other ☐ Pressure _____ psi Test Temp _____ °F
* LEAKAGE TEST TO BE PERFORMED BY 1-TRI-3-905 (WORK ORDER 98-015872-000) KHC 4-5-99

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

WO 98-07954-01

PAGE 1 OF 2

FORM NIS-2 (Back)

9. Remarks CODE CASE N-416-1 TRACKING # AR-02-[illegible] 11/4/98
50

Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed [signature] Date 5 APRIL 19 99
Owner or Owner's Designee, Title

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 TN and employed by HSB I+I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 11-17-98 to 4-5-99 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 TN2533
Inspector's Signature National Board, State, Province, and Endorsements

Date 4-5 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Name
400 W. Summit Hill Drive, Knoxville, TN — Address

Date 4-4-99

Sheet 1 of 1

2. Plant Watts Bar Nuclear Plant — Name
P. O. Box 2000, Spring City, TN, 37381 — Address

Unit Unit 1

WO# 98-007954-002
Repair Organization P O. No., Job No., etc.

3. Work Performed by TVA MECH MODS — Name
WATTS BAR NUCLEAR PLANT — Address

Type Code Symbol Stamp

Authorization No N/A EXP 4-4-99

Expiration Date

4. Identification of system 003 - Feedwater

5. (a) Applicable Construction Code ASME III 19 71 Edition, ~~'73 Summer~~ 73 EMCH-1298 Addenda, N/A EXP 6/8/99 AJ-416-1 Code Case

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-003-B	N/A	NONE	NONE	N/A	UNKNOWN	REPLACEMENT	NO

7. Description of Work Replace existing 6"ϕ Carbon Steel Piping with Chrome Moly.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ▲ X EXP 6-4-99
Other ☐ Pressure ~~1185~~ 1200 psi Test Temp ~~600~~ °F

▲ LEAK TEST DEFERRED TO 1-TRI-3-905 WO# 98-015872-000. mms 4/5/99

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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FORM NIS-2 (Back)

9. Remarks CODE CASE N-416-1 TRACKING # RR-02-51
Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp NJ

Certificate of Authorization No. A

Signed [signature] MECH FIELD ENGR Date 4-4 19 99
Owner or Owner's Designee, Title

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 TN and employed by HSB I+I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 11-17-98 to 4-5-99 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 TN2533
Inspector's Signature National Board, State, Province, and Endorsements

Date 4-5 19 99

~~99 001891 000~~ 4/5/99

98 007954 003

PAGE 107 OF 110

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Date 4/5/99
   Name
   400 W. Summit Hill Drive, Knoxville, TN — Sheet 1 of 2
   Address
2. Plant Watts Bar Nuclear Plant — Unit Unit 1
   Name
   P. O. Box 2000, Spring City, TN, 37381 — WO# 98-007954-003
   Address — Repair Organization P O. No., Job No., etc.
3. Work Performed by TVA, MODIFICATIONS — Type Code Symbol Stamp
   Name
   WBNP — Authorization No N/A
   Address — Expiration Date
4. Identification of system 003 - Feedwater
5. (a) Applicable Construction Code ASME III 19 71 Edition, ~~'73~~ Summer Addenda, ~~N-416-1~~ T3 Dec 11-12-78 N/A 4/8/99 Code Case
   (b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
   ▲ AISC 7TH EDITION FOR PIPE SUPPORTS
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-003-B	N/A	NONE	NONE	N/A	UNKNOWN	REPLACEMENT	NO
47A400-11-34	N/A	NONE	NONE	DCA-M19875-06	UNKNOWN	REPAIR	NO
1-01A-389	N/A	NONE	NONE	DCA-K06011-27	UNKNOWN	REPLACEMENT	NO

7. Description of Work Replace existing 6"ϕ Carbon Steel Piping with Chrome Moly. Cut supports and reinstalled to allow for piping moves.
8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒ *
   Other ☐ Pressure _____ psi Test Temp _____ °F

* SYSTEM LEAKAGE TEST DEFERRED TO TRI-3-905 (WO# 98-015872-000)

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

PAGE 107 OF 110

FORM NIS-2 (Back)

9. Remarks CODE CASE N-416-1 TRACKING # RR-02-52 Rec 4/14/99

Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/

Certificate of Authorization No. /A

Signed M R Dodd CONST. ENGR. Date 4/5 19 99

Owner or Owner's Designee, Title

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 TN and employed by HSB I+I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 11-17-98 to 4-5-99 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.

Inspector's Signature Commissions TN2533

National Board, State, Province, and Endorsements

Date 4-5 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Name
400 W. Summit Hill Drive, Knoxville, TN — Address

Date 1-22-99
Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant — Name
P. O. Box 2000, Spring City, TN. 37381 — Address

Unit Unit 1

97-14576-00
Repair Organization P.O. No., Job No., etc.

3. Work Performed by Mech Maint WBNP — Name
P.O. Box 2000 — Address

Type Code Symbol Stamp ____
Authorization No ____ WR 1W 121-99
Expiration Date ____

4. Identification of system CVCS

5. (a) Applicable Construction Code ASME Sect III 19 74 Edition, Summer 1974 Addenda, N/A 2 Code Case 1/20/99
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
Excess Letdown Heat Exchanger	ATLAS manufacturing Company	3151	2529	HHTX-62-0121	1975	Replacement	
Studs SA453 GR660	NOVA	NA	NA	HT. No. 523914	99	Replacement	No
NUTS	CARDINAL	NA	NA	HT. NO BB69139	94	Replacement	NO
NUTS	NOVA	NA	NA	HT. NO 49419	99	Replace-ment	NO
Super bolt NUT	NOVA	NA	NA	LOT NO. 35677029	98	Replace-ment	NO

7. Description of Work Replace Existing Heat Exchanger Head Flange ~~Bolts~~ Studs, NUTS With NEW Studs, NUTS TVW 1-22-99

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure NOP 2230 psi Test Temp NOT 557 °F

Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

1 of 1

FORM NIS-2 (Back)

9. Remarks RR TRACKING # RR-02-59 2RC 1/22/99
Applicable Manufacturer's Data Reports to be Attached

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NA

Certificate of Authorization No. NA

Signed D.H. Collins Mech Engr. (Owner or Owner's Designee, Title) Date 4/30 19 99

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 Tennessee and employed by HSB I&I Co. of Hartford CT. have inspected the components described in this Owner's Report during the period 1/22/99 to 5/13/99 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.

Bruce M Eamigh (Inspector's Signature) Commissions TN 2534 "I" "N" "A" (National Board, State, Province, and Endorsements)

Date 5/13 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Date 08/25/98
Name
400 W. Summit Hill Drive, Knoxville, TN — Sheet ____ of ____
Address
2. Plant Watts Bar Nuclear Plant — Unit Unit 1
Name
P. O. Box 2000, Spring City, TN. 37381 — WO. # 97-001929-012
Address — Repair Organization P.O. No., Job No., etc.
3. Work Performed by WATTS BAR NUCLEAR PLANT — Type Code Symbol Stamp NA
Name
PO Box 2000 Spring City, TN. 37381 — Authorization No NA
Address
Expiration Date NA

4. Identification of system CCT (ESSENTIAL RAW Cooling WATER SYSTEM)

5. (a) Applicable Construction Code SECT. III, DIV. 1 19 77 Edition, 1977 Addenda, Summer 1977 Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No	National Board No	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
SWING CHECK VALVE	ATWOOD & MORRILL CO	0-14735-03	N/A	1 CKV 067 5306-A	81		YES
DISC	"	"	"	"	81	Replaced	N

NA

7. Description of Work Replace Disc

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☑ VT-2
Other ☐ Pressure NOP psi Test Temp NOT °F EXAM

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

PAGE 1 OF 1

9906150012

FORM NIS-2 (Back)

9. Remarks

Additional Manufacturer's Data Reports to be Attached

TRACKING # RR-02-61 2RC2/3/99

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE

Certificate of Authorization No. N/A

Signed D H Collins Mech Engr (Owner or Owner's Designee, Title) Date 3/23 19 99

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 TN and employed by HSB I+I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 2-3-99 to 3-23-99 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.

Inspector's Signature Commissions TN2533 (National Board, State, Province, and Endorsements)

Date 3-23 19 99

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9706192901 2

1. Manufactured by Crane Co. Crane Valve Div. Stockham Valves & Fittings Inc. Birmingham, AL
(Name and Address of N Certificate Holder)

2. Manufactured for Tennessee Valley Authority Chattanooga, TN
(Name and Address of Purchaser or Owner)

3. Location of Installation Watts Bar Nuclear Plant Spring City, TN
(Name and Address)

4. Pump or Valve Valve. Nominal Inlet Size 2 (inch) Outlet Size 2

	(a) Model No., Series No. or Type	(b) N Certificate Holder's Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Nat'l. Bd. No.	(g) Year Built
(1)	2" Swing Check Valve	1-14735-02 thru 8-14735-02	N/A	14735-02 Rev. 1	2	N/A	1981
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

W860724K0698

Contract No. 827840-2
R.D. or S.I. No.
209 No. 81-3241

5. ERCW Containment Isolation
(Brief description of service for which equipment was designed)

6. Design Conditions 150 (Pressure) psi 130 (Temperature) °F or Valve Pressure Class N/A (1)

7. Cold Working Pressure 475 psi at 100°F.

8. Pressure Retaining Pieces

FILMED FROM BEST AVAILABLE COPY

Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
Body	SA 351 CF8M	Lebanon Steel Fdry.	S/N 1-14735-02
Ht.# 5576L			
			S/N 8-14735-02
Disc	SA 351 CF8M	Quaker Alloy	S/N 1-14735-02
Ht.# X2937		Casting Co.	thru
			S/N 8-14735-02
(b) Forgings			
N/A			

(1) For manually operated valves only.

* Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8.5" x 11", (2) information in items 1, 2 and 5 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

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(10/77) This form (E00037) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, NY 10017

9700019012

Mark No	Material Spec No		
(c) Bolting			
Studs	SA 193 Gr B7		
Nuts	SA 194 Gr 2H		
(d) Other Parts			
Cover	SA 240 Gr. 316	Eastern Stainless Steel Co. (M.M.) Industrial Service Center (M.S.)	S/N 1-14735-02 thru S/N 8-14735-02
Ht.# K03468			
Ht.# K07884			

8. Hydrostatic test 740 psi. Other Differential test pressure 540 psi.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that this pump, or valve, conforms to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Div. 1., Edition 1977, Addenda Summer 1979 (Date), Code Case No. N/A (Date) N/A

Signed Atwood & Morrill Co., Inc (N Certificate holder) by [signature] 8/25/81

Our ASME Certificate of Authorization No. N-1766 to use the N (N) symbol expires 5-20-83 (Date).

CERTIFICATION OF DESIGN

Design information on file at Tennessee Valley Authority

Stress analysis report (Class 1 only) on file at N/A

Design specifications certified by (1) Ivan Lee Belz

PE State TN. Reg. No. 9702

Stress analysis certified by (1) N/A

PE State N/A Reg. No. N/A

(1) Signature not required. List name only.

Contract No. 82-7840-3

RD or ST No.

ECN No. 8113241

CERTIFICATE OF SHOP 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 Massachusetts and employed by H.S.B.I.&I. Co. of Hartford, Ct. have inspected the pump, or valve, described in this Data Report on August 25th 1981, and state that to the best of my knowledge and belief, the N Certificate Holder has constructed this pump, or valve, 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 equipment described in this 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 August 25th 1981

[signature] (Inspector) Commissions Mass. 1996 (Nat'l Bd., State, Prov. and No.)

1999-27873

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FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Name
400 W. Summit Hill Drive, Knoxville, TN — Address

Date 3/23/99

Sheet 1 of 2

2. Plant Watts Bar Nuclear Plant — Name
P. O. Box 2000, Spring City, TN, 37381 — Address

Unit Unit 1

WORK ORDER # 98-002218-001 — Repair Organization P.O. No., Job No., etc.

3. Work Performed by TVA, MODIFICATIONS — Name
WBNP — Address

Type Code Symbol Stamp N/A

Authorization No N/A

Expiration Date N/A

4. Identification of system 068 REACTOR COOLANT SYSTEM

5. (a) Applicable Construction Code ASME III 19 71 Edition, S73 Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1068-1-68-415	NONE	NONE	NONE	1-68-415 SHTS. 1 THRU 6	UNKNOWN	REPLACEMENT	NO

7. Description of Work REPLACED (4) BOLTS AND (8) NUTS ON PIPE CLAMP, HGR. 1068-1-68-415

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☐ Pressure N/A psi Test Temp _____ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks

Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-86 LTR 3/11/99

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No.

Signed [signature] CONSTR. ENGR. Date 3-23 19 99

Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I&I CO. of HARTFORD CT. have inspected the components described in this Owner's Report during the period 3/11/99 to 3/24/99 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.

Bruce M. Famigh Commissions TN 2534 "I" "N" "A"

Inspector's Signature National Board, State, Province, and Endorsements

Date 3/24 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name)
400 W. Summit Hill Drive, Knoxville, TN (Address)

Date 3-9-99
Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name)
P. O. Box 2000, Spring City, TN. 37381 (Address)

Unit Unit 1
WO# 98-002441-003 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by Mech Maint WBNP (Name)
P.O. Box 2000 Spring City TN 37381 (Address)

Type Code Symbol Stamp N/A
Authorization No N/A
Expiration Date N/A

4. Identification of system MAIN STEAM

5. (a) Applicable Construction Code ASME Section III 19 71 Edition, Summer 1973 Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STEAM GENERATOR Secondary MANWAY COVER	Westinghouse	1594	W10289	1-SGEN-068-SG4	75	Repair	NO
STEAM GENERATOR Secondary MW COVER	Westinghouse	1594	W10289	1-SGEN-068-SG4	75	~~Repair~~ DEC 3/1999 Replace	NO
S/G SECOND. MW COVER STUDS	WESTINGHOUSE	NONE	NA	1-SGEN-068-SG4		Replace	NO
NUTS	Westinghouse	NONE	NA	1-SGEN-068 SG4		Relace	NO

RI

7. Description of Work Repair Secondary manway Cover by Machining Cover per MI-3.014 Replaced Cover with Cover from Unit 2

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☑ 1-TRI-3-903
Other ☐ Pressure NOP psi Test Temp NOT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

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FORM NIS-2 (Back)

9. Remarks

Applicable Manufacturer's Data Reports to Be Attached

TRACKING # RR-02-87 ZEG 5/11/99

REPAIRED 1 S/G COVER, Replaced one Cover And Studs

CERTIFICATE OF COMPLIANCE REPAIR/

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp NONE

Certificate of Authorization No. NA

Signed D H Collins Mech Engr. Date 4/11 19 99
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB IEI CO. of HARTFORD CT. have inspected the components described in this Owner's Report during the period 3/11/99 to 5/26/99 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.

Bruce M Eamigh
Inspector's Signature

Commissions TN2534 "I" "N" "A"
National Board, State, Province, and Endorsements

Date 5/26/ 19 99

FORM 1 - COVER SHEET
QA RECORD

PEG PKG NO: 1999-42380
PAGE 1 OF 12

RIMS/EDMS NO: T49 990329 810	REV NO: 0
SUPERSEDED RIMS/EDMS NO:	QA LEVEL: 1
TRACKING NO: 199900042380	
REASON FOR REVISION: INITIAL ISSUE	
SUBJECT: U2-U1 TRANSFER OF SECONDARY MANWAY COVER	
REFERENCE: APPENDIX A - REQUEST FOR REMOVAL - TRK NO 2-068-041, ER# 03-99-011	
PREPARED BY: PEG ENGINEER: BRYAN, DARYL	DATE: 3-29-99
REVIEWED BY: INDEPENDENT REVIEWER: McCORD, LARRY	DATE: 3-29-99
APPROVED BY: PROCUREMENT ENGINEERING LEAD: BENNINGHOFF, H. N.	DATE: 3-29-99

DISTRIBUTION:
[X] RIMS/EDMS
[ ] MATERIAL & PROCUREMENT
[ ]
[ ] NUCLEAR PROCUREMENT
[ ] NUCLEAR STORES

Secondary Manway Cover
For S/G No. 4.

FORM 2 - TECHNICAL EVALUATION

PEG PKG NO: 1999-42380
PAGE 2 OF 12

[redacted]
If the component is uniquely addressed in ME/NE output documents (ie Design Change Package, G-spec, EMS Q-List) or is a whole component, complete HOST EQUIPMENT/COMPONENT DATA and [redacted] ITEM DESCRIPTION & ITEM FUNCTION
HOST EQUIPMENT/COMPONENT (WORST CASE) UNID NO: WBN-1-SGEN-068-SG4 - / **HOST EQUIPMENT/COMPONENT TIIC NO:** CAN276V
HOST EQUIPMENT/COMPONENT (WORST CASE) DESCRIPTION: STEAM GENERATOR 4
HOST SAFETY CLASSIFICATION: [X] SAFETY RELATED [ ] NON-QUALITY RELATED [ ] QUALITY RELATED [X] SEISMIC I [ ] SEISMIC I(L) [ ] PAM [ ] CLASS 1E [X] ASME SEC III CLASS: 1 [ ] 10 CFR 50.49 EQ BINDER NO: N/A REV: N/A
BASIS FOR SAFETY FUNCTION CLASSIFICATION: EMPAC (MEL) VERIFIED
REFERENCES: (TVA dwgs, Q-list, system criteria, etc) N/A
ITEM DATA
ITEM(S) DESCRIPTION: SECONDARY MANWAY COVER
ITEM DESIGN FUNCTION(S): (Including Known Safety Function) N/A

FORM 2A - TECHNICAL EVALUATION **PE[illegible] PKG NO: 1999-42380**
PA[illegible]E 3 OF 12

ITEM CLASSIFICATION BA[illegible]ED ON FUNCTION:
[X] SAFETY RELATED PROVIDE BASIS IF PROCUR[illegible]NG AS COMMERCIAL GRADE
[ ] NOT SAFETY RELATED PROVIDE BASIS ONL[illegible]F HOST IS SR
POSTULATED FAILURE MODE(s) OF ITEM: N/A
EFFECTS OF POSTULATED FAILURE(s) ON COMP[illegible]ONENT SAFETY FUNCTIONS: N/A
CONCLUSION AND BASIS FOR ITEM CLASSIFIC[illegible]TION: N/A
REFERENCES: N/A
ITEM SEISMIC REQUIREMENT: [X] SEISM[illegible]1 [ ] SEISMIC I(L) [ ] N/A
REMARKS: LIKE FOR LIKE REPLACEMENT
[illegible] ITEM QUALITY LEVEL DETERMINATION
ITEM IS SAFETY RELATED, AND
[X] WILL BE PROCURED AS SAFETY RELATE[illegible] - PROCURE ITEM QA LEVEL 1
[ ] WILL BE PROCURED AS COMMERCIAL G[illegible]ADE - PROCURE ITEM QA LEVEL 2
OR
ITEM IS NOT SAFETY RELATED, AND
[ ] IS PART OF A SAFETY RELATED COMPO[illegible]NT OR IS A QUALITY RELATED ITEM WITH UNIQUE ENGINEERING OR REGUL[illegible]ORY REQUIREMENTS OR IS ADDRESSED IN SITE PROCEDURES OR N[illegible]OUTPUT DOCUMENTS AS QA LEVEL 3 - PROCURE ITEM QA LEVEL 3
[ ] DOES NOT MEET QA LEVEL 3 REQUIREM[illegible]NTS - PROCURE AS QA LEVEL 0

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As required by the Provisions of the ASME Code Rules

1. Manufactured by Westinghouse Electric Corporation, Tampa Division, Tampa, FL
(Name and address of Manufacturer)

2. Manufactured for Tennessee Valley Authority Watts Bar #2 Spring City
(Name and address of Purchaser)

3. Type Vertical (Horiz. or Vert.) Kind Steam Gen (Tank, Jacketed, Heat Ex.) Vessel No. (Mfrs. Serial No.) 1612 (State or State No.) ( ) Nat'l Bd. No. W10795 Yr. Built 1973

3a. Applicable ASME Code: Section III, Edition 1971, Addenda date W71, Code No. 1493-1, 146
Class 1 1355

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 CL2 T.S. 90000 (Kind & Spec. No.) (Min. of range specified) Nominal Thickness * in. Corrosion Allowance .06 in. Dia. *ft. * in. Length * ft. * in.

5. Seams: Long Weld-Dbl-Butt H.T.¹ Yes R.T. Complete Efficiency 100 %

Girth Weld-Dbl-Butt H.T.¹ Yes R.T. Complete No. of Courses *

6. Heads: (a) Material SA-533 GR A CL2 T.S. 90000 (b) Material - T.S. -

Location (Top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (Convex or Concave)
(a) Top	3.82			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.: Y.R. complete (Describe as open & weld, GW, etc.; if bar give dimensions, describe or sketch)
Girth Weld

Drop Weight — Pneumatic
Charpy Impact 30 ft-lb Hydrostatic or Combination } Test Pressure 1482 psi

8. Design Pressure¹ 1185 psi at 600 °F at temp. of +10 °F.

Items 9 and 10 to be completed for tube sections.

9. Tube Sheets: Stationary. Material SA-508 CL2 (Kind & Spec. No.) Dia. 125.7[illegible] (Subject to press.) in. Thickness 21.03 in. Attachment See Item 12 (Welded, Bolted)

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

10. Tubes: Material SB-163 (Kind & Spec. No.) O.D. .750 in. Thickness .043 inches Gage - Number 4674 Type U (Straight or U)

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

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

12. Seams: Long (Welded, Dbl., Single) H.T.¹ (Yes or No) R.T. Efficiency %

Girth Weld-Dbl-Butt H.T.¹ yes R.T. complete No. of Courses 2*

13. Heads: (a) Material - T.S. - (b) Material 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								
(b) Channel	5.09					62.81		concave
(c) Floating								

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

Drop weight — Pneumatic
Charpy Impact 20 ft-lb Hydrostatic or Combination } Test Pressure 3106 psi

14. Design pressure² 2485 psi at 650 °F at temp. of +10 °F.

See Dwg. 1101J50

¹ If Postweld Heat-Treated
² List other internal or external pressures with coincident temperature when applicable.

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S/G #3 UNIT 2

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FORM N-1 (back) 1612

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	Reinforcement Material	How Attached
Prim. Inlet	1	31" I.D.	(Weld)	(SA-216)	3.00"	(SA-216)	(Integrally)
Prim. Outlet	1	31" I.D.	(End)	(GR WCC)	3.00"	(GR WCC)	(Cast)
Steam Outlet	1	29" I.D.	(Weld)	(SA-508)	1.31"	Steel	Welded
Feedwater	1	14" I.D.	(End)	(CL.2)	0.76"	Steel	Welded

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

18. Supports: Skirt No Lugs _____ Legs _____ Other X Attached See Below
(Skirt, Lug, Leg, Other) (Number) (Welding) (Where & How)
Four Main Supports are cast integral with the chamber

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 Manufacturers' Partial Data Forms N-2 filed at Westinghouse. See Supplement #1 & 2 for field installation of the Nos. P.W. Nozzle thermal sleeve openings
(Brief description of services for which vessel was designed)

CERTIFICATION OF DESIGN

Design information on file at Westinghouse Electric Corporation, Tampa Division, Tampa, FL

*Stress analysis report on file at Westinghouse Electric Corporation, Tampa Division, Tampa, Fla.

Design specifications certified by Nuclear Energy Systems Prof. Eng. State _____ Reg. No. 13335-E

**Stress analysis report certified by Westinghouse - Tampa Plant Prof. Eng. State Fla. Reg. No. 18684

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 Oct 31, 19 75 Signed Westinghouse Elec. Corp By _____
(Manufacturer)

Certificate of authorization Expires June 16, 1978 Certificate of Authorization No. N-1154

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Westinghouse Electric Corporation at Tampa, Fla.

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Pennsylvania and employed by Kemper Insurance Mutual Casualty Co. of Long Grove, Illinois have inspected the pressure vessel described in this Manufacturer's Data Report on October 28 19 75, 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 November 3 19 75

E. F. McElroy
Inspector's Signature

Commissions National Board 2592
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 or Province of _____ and employed by _____ of _____

have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, 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 _____ psig Primary Side & _____ 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 _____ 19 _____

_____ Commissions _____
Inspector's Signature National Board, State, Province and No.

Printed in U.S.A. (7/71) This form (E38) is obtainable from the ASME, 345 E. 47th St., New York, N.Y. 10017

**Stress Report will be on file before time of Field Hydro.
Stress Report completed: December 1977.

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Page 1 of 12

SUPPLEMENT NO. -

Form N-1 Manufacturer's Data Report for Nuclear Vessels

1. Manufactured by Westinghouse Electric Corporation, Tampa Division, Tampa, Florida
2. Manufactured for Tennessee Valley Authority - Watts Bar #2 - Spring City, TN
3. Type Vertical Kind Steam Generator Series D Vessel No. 1612
National Board No. W10795 Year Built 1975

A field change was made to the steam generator under the supervision and control of Westinghouse Tampa Division by extension of the Tampa Division Certificate of Authorization as authorized by the ASME, Jurisdictional Authority of the State of Tennessee, the owner Tennessee Valley Authority, and the Authorized Inspection Agency.

The change consisted of the installation of an auxiliary feedwater nozzle through the upper shell of the steam generator and the connecting of internal piping by weldment. The change was made in accordance with Westinghouse Tampa Division procedure RE-76-13 Rev. 6 and installation drawing 1104J43 Chg. 2. Change design information and stress analysis report are on file at Westinghouse Tampa Division, Tampa, Florida.

We certify that the statements made in this report are correct and that the design and installation of the auxiliary feedwater nozzle conforms to the rules of construction of the ASME Code, Section III.

Date Sept. 12, 1978 Signed Westinghouse Electric Corp. By R.P. Wedler
Certificate of Authorization expires June 16, 1981
Certification of Authorization No. N-1154

This supplement is signed by the Field Authorized Nuclear Inspector indicating acceptance of the field change work with exception of the hydrostatic test and subsequent inspection. Acceptance of the latter items will be indicated by the ANI signature of the Form N-1 Certificate of Field Assembly Inspection.

CERTIFICATE OF FIELD INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Tennessee have inspected the change described in this supplement and state that to the best of my knowledge and belief, the change to this pressure vessel conforms to the rules of construction of the ASME, Section III.

By signing this Certificate, neither the inspector nor his employer makes any warranty, expressed or implied, concerning the alteration described in this supplement. 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 Sept. 12 19 78 Signed C. E. Matcalfe Commission NB-6260, TN-2196
Inspector
C. E. Matcalfe
State or National Board

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SUPPLEMENT NO. 4

Form N-1 Manufacturer's Data Report for Nuclear Vessels

1. Manufactured by Westinghouse Electric Corporation, Tampa Division, Tampa, Florida
2. Manufactured for Tennessee Valley Authority - Watts Bar #2
3. Type Vertical Kind Steam Generator Series D Vessel No. 1612
   National Board No. W10795 Year Built 1975

A field change was made to the steam generator under the supervision and control of Westinghouse Tampa Division by extension of the Tampa Division Certificate of Authorization as authorized by the ASME, Jurisdictional Authority of the State of Tennessee, the owner, Tennessee Valley Authority, and the Authorized Inspection Agency.

The change consisted of adding a 2.6 inch diameter inspection opening in the lower shell immediately above the upper tube support plate on the vessel "W" axis. Closure hardware consists of a bolted cover and gasket. Bolts are SA-193 Gr. B7, covers are SA-516 Gr. 70 carbon steel, and gaskets are spiral wound inconel with asbestos filler.

The change was made in accordance with Westinghouse Tampa Division procedure RE-79-02 and drawing 1511E20. Change design information and stress analysis report are on file at Westinghouse Tampa Division, Tampa, Florida.

We certify that the statements made in this report are correct and that the design and installation of the inspection openings conforms to the rules of construction of the ASME Code, Section III.

Date 3/23/79 Signed Westinghouse Elec. Corp. By R S Weller
Certificate of Authorization expires June 16, 1981
Certification of Authorization No. N-1154

This Supplemental Report is signed by the Field Authorized Nuclear Inspector indicating acceptance of the field change work with exception of the hydrostatic test and subsequent inspection. Acceptance of the latter items will be indicated by the ANI signature of the Final Data Report for the completed vessel.

CERTIFICATE OF FIELD INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Tennessee have inspected the change described in this supplement and state that to the best of my knowledge and belief, the change to this pressure vessel conforms to the rules of construction of the ASME Code, Section III.

By signing this Certificate, neither the inspector nor his employer makes any warranty, expressed or implied, concerning the alteration described in this supplement. 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 March 31, 1979 Signed C. E. Metcalfe Commission NB-6260, TN-2196
Inspector
C. E. Metcalfe
State or National Board

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FORM 4 - OTHER EVALATIONS

PEG PKG NO: 1999-42380
PAGE 4 OF 12

EVALUATION FOR: This form shall not be used to document Equivalency Evaluations that conflict with Design Output Documents.	
[ ] QA LEVEL CHANGE	[ ] 10CFR50.49
[ ] TIIC DESCRIPTION CHANGE	[ ] AFFECTS OF SPECIFICATION CHANGE
[ ] PART NO. CHANGE (ADMIN ONLY)	[ ] SHELF LIFE EXTENSION
[X] OTHER: U2-U1 TRANSFER	

PURPOSE:
EVALUATE U2 TRACKING # 2-068-041, ER# 03-99-011

ASSUMPTIONS:
NONE

ANALYSIS:
THE SECONDARY MANWAY COVER FOR U2 STEAM GENERATOR NO. 3 (S/N 1612) WAS SUPPLIED BY WESTINGHOUSE ON CONTRACT 54[illegible]-1 WITH THE STEAM GENERATOR. WESTINGHOUSE HAD AN APPROVED QA PROGRAM AT THE TIME OF PROCUREMENT AND IT WAS BEFORE THE INCEPTION OF PART 21. AFTER REVIEWING THE CONTRACT, DOCUMENTATION AND RECEIVING REPORT THE COVER IS ACCEPTABLE FOR TRANSFER TO U1. TRACEABILITY IS MAINTAINED BY THE S/N OF THE STEAM GENERATOR. U2 LOCATION IS ACCEPTABLE FOR REQUIRED LEVEL C STORAGE FOR THE COVER AND S/L DOES NOT APPLY TO THIS ITEM BECAUSE IT'S METALLIC. AN NER SEARCH TURNED UP NO FINDINGS APPLYING TO THIS ITEM ON WESTINGHOUSE MODEL D GENERATORS.

CONCLUSION:
THE ITEM IS ACCEPTABLE FOR TRANSFER TO U1 LOCATION AS ORIGINALLY PROCURED.

19990004238O

APPENDIX A
REQUEST FOR REMOVAL

TO: Procurement Engineering Group Manager, MT. 1C-WBN FAX: 365-3233

FROM:

SUBJECT: REQUEST FOR INSTALLED UNIT 2 NON-TRANSFERRED COMPONENTS

The following components are required to support WBN U1 operation. Research has determined that it is in WBN's best interest to utilize WBN Unit 2 items. Please provide a PEG evaluation of the intended use or acceptable alternatives.

Unit 2 Request Tracking Number: ER 03-99-01[illegible] 2-068-041

1. Activity being supported: WO 98-002441-0[illegible]

2. Installing WID (s): WO 98-002441-003

3. Need Date: 3/28-29/99

4. Request Unit 2 Component ID's: 2-SGEN-068-SG3 S/N 1612

4A. Is requested component/part currently in the active U2 PM Program?

Yes: ____ No: X Date the last PM was Performed: NR

5. Part Names/Numbers/Descriptions: SECONDARY MANWAY COVER

6. Contract Numbers: 5411401

7. Affected Unit 1 Component ID's: 1-SGEN-06[illegible]-SG4

8. Description of work: SECONDARY MANWAY COVER FROM LOOP NO. 3

MANWAY. MANWAY COVER MUST BE FROM LOOP 3

8A. Replace parts required to be ordered: Yes: ____ No: X

PR No. : ____

9. 50.49: ___ QR: ___ SR: X ASME: X Non-QA: ___ | CN-1

MET/D.H.COLLINS/3-28-99/8871 3/28/99
Requesting Org/Name/Date/Ext Requesting Org Manager/ Date

Original: Procurement Engineering Group
cc: Modifications Superintendent, FAX 3[illegible]-2058 | CN-1
Nuclear Engineering
Site Controller ADM 1C, Fax 365-388[illegible] | CN-1

*** REQUIRED FOR RFO2

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QUALITY RELEASE

TAMPA DIVISION

QR- 25374

LOCATION OF DIVISION

	PART NAME: Hybrid "H" Steam Generator Support # 1612			
	25		1	1
		DRAWING & REV. 1[illegible] Sub 5	PUBLIC DISCLOSURE: COMPLETE ☐ YES ☐ NO	

IDENTIFICATION MARK

Out

Tank

Shipment may be made subject to satisfaction by [illegible] of the items in the Audit Checklist below. [illegible] indicates that QA has waived the witnessing or witnessing of the item listed. All non-applicable

AUDIT CHECKLIST

		☐	
		☐	
		☐	
		☐	
	Vessel	☐	
	Chronological	A	Cleanliness
	UT Records	A	Packaging
	Personnel Qualifications Welding, NDE	A	Code Form
		☐	
		☐	

DEVIATING METHODS AND RESULTS (ALL DEVIATIONS MUST BE APPROVED BY THE RESPONSIBLE WESTINGHOUSE ENGINEER UNLESS A SPECIFIC EXCEPTION IS STATED.)

1. Approved Specifications [illegible]
2. Nonconformance Report [illegible]
3. Nonconformance Report [illegible] explaining [illegible]

19990004238

Pg 10 of 12

Pg 6 of 6

I certify that to the best of my knowledge all contractual requirements have been met. Approved deviations, if any, are listed above.

SIGNATURE [signature] TITLE QA Engineer DATE 10/13/98

09-22-1997 10:47 423 365 5514 WESTINGHOUSE WATTS BAR SITE P.03

PAGE

WESTINGHOUSE ELECTRIC CORP. | WESTINGHOUSE ELECTRIC CORP. | WBNP76-3046

SHIPPING POINT: TAMPA, FL | RECEIVING POINT: WBNP, C.W. | CONTRACT NO.: Z1062-54114-1

GOVT B/L NO. AND DATE:

SHIPPING PARTICIPATION: BARGE | CAR NO. AND INITIALS: BARGE UNION MECHLING 4501 | GROSS WEIGHT: 700 TONS APP.

SHIPMENT: ☐ COMPLETE 11/3 PARTIAL ☐ FINAL | ACCOUNT NO.: N030-321-39-0

ITEM NO.	ARTICLES OR SERVICES	CLASS, SIZE OR STOCK NO.	QUAN. REQD.	UNIT	UNIT PRICE	AMOUNT
	PERMANENT MATERIAL	THE ITEMS ON THIS FORM 209 MEET THE TECHNICAL REQUIREMENTS OF THIS CONTRACT INSOFAR AS CAN BE DETERMINED AT THIS TIME AND ARE APPROVED FOR FIELD USE				
	REF. NO. KNVU-888					
5A	P.O. 546 GRW 1219288, S.O. WBT-120, UNIT 2,	SIGNED				
	SPIN WBT-ROPSOG, FOR STEAM GENERATORS	TITLE DATE				
	(1) MODEL "D" ONE PIECE STEAM GENERATOR #1,					
	SERAIL #1611, DWG. 1100J81, SUB. 5, E SPEC					
	679059, REV. 2	RIVER DOCK	1	EA		
	QCR #25373, NCR #179, I&T RELEASE #4CH (10-14-75)					
	(2) MODEL "D" ONE PIECE STEAM GENERATOR #2					
	SERIAL #1612, DWG. 1100J81, SUB. 5, E SPEC					
	679059, REV. 2,	"	1	EA		
	QCR #25374, I & T RELEASE #4CH (10-14-75)					
	NCR #180					
	CC: PARRIS					
	MATHIESON					

Carrier's Charges: NS

1999004238O

PS 11 OF 12

Truck: Carrier | Via

Common Carrier: Exclusive: Air | REA | UPS | Air | Express | Motor | Rail | Ship; Freight: Air | Express | Motor | Rail | Ship: X

Other:

Date Material Was Received: 11-13 19 75

Operation Cost: NET

Claim Statement or Carrier's Charges:

Delivery Charges:

Total Cost:

OSorD #A57785
NCR #179, & 180

B Hixson
BRENDA HIXSON

1-17-75

Raymond W. Johnson
RAYMOND W. JOHNSON

NPS

RECEIVING REPORT

SUPERSEDING WBNP76-3046-A

Sheet 1 of 1 sheets

WESTINGHOUSE ELECTRIC CORP.	WESTINGHOUSE ELECTRIC CORP.	CONTRACT NO. 71C62-54114-1
SHIPPING POINT TAMPA, FL	RECEIVING POINT WBNP, C.W.	BILL NO. AND DATE
DELIVERING CARRIER BARGE	CAR NO. AND INITIALS BARGE UNION MECHLING 4501	GROSS WEIGHT 700 TON APPROX.
SHIPMENT: ☐ COMPLETE	11 X PARTIAL ☐ FINAL	ACCOUNT NO. N03O-321-39-0

CONT ITEM NO	ARTICLES OR SERVICES	CLASS, BIN OR STOCK NO.	QUAN. RECD	UNIT	UNIT PRICE	AMOUNT
	PERMANENT MATERIAL					
	REF: NKMU-888					
5A	P.O. 546 GRW 1219288, S.O. WBT-120, UNIT 2					
	SPIN WBT-ROPSOG - FOR STEAM GENERATORS					
	1) MODEL "D" ONE PIECE STEAM GENERATOR #1,					
	SERIAL #1611, DWG 1100J81, SUB 5, E SPEC					
	679059, REV 2	RIVER DOCK	1	EA		
	QCR #25373, NCR #179, I & T RELEASE #4CH (10-14-75)					
	2) MODEL "D" ONE PIECE STEAM GENERATOR #2					
	SERIAL #1612, DWG 1100J81, SUB 5, E SPEC					
	679059, REV 2	"	1	EA		
	QCR #25374, I & T RELEASE #4CH (10-14-75)					
	NCR #180					
	THIS CLEARS OSorD #A-87785					
	MANWAY COVERS RECEIVED					

Delivered Via: Truck (Vendor / TVA); Common Carrier (Express: AM / REA / UPS; Freight: AM / Cargo / Motor / Rail); Par. Post

CC: PARRIS MALLESON PATTON

Carrier's Charges: 19990004238O

Prepaid NS Collect $ Pg 12 of 12

Purchase Cost			
Cash Discount			
NET			
Shipper's Charges			
Delivery Charges			
Total Cost			

Date Material Was Received 11-13 19 75 G. B. L. No.

I certify that the articles or services listed above have been received in quantity and quality specified except as noted NCR #179 & 180

Approved as Reported Above: B Hixson BRENDA HIXSON Title 3-23-76

Signature: Raymond W Johnson RAYMOND W. JOHNSON Person Receiving Material

Issue No. of Form TVA 1877 SJB Entered in Stores Ledger 19 By

FORM N-1 MANUFACTURERS' DATA REPORT FOR NUCLEAR VESSELS

As required by the Provisions of the ASME Code Rules

1. Manufactured by Westinghouse Electric Corporation, Tampa Division, Tampa, Florida
(Name and address of Manufacturer)

2. Manufactured for Tennessee Valley Authority Watts Bar #1 Spring City
(Name and address of Purchaser)

3. Type Vertical (Horiz. or Vert.) Kind Steam Generator (Tank, Jacketed, Heat Ex.) Vessel No. (Mfrs. Serial No.) 1594 (State & State No.) ( ) Nat'l Bd. No. W10289 Yr. Built 1975

1591-4

3a. Applicable ASME Code: Section III, Edition 1971, Addenda date S71, Case No. NB 4643

Class 1. FILMED FROM BEST AVAILABLE COPY 1355, 148 1493-1

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 CL2 (Kind & Spec. No.) T.S. 90000 (Min. of range specified) Nominal Thickness * in. Corrosion Allowance .06 in. Dia. * ft. * in. Length * ft. * in.

5. Seams: Long Weld-Dbl-Butt H.T.[1] Yes R.T. Complete Efficiency 100 %

Girth Weld-Dbl-Butt H.T.[1] Yes R.T. Complete No. of Courses *

6. Heads (a) Material SA GR A CL2 T.S. 90000 (b) Material ____ T.S. ____

Location (Top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (Convex or Concave)
(a) Top	3.			2:1				Concave
(b)								

W860724K0649 (15)

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.; X.R. complete
Girth Weld (Describe as ogee & weld, bar, etc. If bar give dimensions, describe or sketch)

8. Design Pressure 1185 psi at 600 °F at temp. of +10 °F. Drop Weight ____ Charpy Impact 30 ft-lb Pneumatic Hydrostatic or Combination } Test Pressure 1481 psi

Items 9 and 10 to be completed for tube sections.

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

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

10. Tubes: Material SB-163 (Kind & Spec. No.) O.D. .750 in. Thickness .043 inches or gage Number 4674 Type U (Straight or U)

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

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

12. Seams: Long ____ (Welded, Dbl., Single) H.T.[1] ____ (Yes or No) R.T. ____ Efficiency ____ %

Girth Weld-Dbl-Butt H.T.[1] Yes R.T. complete No. of Courses 2*

AUTHORIZED

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

JAN 28 WCC

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								
Channel	5.09					62.81		concave
H.S. Floating								

NUCLEAR INSPECTOR

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 ____ °F. Drop weight -20 Charpy Impact +10 ft-lb Pneumatic Hydrostatic or Combination } Test Pressure 3107 psi

[1] If Postweld Heat-Treated

[2] List other internal or external pressures with coincident temperature when applicable.

*See Rev. 1101-150

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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	Reinforcement Material	How Attached
Prim. Inlet	1	31" I.D.	(Weld)	(SA-216)	3.00"	(SA-216)	(Integrally)
Prim. Outlet	1	31" I.D.	(End)	(GR WCC)	3.00"	(GR WCC)	(Cast)
Steam Outlet	1	29" I.D.	(Weld)	(SA-508)	1.20"	Steel	Welded
Feedwater	1	14" I.D.	(End)	(CL.2)	0.76"	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
Instrumentation No. 4 Size 2" Location Stub Barrel Portion of Lower Shell

Auxiliary Feedwater Noz. No. 1 Size 6" Location Upper Shell Assy: Mtl SA-508 Cl 2a

18. Supports: Skirt No (Yes or No) Lugs ____ (Number) Legs ____ (Number) Other X (Describe) Attached See Below (Where & How)
Four Main Supports are cast integral with the chamber

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 Manufacturers' Partial Data Forms N-2 filed at Westinghouse. Aux. Noz. and 2.6 inch inspection installed in the field. See attached Supplements No. 1 and 2.

CERTIFICATION OF DESIGN

Design information on file at Westinghouse Electric Corporation, Tampa Division, Tampa, FL

Stress analysis report on file at Westinghouse Electric Corporation, Tampa Division, Tampa, FL

Design specifications certified by Nuclear Energy Systems A. Westlaufer Prof. Eng. State ____ Reg. No. 13335-E

Stress analysis report certified by Tampa Division A. Lohmeier Prof. Eng. State ____ Reg. 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 March 3 1975 Signed Westinghouse Elec. Corp. (Manufacturer) By R. P. Wedler

Certificate of authorization Expires May 2, 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 the State or Province of Pennsylvania and employed by Lumbermens Mutual Cas. Co of Long Grove, Illinois have inspected the pressure vessel described in this Manufacturer's Data Report on May 19 1975, 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 19 1975

Inspector's Signature

Commissions N.B. 2596 - Penna. WC 2231 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 or Province of Tn. PA. Ohio and employed by Lumbermen's Mutual Casualty Co. of 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 data items NONE, 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 3109 psig Primary Side & 1981 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.

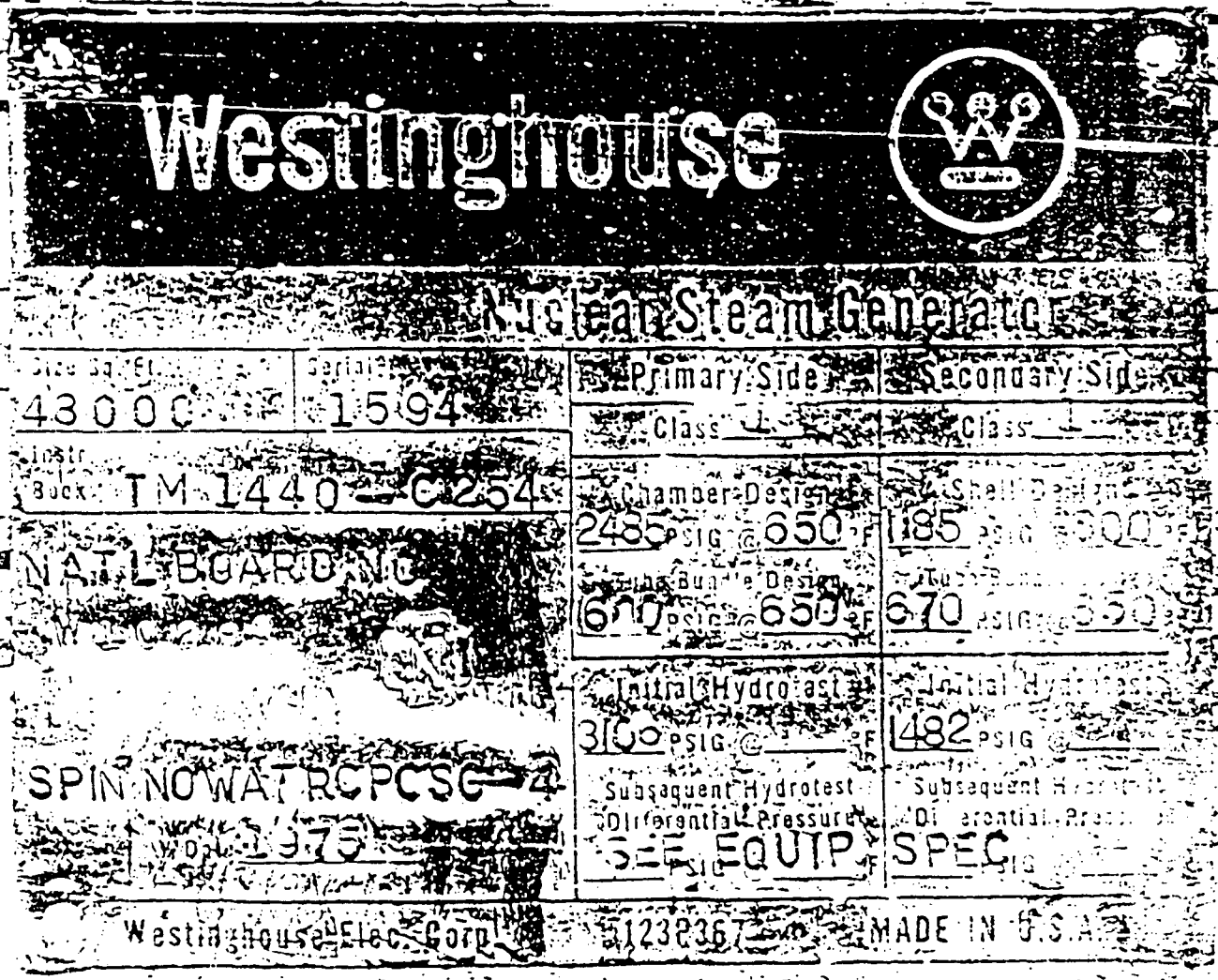
Date 10-24 1981

E M Mylan
Inspector's Signature

Commissions NB 5608 Tn. 692 National Board, State, Province and No.

This form (E3R) is obtainable from the ASME, 345 E. 47th St., New York, N.Y. 10017

* During The Primary hydro, The Secondary Side was


Westinghouse
Nuclear Steam Generator
Primary Side
Secondary Side
Class 1
Class
43000
1594
TM-1440-C254
NAT'L BOARD NO
SPIN NOWAT RCPCSG-4
1975
Chamber Design
2485 PSIG @ 650 °F
Tube Bundle Design
600 PSIG @ 650 °F
1185 PSIG @ 650 °F
670 PSIG @ 650 °F
Initial Hydrotest
3100 PSIG @ °F
1482 PSIG @
Subsequent Hydrotest
Differential Pressure
SEE EQUIP
SPEC
Westinghouse Elec. Corp
5123236
MADE IN U.S.A.

NATL BOARD NO - W10289

Size Sq. Ft.
48000

Serial

Separator

Secondary Side

Class 1

Instr.

Heat

NA

W10289

SPI

U.S.A.

SUPPLEMENT NO. 1

Form N-1 Manufacturer's Data Report for Nuclear Vessels

Manufactured by Westinghouse Electric Corporation, Tampa Division, Tampa, Florida

Manufactured for Tennessee Valley Authority - Watts Bar #1 - Spring City, TN

3. Type Vertical Kind Steam Generator Series D Vessel No. 1594
National Board No. W10289 Year Built 1975

A field change was made to the steam generator under the supervision and control of Westinghouse Tampa Division by extension of the Tampa Division Certificate of Authorization as authorized by the ASME, Jurisdictional Authority of the State of Tennessee, the owner Tennessee Valley Authority, and the Authorized Inspection Agency.

The change consisted of the installation of an auxiliary feedwater nozzle through the upper shell of the steam generator and the connecting of internal piping by weldment. The change was made in accordance with Westinghouse Tampa Division procedure RE-76-13 Rev. 6 and installation drawing 1104J43 Chg. 2. Change design information and stress analysis report are on file at Westinghouse Tampa Division, Tampa, Florida.

We certify that the statements made in this report are correct and that the design and installation of the auxiliary feedwater nozzle conforms to the rules of construction of the ASME Code, Section III.

Date Sept. 12, 1978 Signed Westinghouse Electric Corp. By R.P. Wedler
Certificate of Authorization expires June 16, 1981
Certification of Authorization No. N-1154

This supplement is signed by the Field Authorized Nuclear Inspector indicating acceptance of the field change work with exception of the hydrostatic test and subsequent inspection. Acceptance of the latter items will be indicated by the ANI signature of the Form N-1 Certificate of Field Assembly Inspection.

CERTIFICATE OF FIELD INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Tennessee have inspected the change described in this supplement and state that to the best of my knowledge and belief, the change to this pressure vessel conforms to the rules of construction of the ASME, Section III.

By signing this Certificate, neither the inspector nor his employer makes any warranty expressed or implied, concerning the alteration described in this supplement. 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 Sept. 12 1978 Signed C.E. Metcalfe Commission NB-6260, TN-2196
Inspector State or National Board

SUPPLEMENT NO. 2

Form N-1 Manufacturer's Data Report for Nuclear Vessels

1. Manufactured by Westinghouse Electric Corporation, Tampa Division, Tampa, Florida
2. Manufactured for Tennessee Valley Authority - Watts Bar #1
3. Type Vertical Kind Steam Generator Series D Vessel No. 1594
   National Board No. W10289 Year Built 1975

A field change was made to the steam generator under the supervision and control of Westinghouse Tampa Division by extension of the Tampa Divisic~ Certificate of Authorization as authorized by the ASME, Jurisdictional Authority of the State of Tennessee, the owner, Tennessee Valley Authority, and the Authorized Inspection Agency.

The change consisted of adding a 2.6 inch diameter inspection opening in the lower shell immediately above the upper tube support plate on the vessel "N" axis. Closure hardware consists of a bolted cover and gasket. Bolts are SA-193 Gr. B7, covers are SA-516 Gr. 70 carbon steel, and gaskets are spiral wound inconel with asbestos filler.

The change was made in accordance with Westinghouse Tampa Division procedure RE-79-02 and drawing 1511E20. Change design information and stress analysis report are on file at Westinghouse Tampa Division, Tampa, Florida.

We certify that the statements made in this report are correct and that the design and installation of the inspection openings conforms to the rules of construction of the ASME Code, Section III.

Date 3/23/79 Signed Westinghouse Elec. Corp. By R S Wedler
Certificate of Authorization expires June 16, 1981
Certification of Authorization No. N-1154

This Supplemental Report is signed by the Field Authorized Nuclear Inspector indicating acceptance of the field change work with exception of the hydrostatic test and subsequent inspection. Acceptance of the latter items will be indicated by the ANI signature of the Final Data Report for the completed vessel.

AUTHORIZED JAN 8 NUCLEAR INSPECTOR

HARD COPY RETAINED

CERTIFICATE OF FIELD INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of [illegible] have inspected the change described in this supplement and state that to the best of my knowledge and belief, the change to this pressure vessel conforms to the rules of construction of the ASME Code, Section III.

By signing this Certificate, neither the inspector nor his employer makes any warranty expressed or implied, concerning the alteration described in this supplement. 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 [illegible], 19[illegible] Signed C. E. Metcalfe Commission [illegible]
Inspector State or National Board

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ER No. ER-0399-011 Page 1 of 4

UNIT: 2 SYSTEM NO.: 068 BP-380 Number: 2-068-041

Hold Order required? [ ] Yes [X] No HO#: N/A Held By: N/A 24

For Removal of: ID No. 2-SGEN-068-SGI-SG3 DR 3-29-99
Description of Item: Manway Cover 1100181 SH 1 OF 2

N/A

Location: Bldg. R. BLDG Elev. 735' Coord. SG 3/2 DR 3-28-99

OITL, Deficiency, and TROI lists, etc., review complete
Items identified: None Identified

Responsible Engineer: Darrel Reed /Date: 3-6-99

Step No.	Description of Work to be Performed (See Appendix U)
1	PME and TVA Task Manager to verify component is not required for Unit 1 operation in its Unit 2 location.
	PME: Darrel Reed 3-6-99
	TVA Task Manager: Greg Justus 3-6-99
	MANWAY NEXT TO LADDER NO I.D. #5
2	QC to verify prior to removal: Robert E Pitts Jr. 3-28-99

Responsible Engineer Darrel Reed Date 3-5-99 Ext 2017

Authorizing Supervisor D. Reed for Randy Lambert Date 3-5-99

Discipline Site Engineer J J Pierce Date 3/6/99
Does not impact Unit 1 operation or ABSCE requirements

Civil Engineering NON-OPERATIONAL DOOR. NO IMPACT TO S.G. SEISMIC POSITION RETENTION. U#2 Joe Clark Date 3-06-99
Seismic Qualification Review for Cat 1, Structure only

Operations J. P McGinnis Date 3-29-99

Work Complete: _____ _____
Craft Rep Date

(Verified App T, PEG Pkg for material to be used in QA application and review of incomplete work/outstanding problems. Forward a copy of this document to the Unit 2 PM Group.

_____ _____
Responsible Engr Date

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name)
400 W. Summit Hill Drive, Knoxville, TN (Address)

Date 3/12/99
Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name)
P. O. Box 2000, Spring City, TN, 37381 (Address)

Unit Unit 1
w/o 98-04974-01 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by Watts Bar Nuclear Plant (Name)
P.O. Box 2000 Spring City TN 37381 (Address)

Type Code Symbol Stamp ____
Authorization No ____ N/A
Expiration Date ____

4. Identification of system 62 - CVCS

5. (a) Applicable Construction Code AISC 19 N/A Edition, N/A Addenda, N/A Code Case (STEEL CONSTRUCTION MANUAL)
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-SNUB-062-62A242	PSA	832	NA	SIZE 1/4	NA	Replaced	NO
1-SNUB-062-62A242	PSA	3516	NA	SIZE 1/4	85	Replacement	NO

7. Description of Work Replaced Snubber

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☒ 1-TRI-0-7 Pressure ____ psi Test Temp ____ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks

Applicable Manufacturer's Data Reports to Be Attached

TRACKING # RR-C2-88 2EC 3/12/99

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE

Certificate of Authorization No. NA

Signed D H Collins Mech Engr. (Owner or Owner's Designee, Title) Date 4/5 19 99

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 TN and employed by HSB I&I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 3-12-99 to 4-5-99 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.

Inspector's Signature Commissions TN 2533 (National Board, State, Province, and Endorsements)

Date 4-5 19 99

PAGE 107 OF 127

BERGEN-PATERSON
PIPESUPPORT CORPORATION
24 Houston St. Laconia, N.H. Tel. (603) 524-1998

Certificate of Compliance

Tennessee Valley Authority

P.O. Box 2000

Near Soring City, TN 37381

Attention: Chief Engineer

Subject Plant: Watts Bar Nuclear Power Plant

Purchase Order Number: 73KA2-524163

B-PPC Job Number: 3576

Date: October 28, 1985

TRACKING NO. SANM 1017
TRACKING
PAGE 307 OF 496

HANGER PART NO./REVISION NO.	HANGER PART NO./REVISION NO.
3576-2331-11 3	
P.O. Item 8	
RD 09SQA07	
Serial #: 3516 PSA-1	
This PSA unit is in accordance with	
PSCo. Spec. #DR-1319. R/E. dated	
1/3/84 and B-PPC Proc. #BP-3576-51.	
R/1.	

Gentlemen:

BERGEN-PATERSON hereby certifies that all fabricated and manufactured hanger material furnished on the subject contract is in accordance with the design, material, fabrication and testing requirements of the applicable code or codes and job Purchase Specification.

References: Codes ANSI B31.1, MSS-SP 58

Specifications TVA 1521 A, B, D Rev. No.: N/A

Shipment of: 10/29/85 B/L #: L-9776 Via: Willey's

Consigned to:

BERGEN-PATERSON PIPESUPPORT CORP.

Linda Buchanan

Quality Assurance Department

ERGEN-PATERSON PIPESUPPORT CORPORATION

COMPUTERIZED TEST-STAND #023

DATE: 10-18-1985
TIME: 13:29:00
OPERATOR: DONALD R FORTIN

SNUBBER INFORMATION

TRACING: SANM-1101-T
PAGE 308 OF 496

SNUBBER MODEL #: PSA-1 1/4 SERIAL #: 3516
POWER STATION: WATTS BAR
HANGER MARK #: N/A
TEST PROCEDURE #: EP-8306-31

TEST RESULTS

DRAG TEST

[illegible] FORCE (TENS.) = [illegible] LBS
[illegible] FORCE (COMP.) = [illegible] LBS
[illegible] FORCE FROM COLD POSITION (COMP.) = 0.0 LBS

LOST MOTION TEST

LOST MOTION = .000 IN

ACTIVATION TEST

TENSION

[illegible]. FORCE APPLIED = 107 LBS
[illegible]. ACCLN = .014 g'S

COMPRESSION

MAX. FORCE APPLIED = 75 LBS
MAX. ACCLN = .013 g'S

ACCEPTANCE CRITERIA

MAX. DRAG LOAD < 7 LBS (2% OF RATED LOAD)
DRAG LOAD MAY BE 2% BUT 5% FOR 1.5 SECS.
MAX. DRAG LOAD < 17.5 LBS (5% OF RATED LOAD)
MAX. LOST MOTION = .040 IN
MAX. ALLOWABLE ACCLN = .02g'S
MIN. ALLOWABLE ACCLN = 5% OF .02g'S = .001g'S

SNUBBER MEETS CRITERIA

PAGE 154 OF 187

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 3/15/99
400 W. Summit Hill Drive, Knoxville, TN (Address) Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name) Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) WO 98-002441-000 DNC 3/15/99 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by Mech Maint SNP (Name) Type Code Symbol Stamp NA
(Address) Authorization No NA
Expiration Date NA

4. Identification of system Main Steam

5. (a) Applicable Construction Code Sect III 19 71 Edition, Summer 73 Addenda, NA Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification DNC 3/15/99	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
S/G Secondary Cover	Westinghouse	1593	W10288	1-SEGGN-68-562	75	Repair	Yes
Secondary MW Cover Studs, Nuts DNC 3/15/99	Westinghouse	1869E02	NA	NA	98	Replaced	NO
NUTS	Westinghouse NOVA	NA	NA	HEAT 14734	86	Replaced	NO

7. Description of Work Repair, S/G Manway Cover by Machining. Replace 3 Studs, 3 Nuts & Washers

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒ 1-TRI-3-903
Other ☐ Pressure NOP psi Test Temp NOT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks

Applicable Manufacturer's Data Reports to be Attached

Tracking No. RR-02-99

* Repair Manway Cover (Secondary), Replace 3 studs, NUTS

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE

Certificate of Authorization No. NA

Signed D H Collins Mech Engr. (Owner or Owner's Designee, Title) Date 5/19 19 99

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 Tennessee and employed by HSB I&I Co. of Hartford CT. have inspected the components described in this Owner's Report during the period 3/15/99 to 5/26/99 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.

Bruce M Earnigh (Inspector's Signature) Commissions TN2534 "I" "N" "A" (National Board, State, Province, and Endorsements)

Date 5/26 19 99

As required by the Provisions of the ASME Code Rules

1. Manufactured by Westinghouse Electric Corporation, Tampa Division, Tampa, Florida
(Name and address of Manufacturer)

2. Manufactured for Tennessee Valley Authority Watts Bar #1 Spring City
(Name and address of Purchaser)

3. Type Vertical (Horiz. or Vert.) Kind Steam Gen (Tank, Jacketed, Heat Ex.) Vessel No. (Mfrs. Serial No.) 1593 (State & State No.) ( ) Nat'l Bd. No. W10288 Yr. Built 1975

1591-4

3a. Applicable ASME Code: Section III, Edition 1971, Addenda date S71, Case No. NB 4643

1355, 1484

Class 1

1493-1

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 CL2 (Kind & Spec. No.) T.S. 90000 (Min. of range specified) Nominal Thickness * in. Corrosion Allowance .06 in. Dia. * ft. * in. Length * ft. * in.

5. Seams: Long Weld-Dbl-Butt R.T.' Yes R.T. Complete Efficiency 100

Girth Weld-Dbl-Butt R.T.' Yes R.T. Complete No. of Courses *

6. Heads (a) Material SA-533 GR A CL2 T.S. 90000 (b) Material T.S.

Location (Top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (Convex or Concave)
(a) Top	3.			2:1				concave
(b)								

FILMED FROM BEST AVAILABLE COPY

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

FILMED FROM BEST AVAILABLE COPY

8607240648

(13)

7. Assy Closure *Girth Weld-Dbl-Butt; H.T.; X.R. complete
Girth Weld (Describe as open & weld, bar, etc. If bar give dimensions. Also describe as sketch)

8. Design Pressure' 1185 psi at 600 °F at temp. of Drop Weight ____ Charpy Impact 30 ft-lb +10 °F. Pneumatic Hydrostatic or Combination Test Pressure 1481 psi

Items 9 and 10 to be completed for tube sections.

9. Tube Sheets: Stationary. Material SA-533 CL2 (Kind & Spec. No.) Dia. 125.75 in. (Subject to press.) Thickness 21.03 in. Attachment See Item 12 (Welded, Bolted)

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

10. Tubes: Material SB-163 (Kind & Spec. No.) O.D. .750 in. Thickness .043 inches or gage Number 4674 Type U (Straight or U)

HARD COPY RETAINED

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

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

12. Seams: Long (Welded, Dbl., Single) H.T.' (Yes or No) R.T. Efficiency

Girth Weld-1-Butt H.T.' Yes R.T. complete No. of Courses 2*

SA-216 GR.

13. Heads (a) Material T.S. (b) Material WCC T.S. 70000

Location (Top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (Convex or Concave)
(a) Top, bottom, ends	5.09						62.81	concave
(b)								

AUTHORIZED

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

14. Design pressure' 2485 psi at 650 °F at temp. of Drop Weight ____ Charpy Impact 20 ft-lb +10 °F. Pneumatic Hydrostatic or Combination Test Pressure 3107 psi

' If Postweld Heat Treated

* Test other internal or external pressures with corresponding test temperature when applicable

*See Dwg. 1101J50

PAGE 157 OF 197

Items below to be completed for all vessels where applicable.

16. Safety Valve Outlets: Number ____ Size ____ Location ____

Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Diameter or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Prim. Inlet	1	31" I.D.	(Weld	(SA-216)	3.00"	(SA-216)	(Integrally)
Prim. Outlet	1	31" I.D.	(End)	(GR WCC)	3.00"	(GR WCC)	(Cast)
Steam Outlet	1	29" I.D.	(Weld)	(SA-508)	1.20"	Steel	Welded
Feedwater	1	14" I.D.	(End)	(CL.2)	0.76"	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
Instrumentation No. 4 Size 2" Location Stub Barrel Portion of Lower Shell
Auxiliary Feedwater Noz. No. 1 Size 6" Location Upper Shell Assy: Mtl SA-508 Cl 2a

18. Supports: Skirt No Lugs ____ Legs ____ Other X Attached See Below
(Yes or No) (Number) (Number) (Where & How)
Four Main Supports are cast integral with the chamber

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 Manufacturers' Partial Data Forms N-2 filed at Westinghouse. Aux. Noz. and 2.6 Inch inspection installed in the field. See attached Supplements No. 1 & 2.

CERTIFICATION OF DESIGN

Design information on file at Westinghouse Electric Corporation, Tampa Division, Tampa, Fl.

Stress analysis report on file at Westinghouse Electric Corporation, Tampa Division, Tampa, FL

Design specifications certified by Nuclear Energy Systems Prof. Eng. State A. Wettlaufer Reg. No. 13355-E

Stress analysis report certified by Tampa Division Prof. Eng. State D. Lohmeier Reg. 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 March 3 19 75 Signed Westinghouse Elec. Corp. (Manufacturer) By R. C. Waldner

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 the State or Province of Pennsylvania and employed by Lumbermens Mutual Cas. Co. of Long Grove, Illinois have inspected the pressure vessel described in this Manufacturer's Data Report on March 3 19 75 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 March 3 19 75 Commissions N.B. 2592 - Penna. WC 2231
National Board, State, Province and No.

Inspector's Signature

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 or Province of PA, PA, OHIO and employed by Lumbermen's Mutual Country of 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 data items NONE 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 3107 psig Primary Side & 1481 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 10-24- 19 81 Commissions NB 5608 Tn 692
Inspector's Signature National Board, State, Province and No.

Printed in U.S.A. This form (E-1B) is obtainable from the ASME, 345 E. 47th St., New York, N.Y. 10017

During Primary hydro, Secondary Side was pressurized to 1481 psig at Ambient

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FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 11 APRIL 1999
400 W. Summit Hill Drive, Knoxville, TN (Address) Sheet 1 of 2
2. Plant Watts Bar Nuclear Plant (Name) Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) WOEL ORDER 99-003107-000 (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by TVA MODIFICATIONS (Name) Type Code Symbol Stamp N/A
WATTS BAR NUCLEAR PLANT (Address) Authorization No N/A
Expiration Date
4. Identification of system STEAM GENERATOR BLOWDOWN SYSTEM 015
5. (a) Applicable Construction Code ASME SECT III 19 71 Edition, SUMMER 73 Addenda, ~~N/A~~ ~~N-416-1~~ Code Case 2/18/99
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-015-B (4"x2" REDUCER)	CUSTOM ALLOY	N/A	N/A	N/A	1999	REPLACED	NO

7. Description of Work REPLACE 4"x2" REDUCERS ON LOOP 1 & LOOP 4 SGBD PIPING

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure ~~1073 MIN~~ ~~1092 MAX~~ psi Test Temp ~~553 MIN~~ ~~555 MAX~~ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks REF CODE CASE N-416-1

Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-9C REC 3/16/99

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No.

Signed Kurt A Cornell CONST ENGR Date 11 APRIL 19 99

Owner or Owner's Designee, Title

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 TENNESSEE and employed by HSB I&E CO of HARTFORD CT. have inspected the components described in this Owner's Report during the period 3/16/99 to 4/12/99 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.

Bruce M Carrigh Commissions TN 2534 "I" "N" "A"

Inspector's Signature National Board, State, Province, and Endorsements

Date 4/12 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 11 APRIL 1999
400 W. Summit Hill Drive, Knoxville, TN (Address) Sheet 1 of 2
2. Plant Watts Bar Nuclear Plant (Name) Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) WORK ORDER 99-003107-001 (Repair Organization P.O. No., Job No., etc.)
3. Work Performed by TVA MODIFICATIONS (Name) Type Code Symbol Stamp N
WATTS BAR NUCLEAR PLANT (Address) Authorization No N/A
Expiration Date N/A
4. Identification of system STEAM GENERATOR BLOWDOWN / SYSTEM 015
5. (a) Applicable Construction Code ASME SEC III 19 71 Edition, SUMMER 1973 Addenda, N/A 1-1-80 Code Case N/A
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
L-PIPE-015-B (4"X2" REDUCER)	CUSTOM ALLOY	N/A	N/A	N/A	1999	REPLACED	NO

7. Description of Work REPLACE 4" X 2" SGBD REDUCERS (LOOPS 2 & 3)

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure 1068 MIN / 1091 MAX psi Test Temp 553 MIN / 555 MAX °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks CODE CASE N-416-1

Applicable Manufacturer's Data Reports to be Attached

TRACKING # R2-02 - P.[illegible] 1/1.1.1

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed [signature] CONST ENGR Date 11 APRIL 19 99

Owner or Owner's Designee, Title

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 TENNESSEE and employed by HSB I&C CO of HARTFORD CT. have inspected the components described in this Owner's Report during the period 3/16/99 to 4/12/99 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 TN 2534 "I" "N" "A"

Inspector's Signature National Board, State, Province, and Endorsements

Date 4/12 19 99

WO # 98-002000-001

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 03/17/99
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — 98-002000-001 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by WSI (Name) — Type Code Symbol Stamp N/A
2225 SKYLAND COURT, NORCROSS, GA, 30071 (Address) — Authorization No N/A
Expiration Date N/A

4. Identification of system CONTROL ROD DRIVE SYSTEM, 085

5. (a) Applicable Construction Code SEC III, CL 1 19 71 Edition, WIN. 72 Addenda, N-504 Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
UNIT 1 REACTOR VESSEL	ROTTERDAM	30749	N/A	WAT.RCPCRV	1974	REPAIR	Y

7. Description of Work REPAIR CRDM CANOPY SEAL WELDS. PENETRATION # 13.

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure X ISLT
Other X Pressure _____ psi Test Temp _____ °F
********SEE SECTION 9.

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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.

WO # 98-002000-001

FORM NIS-2 (Back)

9. Remarks Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-92 LLC 3/17/99

RELIEF REQUEST 1-RR-02 (CODE CASE N-504)

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NR REPAIR SYMBOL

Certificate of Authorization No. NR 69 EXPIRES NOV. 7, 2001

Signed David M. Wright WSI QA/QC Date MARCH 22 19 99
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I & I of HARTFORD, CT have inspected the components described in this Owner's Report during the period 3/17/99 to 3/22/99 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.

Bruce W. Earnest Commissions TN 2534 I N A
Inspector's Signature National Board, State, Province, and Endorsements

Date 3/22 19 99

FORM NR-1 REPORT OF REPAIR ☒ MODIFICATION ☐ OR INSTALLATION OF REPLACEMENT(S) ☐
TO NUCLEAR COMPONENTS AND SYSTEMS IN NUCLEAR POWER PLANTS

1. Work performed by WELDING SERVICES INC. (name)
2225 SKYLAND COURT (address) NORCROSS GA. 30071 (repair organization's P.O. no., job no., etc.)

2. Owner TENNESSEE VALLEY AUTHORITY (name)
400 W. SUMMIT HILL DRIVE (address) KNOXVILLE TN.

3. Name, address and identification of nuclear power plant WATTS BAR NUCLEAR PLANT
P.O. BOX 2000 SPRING CITY TN. 37381

4. System CONTROL ROD DRIVE SYSTEM 068

5. a: Component repaired, modified or replaced 1-HEAD-068-0001 (CRDm G-5)
b: Name of manufacturer THE ROTTERDAM DOCKYARD CO. ROTTERDAM THE NETHERLANDS
c: Identifying nos. 30749 (mfr.'s serial no.) BUILT 1974 (Nat'l. Bd. No.)
d: Construction Code ASME III (edition) 1971 (addenda) WINTER 72 (jurisdictional no.) (Code Case(s)) (other) N/A (year built)

5. Section XI 1989 EDITION (edition) N/A (addenda) N/A (Code Case(s)) (Code Class)

7. Applicable edition of ASME Code Section XI under which repairs, modifications, or replacements were made: 1989 ED. (edition) N/A (addenda) (Code Case(s))

8. Applicable edition of Construction Code under which repairs, modifications, or replacements were made: ASME (Code) III (edition) 71 (addenda) WINTER 72 (Code Case(s))

9. Design responsibilities N/A

10. Tests conducted: hydrostatic ☐ pneumatic ☐ design pressure ☐ pressure N/A psi

11. Description of work REPAIR OF CRDM CANOPY SEAL WELD
(use of additional sheet(s) or sketch(es) is acceptable if properly identified)

12. Remarks: COMPONENT I.D. 1-068A-T173-13 (CRDm G-5)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and the repair, modification or replacement of the items described above conforms to Section XI of the ASME Code and the National Board rules as defined in the publication NB-102, current edition, 0mw
Certificate of Authorization no. NR 69 to use the "NR" stamp expires NOV. 7 19 2001

Date MARCH 22 19 99 Signed WELDING SERVICES INC. David M. Winkle WSI QA/QC
(repair organization) (authorized representative) (title)

CERTIFICATE OF INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors, and certificate of competency issued by the state or province of TENNESSEE and employed by HSB I&I CO of HARTford CT have inspected the repair, modification or replacement describe in this report on 3/22 19 99 and state that to the best of my knowledge and belief, this repair, modification or replacement has been made in accordance with Section XI of the ASME Code and the National Board rules as defined in the publication NB-102, current edition. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the repair, modification 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.

3/22 19 99 Signed Bruce W. Earnest Commissions TN 2534 NB# 8333 I N A
(Authorized Inspector) (Nat'l.Bd.No.(including endorsements)state or province and number)

This form may be obtained from The National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, OH 43229.

NB-81
Rev 6

WAT-105
RCPCRV

WJC # 471-613542-007

FORM N-1 MV MANUFACTURERS' DATA REPORT FOR NUCLEAR VESSELS

As required by the Provisions of the ASME Code Rules

1. Manufactured by The Rotterdam Dockyard Co. Rotterdam The Netherlands
(Name and address of Manufacturer)

2. Manufactured for Westinghouse Electric Corp. PWRSD P.O. Box 355 Pittsburgh PA 15230 U.S.A.
(Name and address of Purchaser)

3. Type Vert. (Horiz. or Vert.) Kind Tank (Tank, Jacket, Heat Ex.) Vessel No. (Mfrs. Serial No.) 30749 ( ) (State or State No.) Nat'l Bd. No. Yr. Built 1974

3a. Applicable ASME Code: Section III, Edition 1971, Addenda date Winter 1971, Case No.
Class 1.

W860806K0126 (2)

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

4. Shell: Material SA-508 Cl. 2 (Kind & Spec. No.) T.S. 80.000 (Min. of range specified) Nominal Thickness 8.46 in. Corrosion Allowance in. Dia. 14ft. 5 in. Length 28 ft. 6.2 in.

5. Seams: Long H.T.[1] R.T. Efficiency %

Girth Butt Weld H.T.[1] Yes R.T. Yes No. of Courses 4 + Flange
SA-533 Gr.B Cl.1 SA-533 Gr.B

6. Heads (a) Material SA-508 Cl. 2 T.S. 80.000 (b) Material Cl. 1 T.S. 80.000

	Location (Top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (Convex or Concave)
(a)	Top	6.9"	7'4"					13'11"	Concave
(b)	Bottom	5.6"	7'4"					14'5"	Concave

SA-540 Gr. B24 130.000 psi.

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If removable, bolts used 6.75" Ø 54 pcs. (Material, Spec. No., T.S., Size, Number) Other fastening (Describe or attach sketch)

7. Jacket Closure (Describe as edge welded, bar, etc. If bar give dimensions, describe or sketch)

8. Design Pressure[2] 2485 psi at 650 °F at temp. of MAX 40 °F. Drop Weight max -40°F, Charpy Impact 30 ft-lb, Pneumatic / Hydrostatic or Combination Test Pressure 3107 psi
Min. temp. req. 100°F
vessel 127.4°F min.
Actual temp. safe envig. 122.4°F min.

Items 9 and 10 to be completed for tube sections.

9. Tube Sheets: Stationary. Material (Kind & Spec. No.) Dia. (Subject to press.) in. Thickness in. Attachment (Welded, Bolted)

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

10. Tubes: Material (Kind & Spec. No.) O.D. in. Thickness inches or gage Number Type (Straight or U)

Items 11 to 14 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

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

12. Seams: Long (Welded, Dbl., Single) H.T.[1] (Yes or No) R.T. Efficiency %

Girth H.T.[1] R.T. No. of Courses

13. Heads (a) Material T.S. (b) Material T.S. (c) Material T.S.

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

BOX 10-1360
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JUN 12 1978

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

Drop weight Pneumatic
Charpy Impact ft-lb Hydrostatic or Combination Test Pressure psi

14. Design pressure[2] psi at °F at temp. of °F.

[1] If Postweld Heat Treated. [2] List other internal or external pressures with coincident temperature when applicable.

WAT-105
REPORT

FORM N-1 (back)

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	Reinforcement Material	How Attached
Inlet	4	27.11"	Bullpen	SA-508	11.5"	Integral	welded
Outlet	4	28.93"	Bullpen	Cl 2	8.7"	Integral	welded

See attachment

17. Inspection Openings: Manholes, No. _____ Size _____ Location _____
Handholes, No. _____ Size _____ Location _____
Threaded, No. _____ Size _____ Location _____
Nozzle bodies 13, 14,

18. Supports: Skirt _____ (Yes or No) Lugs _____ (Number) Legs _____ (Number) Other 4 saddle (Describe) Attached 15, 17 buttering (Where & How)

19. Remarks: _____

_____ (Brief description of service for which vessel was designed)

CERTIFICATION OF DESIGN

Design information on file at The Rotterdam Dockyard Co., Rotterdam, The Netherlands

Stress analysis report on file at The Rotterdam Dockyard Co. Rotterdam, The Netherlands

Design specifications certified by L. P. Katz Prof. Eng. State Pa Reg. No. 04478-E

Stress analysis report certified by J. Poort to be Prof. Eng. State _____ Reg. No. _____ Netherlands

We certify that the statements made in this report are correct and that this nuclear pressure vessel was constructed in accordance with the ASME Code, Section III. * The Rotterdam Dockyard Co.

Date April 22 19 74 Signed by J. J. van Harwijnen (Manufacturer) Manager Quality and Metallurgy

* Except that the vessel is not N-stamped

Certificate of authorization Expires _____ Certificate of Manufacture No. _____

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY The Rotterdam Dockyard Co. Rotterdam, The Netherlands

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of XXXXXXXXX A.C.v.Bezuijen and employed by Lloyd's R.I.S. of London, England

have inspected the pressure vessel described in this Manufacturer's Data Report on _____ 19 ____, 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. Except stamping.

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 Calcium 19 _____

_____ Inspector's Signature

Commissions _____ 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 or Province of _____ and employed by _____ of _____

have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, 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 _____ psi.

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 _____ 19 _____

_____ Inspector's Signature

Commissions _____ National Board, State, Province and No.

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Name
400 W. Summit Hill Drive, Knoxville, TN — Address

Date 3-18-99

Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant — Name
P. O. Box 2000, Spring City, TN, 37381 — Address

Unit Unit 1

WO 98-007961-003 — Repair Organization P.O. No., Job No., etc.

3. Work Performed by TVA MECH, MODS — Name
WATTS BAR NUCLEAR PLANT
P.O. BOX 2000, SPRING CITY, TN 37381 — Address

Type Code Symbol Stamp /

Authorization No N/A

Expiration Date /

4. Identification of system ICE CONDENSER / SYS # 061

5. (a) Applicable Construction Code ASME. SECT III 19 71 Edition, SUMMER 1973 Addenda, ~~N/A~~ 2RC 6/8/99 ~~10-416~~ Code Case

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-061-B	N/A	N/A	N/A	N/A	1999	REPLACEMENT	NO

7. Description of Work ADD 2" Φ TEE TO REROUTE BYPASS LINE AROUND 1-FCV-061-0122

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure 70 - 80 psi Test Temp 10 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks CODE CASE N-416-1
Applicable Manufacturer's Data Reports to be Attached
TRACKING NO. PR-02-93

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT conforms to the repair or replacement rules of the ASME Code, Section XI.

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed Michael Rainer CONST. ENGR. Date 3/20/99 19 99
Owner or Owner's Designee, Title

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 TENNESSEE and employed by HSB I&I CO. of HARTFORD CT. have inspected the components described in this Owner's Report during the period 12/4/13 to 3/20/99 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.

Bruce M Eamigh Commissions TN2534 "I" "N" "A"
Inspector's Signature National Board, State, Province, and Endorsements

Date 3/20 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 3/20/99
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — WO # 98-007961-002 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by TVA MECH MODS (Name) — Type Code Symbol Stamp ____
PO, Box 2000, SPRING CITY, TN 37381 (Address) — Authorization No N/A
Expiration Date ____

4. Identification of system FCE CONDENSER SYS # 061

5. (a) Applicable Construction Code ASME SECT III 19 71 Edition, SUMMER 1973 Addenda, ~~N/A~~ 6/6/99 Code Case ~~N-416-1~~
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-PIPE-061-B	N/A	N/A	N/A	N/A	1999	REPLACEMENT	No

7. Description of Work ADD 2"ϕ TEE TO REROUTE BYPASS PIPE AROUND 1-FCV-061-0097

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒
Other ☐ Pressure 70 - 80 psi Test Temp 10 °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks CODE CASE N-416-1
Applicable Manufacturer's Data Reports to be Attached
TRACKING NO. PR-02-94

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp N/A

Certificate of Authorization No. N/A

Signed Michael Bainer CONST. ENGR. Date 3/20 19 99
Owner or Owner's Designee, Title

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 Tennessee and employed by HSB I&I CO. of HARTFORD CT. have inspected the components described in this Owner's Report during the period 12/4/18 to 3/20/99 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.

Bruce M Eanright Commissions TN 2534 "I" "N" "A"
Inspector's Signature National Board, State, Province, and Endorsements

Date 3/20 19 99

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 3/23/99
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — WO 98-002441-002 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by Mech Maint (Name) — Type Code Symbol Stamp NA
Box 800 Spring City TN. (Address) — Authorization No NA
Expiration Date NA

4. Identification of system FEEDWATER & Rx COOLANT Ckts

5. (a) Applicable Construction Code Section III 19 71 Edition, Summer 73 Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
STUDS	WESTINGHOUSE	NA	NA	S/G MW Secondary Cover		Replaced	No
MW Cover Machining	Westinghouse	1592	W10287	1-SGEN-Ckt SG3	95	Repair	Yes

7. Description of Work REPLACE STUDS ON S/G MW COVER, SG3

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☒ 1-TRI-3-903
Other ☐ Pressure NOA psi Test Temp NOT °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks

Applicable Manufacturer's Data Reports to be Attached

TRACKING NO. RR-02-96 IRC 3/23/99

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE

Certificate of Authorization No. NA

Signed D H Gillum Mech Engr (Owner or Owner's Designee, Title) Date 5/18 19 99

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 Tennessee and employed by HSB I&I CO. of HARTFORD CT. have inspected the components described in this Owner's Report during the period 3/23/99 to 5/25/99 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.

Bruce M. Earnigh (Inspector's Signature) Commissions TN2534 "I" "N" "A" (National Board, State, Province, and Endorsements)

Date 5/25 19 99

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

1. Manufactured by Westinghouse Electric Corporation, Tampa Division, Tampa, Florida
(Name and address of Manufacturer)

2. Manufactured for Tennessee Valley Authority Watts Bar #1 Spring City
(Name and address of Purchaser)

3. Type Vertical (Horiz. or Vert.) Kind Steam Gen (Tank, Jacketed, Heat Ex.) Vessel No. (1592) (Mfrs. Serial No.) (State & State No.) Nat'l Bd. No. W10287 Yr. Built 1975
1591-4

3a. Applicable ASME Code: Section III, Edition 1971, Addenda date S71, Case No. NB 4643
Class 1
1355, 148
1493-1

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 CL2 (Kind & Spec. No.) T.S. 90000 (Min. of range specified) Nominal Thickness * in. Corrosion Allowance .06 in. Dia. * ft. * in. Length * ft. * in.

5. Seams: Long Weld-Dbl-But A.R.T. Yes R.T. Complete Efficiency 100 %
Girth Weld-Dbl-But A.R.T. Yes R.T. Complete No. of Courses *
SA-533

6. Heads (a) Material GR A CL2 T.S. 90000 (b) Material — T.S. —

	Location (Top, bottom, ends)	Thickness	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Press. (Convex or Concave)
(a)	Top	3.			2:1				concave
(b)									

W 860724K0647 (1)

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.; Y.R. complete
(Describe as taper & weld, bar, etc. If bar give dimensions, describe or sketch)
Girth Weld

8. Design Pressure 1185 psi at 600 °F at temp. of +10 °F. Drop Weight — Charpy Impact 30 ft-lb Pneumatic / Hydrostatic or Combination } Test Pressure 1481 psi

Items 9 and 10 to be completed for tube sections.

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

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

10. Tubes: Material SB-163 (Kind & Spec. No.) O.D. .750 in. Thickness .043 inches or Edge — Number 4674 Type U (Straight or U)

AUTHORIZED NUCLEAR INSPECTOR H. S. B.

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

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

12. Seams: Long — (Welded, Dbl., Single) H.T. — (Yes or No) R.T. — Efficiency —
Girth Weld-Dbl-But A.R.T. Yes R.T. complete No. of Courses 2*
SA-216 GR

13. Heads: (a) Material — T.S. — (b) Material 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						62.81		concave
(b)	Channel	5.09							
(c)	Floating								

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

14. Design pressure 2485 psi at 650 °F at temp. of +10 Drop weight — Charpy Impact 20 ft-lb Pneumatic / Hydrostatic or Combination } Test Pressure 3107

* If Postweld Heat-Treated — Pressures with coincident temperature when applicable.

Items below to be completed for all vessels where applicable.

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16. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Size or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Safety Valve Outlets	Number		Size	Location			
Prim. Inlet	1	31" I.D.	(Weld)	(SA-216)	3.00"	(SA-216)	(Integrally)
Prim. Outlet	1	31" I.D.	(End)	(CR WCC)	3.00"	(CR WCC)	(Cast)
Steam Outlet	1	29" I.D.	(Weld)	(SA-508)	1.20"	Steel	Welded
Feedwater	1	14" I.D.	(End)	(CL.2)	0.76"	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
Instrumentation No. 4 Size 2" Location Stub Barrel Portion of Lower Shell
Auxiliary Feedwater Nozz. No. 1 Size 6" Location Upper Shell Assy: Mtl Sa-508 Cl 2a

18. Supports: Skirt No Lugs No. Legs Other X Attached See Below
Four Main Supports are cast integral with the chamber

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 Manufacturers' Partial Data Forms N-2 filed at Westinghouse. Aux. Noz. and 2.6-inch inspection installed in the field. See attached Supplements No. 1 and 2.

CERTIFICATION OF DESIGN

Design information on file at Westinghouse Electric Corporation, Tampa Division, Tampa, FL
Stress analysis report on file at Westinghouse Electric Corporation, Tampa Division, Tampa, FL
Design specifications certified by Nuclear Energy Systems Prof. Eng. A. Wettlaufer No. 13335-E
Stress analysis report certified by Tampa Division Prof. Eng. A. Lonneier Reg. No. 13436

To 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 March 3, 1975 Signed Westinghouse Elec. Corp. By S.R. Wadler (Manufacturer)

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 the State or Province of Pennsylvania and employed by Lumbermens Mutual Cas Co. of Long Grove, Illinois have inspected the pressure vessel described in this Manufacturer's Data Report on MARCH 3, 1975, 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 MARCH 3, 1975 Commissions NB 7592 - Penna WC 2231
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 or Province of TN. PA. OH. IO and employed by Lumbermen's Mutual Casualty Co of Long Grove, Ill. have compared the statements in this Manufacturer's Data Report with the described pressure vessel or parts that were referred to as data items NONE and inclusive 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 3107 psig Primary Side & 1871 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 10-24, 1981 Commissions NB 9608 TN. 642
National Board, State, Province and No.

Printed in U.S.A.

This Form is obtainable from the ASME, 345 East 47th Street, New York, N.Y. 10017

* During the Preservice Inspection, the Secondary Side was tested with Steam at 1871 psig.

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FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) — Date 03-25-99
400 W. Summit Hill Drive, Knoxville, TN (Address) — Sheet ____ of ____
2. Plant Watts Bar Nuclear Plant (Name) — Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) — W/O 99-03451-02
3. Work Performed by WBNP MECH. MAINT. (Name) — Repair Organization P.O. No., Job No., etc.
P.O. BOX 2000 SPRING CITY ,TN 37381 (Address) — Type Code Symbol Stamp N/A
Authorization No N/A
Expiration Date N/A
4. Identification of system 003 - AUX. FEEDWATER
5. (a) Applicable Construction Code AISC N/A STEEL CONSTRUCTION MANUAL Edition, N/A Addenda, N/A Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989
6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-SNUB-003-03A482U	BERGEN PATTERSON	15599	N/A	N/A	N/A	REPLACED	NO
1-SNUB-003-03A482U	BERGEN PATTERSON	15599	N/A	SPHERICAL BEARING	N/A	Replace-Ment	NO
Replaced Spherical Bearing And Load Pin.							

7. Description of Work REPLACED SPHERICAL BEARING AND LOAD PIN

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☒ Pressure _____ psi Test Temp _____ °F
1-TRI-0-7

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks TRACKING # RR-02-095 RC 4/2/99
Applicable Manufacturer's Data Reports to be Attached
099

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE

Certificate of Authorization No. NA

Signed [signature] Owner or Owner's Designee, Title Date 4-7- 19 99

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 TN and employed by HSB I+I Co. of Hartford, CT have inspected the components described in this Owner's Report during the period 3-25-99 to 4-7-99 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 TN 2533
Inspector's Signature National Board, State, Province, and Endorsements

Date 4-7 19 99

BERGEN-PATERSON
PIPESUPPORT CORPORATION
P.O. Box 426 Moulton, AL Tel. (205) 974-9225

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Certificate of Compliance

TENNESSEE VALLEY AUTHORITY

400 West Summit Hill Drive

Knoxville, TN 37902

Date November 17, 1989

Attention: Accounts Payable

Subject Plant: Watts Bar Nuclear Plant

Purchase Order Number: 78KA2-824160 RD #103885

B-PPC Job Number: 8506-3671

ITEM NO.	QTY.	PART	SIZE	DESCRIPTION
2	10	1000	4	Restraint End Connection
14	10	6202-1.5	6"	Restraint Pipe Clamp
15	10	2600-7	8"	Pipe Clamp
16	5	2600-10	8"	Pipe Clamp
17	10	6202-1.5	8"	Restraint Pipe Clamp
24	6	6202-12	18"	Restraint Pipe Clamp
29	5	6202-7	24"	Restraint Pipe Clamp
48	20	6502	10"	Long Tangent U-Bolt

Gentlemen:

BERGEN-PATERSON hereby certifies that all fabricated and manufactured hanger material furnished on the subject contract is in accordance with the design, material, fabrication and testing requirements of the applicable code or codes and job P.O./Specification. The documents which support compliance to subject code requirements as identified in the Bergen-Paterson Corporate Q.A. Manual have been reviewed and are considered correct and complete as valid Q.A. records.

Reference: Codes B31.1N, MSS-SP-58, 10 CFR 50, 10 CFR 21

Specification: P.O. Rev. No.: _____

Shipment of: 11/17/89 B/L #: M-8126 Via: _____

BERGEN-PATERSON PIPESUPPORT CORP.

Michael Zills

Quality Assurance

BERGEN-PATERSON
PIPE SUPPORT CORPORATION

JL

JOB #: 8506-3671 B/L #: M-8126 SHEET 2 OF 2

ITEM	QTY.	PART	SIZE	DESCRIPTION
54	20	6202-1.5	2"	Restraint Pipe Clamp
55	25	6202-1.5	3"	Restraint Pipe Clamp
56	75	2252	1.5	Field Welded Adj. Strut
57	75	2252	4	Field Welded Adj. Strut
58	50	2252	12	Field Welded Adj. Strut
72	20	2200	10	Rigid Shock & Sway Arrestor

BP-QC-0003

FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY (Name) Date 3/28/99
400 W. Summit Hill Drive, Knoxville, TN (Address) Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant (Name) Unit Unit 1
P. O. Box 2000, Spring City, TN, 37381 (Address) W.O. 98-004974-004 (Repair Organization P.O. No., Job No., etc.)

3. Work Performed by WATTS BAR NUCLEAR PLANT (Name) Type Code Symbol Stamp NONE
P.O. BOX 2000 SPRING CITY TN. 37381 (Address) Authorization No NONE
Expiration Date NA

4. Identification of system 015 / STEAM GENERATOR BLOWDOWN

5. (a) Applicable Construction Code SECT III 19 77 Edition, W73 Addenda, 1644-1 Code Case
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-SNUB-015-4006188	PSA	33070	NONE	NONE	83	REPLACED	No

7. Description of Work REPLACE SNUBBER

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐ NR
Other ☐ Pressure ____ psi Test Temp ____ °F

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks

Applicable Manufacturer's Data Reports to be Attached

TRACKING # RR-02-100 REV 4/12/99

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this REPLACEMENT repair or replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp NONE

Certificate of Authorization No. NA

Signed D H Collins Mech Engr. Owner or Owner's Designee, Title Date 4/12 19 99

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 TENNESSEE and employed by HSB I F I CO. of HARTFORD CT. have inspected the components described in this Owner's Report during the period 3/30/99 to 4/12/99 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.

Bruce M Esmiol Inspector's Signature Commissions TN2534 "I" "N" "A" National Board, State, Province, and Endorsements

Date 4/12 19 99

FORM NF-1 NPT CERTIFICATE HOLDERS' DATA REPORT FOR COMPONENT SUPPORTS*
As Required by the Provisions of the ASME Code Rules, Section III, Division 1

1. Manufactured by Pacific Scientific Kin-Tech Division 1346 S. State College Blvd. Anaheim, Ca. 92803
(Name and address of NPT Certificate Holder)

Manufactured for ITT Grinnell Corporation 621 Dana Street N.E. Warren, Ohio 44481
(Name and address of purchaser or owner)

2. Location of Installation Unknown

3. Identification

(a) Component Support I.D. No.	(b) Canadian Registration No.	(c) Applicable Drawings with Last Rev. & Date	(d) Stress Report or Load Capacity Data Sheet	(e) Type of Component Support	(f) Class	(g) Nat'l Board No.	(h) Year Built
(1) 33070	None	1801104-03-J	Dr1412 Rev. 0	Linear	1	None	1983
(2) thru	"	"	"	"	"	"	"
(3) 33294							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

W 860724K0891 (4)

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4. Remarks: Inspection Test Reports, CMR's and Certificate of Conformance reviewed and meet ASME Sec III 1974 Edition, Summer '76 Addenda and Code Case 1644-6.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that these components supports conform to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Division 1, Edition 1977, Addenda Winter '78 (Date)

Code Case No. 1644-7

Date 1/3/83 Signed Pacific Scientific (NPT Certificate Holder) by Brian W. Ay

Our ASME Certificate of Authorization No. 1193 to use the "NPT" (NPT)

Symbol expires Aug. 4, 1984 (Date).

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CERTIFICATION OF DESIGN

Design Information on File at Pacific Scientific

Stress Report or Load Capacity Data Sheets on File at:

Pacific Scientific

Filed For ICA 3256

Design Specifications Certified by (1) Leo E. Ay PE State California

Reg. No. 13533.

Warren

JAN 13 1983

Stress Analysis Report or Load Capacity Data Sheets Certified by (1) Leo E. Ay

PE State California Reg. No. 13533.

REVIEWED BY DS

(1) List name only, signature not required.

Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8½ in., (2) information in items 1, 2, and 3 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of

FORM NF-1 (Back)

CERTIFICATE OF SHOP 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 OHIO and employed by HSB I&I Co of Hartford, CT have inspected the component supports described in this Data Report on JAN 04 1983, and state that to the best of my knowledge and belief the NPT Certificate Holder has constructed these component supports in accordance with the ASME Code for Nuclear Power Plant Components.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the component supports described in this 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 JAN 04 1983

Signed [signature] Commissions CA-1513 Ohio Commission
(Nat'l Bd., State, Prov., and No.)

CERTIFICATION OF FIELD 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 _____ and employed by _____ of _____ have compared the statements in this Data Report with the described component supports and state that the parts referred to as Data Items _____, not included in the certificate of shop inspection, have been inspected by me and that to the best of my knowledge and belief the NPT Certificate Holder has constructed these component supports in accordance with the ASME Code for Nuclear Power Plant Components.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the component supports described in this 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 _____

Signed _____ Commissions _____
(Nat'l Bd., State, Prov., and No.)

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FORM NIS-2 OWNER'S REPORT FOR REPAIRS OR REPLACEMENTS
As Required by the Provisions of the ASME Code Section XI

1. Owner TENNESSEE VALLEY AUTHORITY — Name
400 W. Summit Hill Drive, Knoxville, TN — Address

Date 3-25-99

Sheet ____ of ____

2. Plant Watts Bar Nuclear Plant — Name
P. O. Box 2000, Spring City, TN. 37381 — Address

Unit Unit 1

W/O 98-004174-003 — Repair Organization P.O. No., Job No., etc.

3. Work Performed by WATTS BAR Nuclear Plant — Name
P.O. Box 2000 Spring City, TN. 37381 — Address

Type Code Symbol Stamp ____

Authorization No N/A

Expiration Date ____

4. Identification of system 015 STEAM GENERATOR Blowdown

5. (a) Applicable Construction Code AISC 19 N/A Edition, N/A Addenda, N/A Code Case STEEL CONSTRUCTION MANUAL,

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements 1989

6. Identification of Components Repaired or Replaced and Replacement Components

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped (Yes or No)
1-SNUB-015-R006199	PSA	33262	NONE	SNUBBER	1983	Replaced	YES

7. Description of Work Replaced SNUBBER

8. Tests Conducted: Hydrostatic ☐ Pneumatic ☐ Nominal Operating Pressure ☐
Other ☒ Pressure N/A psi Test Temp N/A °F
1-TRI-0-7

NOTE: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8½ 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-2 (Back)

9. Remarks

Applicable Manufacturer's Data Reports to Be Attached

Tracking # RR-02-101 ECC 4/12/99

CERTIFICATE OF COMPLIANCE

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

Type Code Symbol Stamp NONE

Certificate of Authorization No. NA

Signed D H Collins Mech Engr (Owner or Owner's Designee, Title) Date 4/12 19 99

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 Tennessee and employed by HSB I & I Co of Hartford CT. have inspected the components described in this Owner's Report during the period 3/25/99 to 4/12/99 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.

Bruce M. Eamigh (Inspector's Signature) Commissions TN 2534 "I" "N" "A" (National Board, State, Province, and Endorsements)

Date 4/12 19 99

PAGE 195 OF 197

FORM NF-1 NPT CERTIFICATE OF COMPLIANCE/ DATA REPORT FOR COMPONENT SUPPORTS*
As Required by the Provisions of the ASME Code Rules, Section III, Division 1

1. Manufactured by Pacific Scientific 1346 S. State College Blvd. Anaheim, Ca. 92803
(Name and address of NPT Certificate Holder)

Manufactured for ITT Grinnell Corporation 621 Dan Street N.E. Warren, Ohio 44481
(Name and address of purchaser or owner)

2. Location of Installation Unknown

3. Identification

(a) Component Support I.D. No.	(b) Canadian Registration No.	(c) Applicable Drawings with Last Rev. & Date	(d) Stress Report or Load Capacity Data Sheet	(e) Type of Component Support	(f) Class	(g) NatT Board No.	(h) Year Built
(1) 32070 thru 33294	None	1801104-03-J	Dr1412 Rev. 0	Linear	1	None	1983
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

8605-5-86
W860724K0891 (4)
W860724K1745 (4)

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5. Remarks: Inspection Test Reports, CMTR's and Certificate of Conformance reviewed and meet ASME Sec III 1974 Edition, Summer '75 Addenda and Code Case 1644-6.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that these components supports conform to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Division 1, Edition 1977, Addenda Winter 78 (Date)
Code Case No. 1644-7

Date 4/3/83 Signed Pacific Scientific (NPT Certificate Holder) by [signature]

Our ASME Certificate of Authorization No. 1193 to use the "NPT" (NPT)

Symbol expires Aug. 4, 1984 (Date).

FILMED FROM BEST AVAILABLE COPY

CERTIFICATION OF DESIGN

Design Information on File at Pacific Scientific

Stress Report or Load Capacity Data Sheets on File at: Pacific Scientific
Filed Per NCA 3256

Design Specifications Certified by (1) Leo E. Ay PE State California Reg. No. 13533

Stress Analysis Report or Load Capacity Data Sheets Certified by (1) Leo E. Ay PE State California Reg. No. 13533

JAN 13 1983

REVIEWED BY DS

(1) List name only, signature not required.

Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8½ x 11 in., (2) information in items 1, 2, and 3 on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

(10/77)

CERTIFICATE OF SHOP 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 OHIO and employed by HSB&I Co of Hartford, CT have inspected the component supports described in this Data Report on JAN 04 1983 and state that to the best of my knowledge and belief the NPT Certificate Holder has constructed these component supports in accordance with the ASME Code for Nuclear Power Plant Components.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the component supports described in this 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 JAN 04 1983.

Signed [signature] Commissions CA-1513 Ohio Commission
(Nat'l Bd., State, Prov., and No.)

CERTIFICATION OF FIELD 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 _____ and employed by _____ of _____ have compared the statements in this Data Report with the described component supports and state that the parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and that to the best of my knowledge and belief the NPT Certificate Holder has constructed these component supports in accordance with the ASME Code for Nuclear Power Plant Components.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the component supports described in this 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 _____.

Signed _____ Commissions _____
(Nat'l Bd., State, Prov., and No.)

ENCLOSURE 2

ASME SECTION XI
INSERVICE INSPECTION SUMMARY REPORT
2ND REFUELING OUTAGE

COMMITMENT LIST

ENCLOSURE 2

WATTS BAR NUCLEAR PLANT UNIT 1
INSERVICE INSPECTION SUMMARY REPORT
2ND REFUELING OUTAGE
COMMITMENT LIST

1. Two request for relief (RFR) are required to be written for ISI components examined during this inspection. The RFRs for the steam generator nozzle-to-safe end butt weld and the reactor vessel head-to-flange weld are required as a result of not obtaining code coverage due to limitations. The RFRs will be submitted under separate letter to the NRC.

2. The First Period of the 10-year inspection interval ended May 26, 1999. System pressure tests required for the First Period that were completed after the Cycle 2 Refueling Outage (April 16, 1999), will be reported in the Cycle 3 Summary Report.