

ATTACHMENT 1-A

Watts Bar Nuclear Plant Feedwater Isolation Valve
Data Packages (Valve Wedge Information)

<u>Valve Serial No.</u>	<u>Data Package</u>
D66290	P1
D66291	P2
D66292	P3
D66293	P4
D66423	P5
D66458	P6
D66459	P7
D66529	P8

8308260027 830822
PDR ADOCK 05000390
A PDR

Watts Bar Nuclear Plant Feedwater Isolation Valve

Data Package: P1

Valve Serial No.: D66290

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 Co., Greensburg Division, Greensburg, Pa. 15601
(Name and Address of Manufacturer)
2. Manufactured for Tennessee Valley Authority
(Name and Address of Purchaser or Owner)
3. Location of Installation Watts Bar Nuclear Plant - Unit-1, Spring City, Tenn.
(Name and Address)
4. Pump or Valve Valve Nominal Inlet Size 16" Outlet Size 16"
(Inch)

(a) Model No. Series No. or Type	(b) Manufacturers' Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Nat'l. Std. No.	(g) Year Built
(1) <u>5232 WE BB</u>	<u>D66290</u>	<u>N/A</u>	<u>A-12819-M-1</u>	<u>2</u>	<u>1642</u>	<u>1977</u>
(2)						
(3)						
(4)						
(5)						
(6)						
(7)						
(8)						
(9)						
(10)						

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

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

7. Cold Working Pressure 1440 psi at 100°F. ± _____

8. Pressure Retaining Flanges

Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
<u>Body 422G P1</u>	<u>SA-352, LCB</u>	<u>Valve Castings</u>	<u>Seal Welded Seat</u>
<u>Bonnet G745</u>	<u>SA-352, LCB</u>	<u>Walworth Co.</u>	<u>CoCrA Backseat</u>
<u>Wedge G578</u>	<u>SA-352, LCB</u>	<u>Walworth Co.</u>	<u>CoCrA Faced</u>
(b) Forgings			

(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.

(1/78)

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

FORM NPV-1 (Back)

Mark No.	Material Spec. No.	Manufacturer	Remarks
(c) Bolting			
Stud 676268	SA-564, Gr. 630	R. E. C. Corp.	
Code NT			
Nut 18470	SA-194, Gr. 6	R. E. C. Corp.	
Code OX			
(d) Other Parts			

9. Hydrostatic test 2100 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 None Code Case No. None Date 11/23/77

Signed Walworth Co. by J. M. Hill

Our ASME Certificate of Authorization No. 950 to use the N symbol expires 1/6/78

CERTIFICATION OF DESIGN

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

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

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

PE State Tenn. Reg. No. 9411

Stress analysis certified by (1) N/A

PE State Reg. No.

(1) Signature not required. List name only.

D66290

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 Co. of Hartford, Conn. 06102 have inspected the pump, or valve, described in this Data Report on 11-23-1977 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 11-23-1977

E. Sander
(Inspector)

Commissions NB4202N
(Nat'l Bd., State, Prov. and No.)



Walworth

DATE 11-21-77

CERTIFICATE OF COMPLIANCE

MANUFACTURED FOR: Dravo Corporation
Tennessee Valley Authority
Watts Bar Nuclear Plant Unit #1
Spring City, Tenn. 37381

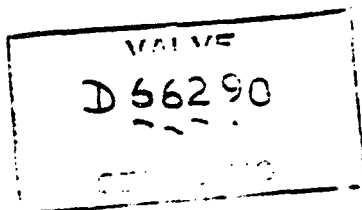
WALWORTH ORDER: PN37239-02A YOUR ORDER: E2897-WN2

VALVE DESCRIPTION: 16" 600# WE Gate Valve
BM: 5-5232-57-160-00N

TAG: 47W401-14 SERIAL NO: D66290

<u>PART</u>	<u>HEAT NUMBER</u>	<u>MATERIAL</u>
Body	<u>422G P1</u>	<u>ASME SA352, LCB</u>
Bonnet/Cover	<u>G745</u>	<u>ASME SA-352, LCB</u>
Wedge/Disc	<u>G578</u>	<u>ASME SA-352, LCB</u>
Stud (Code NL)	<u>676268</u>	<u>ASME SA-564, Gr. 630</u>
Nut (Code OX)	<u>L8470</u>	<u>ASME SA-194, Gr. 6</u>
_____	_____	_____

We certify the parts listed above conform fully to the specifications as indicated. Chemical and mechanical properties are attached.



for J. N. Benson
Manager, Quality Assurance

AND CHEMIST
 INSPECTION
 AND SUPERVISOR
 OFFICE

U.S. MATERIALS DIVISION
 STEEL CLEANING
 STEEL FOUNDRY FOREMAN
 QUALITY ENGINEER
 WORKS INSTALLMENT

WALWORTH COMPANY—GREENSBURG WORKS LABORATORY

Report of Chemical and Physical Tests of Steel

Date 5-18-77

CHEMICAL ANALYSIS

Date Cast	Heat No.	Comp.	C	Mn	P	S	Si	Ni	Cr	Mo	Heat Treatment	Tensile Strength PSI	Yield Point PSI	% Elong. in 2"	% Red. of Area	BIIN	WALCO	ASTM	NOTED DATE
5-3-77	573	M121	.30	1.00	.018	.030	.55				1180-3 1700-3	85650	55200	27.5	53.5	170	A	A	
574		M121	.25	.87	.020	.032	.45				"	73750	50750	28.5	50.5	149	A	A	
575		M121	.24	.79	.020	.032	.42				"	75150	49700	28.0	51.0	149	A	A	
576	T1	M121	.24	.72	.018	.030	.38				"	70200 67750	48250 46250	31.0 31.0	50.0 57.0	131 131	A	A	SEE BELOW
577		M121	.19	.63	.020	.024	.45	1.23	.16		1825-3 1300-3 1700-3	79050	52150	27.5	59.0	156	A	A	
578		M121	.24	.72	.018	.027	.42				1180-3	71500	48400	32.0	62.5	143	A	A	subcharpy
579		M121	.27	.81	.020	.028	.45				"	73700	48700	27.5	55.0	149	A	A	
580		M121	.24	.81	.022	.028	.53				"	74200	48550	30.0	57.5	143	A	A	
581		M121	.25	.81	.020	.030	.52				"	72300	46500	31.0	57.0	143	A	A	
582		M121	.24	.83	.018	.027	.51				"	75900	41150	27.5	51.0	149	A	A	

CLEARANCE PROCEDURE ON HELD HEATS

page 2445 b3

Heat No.	576T1 - PHYSICALS PASSED ON PAGE # 2461
Date	
Hour	
Retest	By
Retreat	By
Re-treatment	By

06299

CERTIFICATION OF IMPACT TESTING DATA

WMT & R Report No. 6242

Customer: Walworth Company

Date: ...5-9-77

Machine is certified to Watertown Specifications. P.O. No. 15438

TESTING DATA

[illegible]

ASTM A-370.

All testing done at Westmoreland Mechanical Testing & Research, Incorporated.

Certified by:

Donald J. Rossi, President

D 56290

Watts Bar Nuclear Plant Feedwater Isolation Valve

Data Package: P2

Valve Serial No.: D66291

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

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

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

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

4. Pump or Valve Valve Nominal Inlet Size 16" 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)	5232 WE	D66291	N/A	A-12819-M-1	2	1643	1977
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

5. Feedwater

(Brief description of service for which equipment was designed)

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

7. Cold Working Pressure 1440 psi at 100°F. 3

8. Pressure Retaining Pieces

[illegible]

(i) 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.

Mark No.	Material Spec. No.	Manufacturer	Remarks
(c) Bolting			
Size 676248	SA-564 Gr. 630	R. E. C. Corp.	
Code <u>817</u>			
Size 18-20	SA-194 Gr. 6	R. E. C. Corp.	
Code OX			
(d) Other Parts			
VALVE D 66291 2 SERIAL NO.			

9. Hydrostatic test 2100 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 None, Code Case No. None, Date 11/23/77

Signed Walworth Co. by J. M. Hill

(Date) (Manufacturer)

Our ASME Certificate of Authorization No. 950 to use the N symbol expires 1/6/78

(N) (NPV) (Date)

CERTIFICATION OF DESIGN

Design information on file at Walworth Co., Greensburg, Pa. 15601.
Stress analysis report (Class 1 only) on file at N/A

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

FE State Tenn. Reg. No. 2-11

Stress analysis certified by (1) _____ V / J

PS State. _____ Reg. No. _____

(1) Signature not required. List name only.

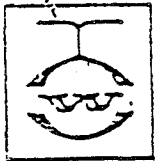
CERTIFICATE OF SHOP INSPECTION

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 & Engine Ins. of Hartford, Conn. 06102 have inspected the pump, or valve, described in this Data Report on 14229 77 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 11-3-77

Commissions



Walworth

DATE 11-21-77

CERTIFICATE OF COMPLIANCE

MANUFACTURED FOR: Dravo Corporation
Tennessee Valley Authority
Watts Bar Nuclear Plant Unit #1
Spring City, Tenn. 37381

WALWORTH ORDER: PN37239-02A YOUR ORDER: E2897-WN2

VALVE DESCRIPTION: 16" 600# WFE Gate Valve

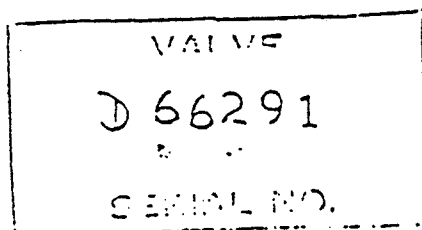
BM: 5-5232-57-160-00N

TAG: 4710401-14

SERIAL NO: D66291

<u>PART</u>	<u>HEAT NUMBER</u>	<u>MATERIAL</u>
Body	<u>261C</u>	<u>ASME SA-352, LCB</u>
Bonnet/Cover	<u>G492</u>	<u>ASME SA-352, LCB</u>
Wedge/Disc	<u>G745</u>	<u>ASME SA-352, LCB</u>
Stem (Code NL)	<u>1676268</u>	<u>ASME SA-564, Gr. 630</u>
Nut (Code OX)	<u>L8470</u>	<u>ASME SA-194, Gr. 6</u>

We certify the parts listed above conform fully to the specifications as indicated. Chemical and mechanical properties are attached.



J. N. Benson
for J. N. Benson
Manager, Quality Assurance

WALWORTH COMPANY — GREENSBURG WORKS LABORATORY

1 215C

Report of Chemical and Physical Tests of Steel

Date 6-11-77

CHEMICAL ANALYSIS

Cast No.	Comp.	C	Mn	P	S	Si	NI	Cr	Mo	Heat Treatment	Tensile Strength PSI	Yield Point PSI	% Elong. in 2"	% Red. of Area	THIN	DISPOSITION	NOTED DATE
-27-77 740	Wh21	.26	.81	.020	.030	.13				1700-3 1100-3	71100	47100	31.0	52.0	113	A	A
741	Wh21	.26	.92	.020	.031	.56				"	82100	52700	30.0	55.5	119	A	A
742	Wh21	.23	.70	.022	.027	.11				"	75500	47300	28.5	51.0	113	A	A
743	Wh21	.21	.85	.025	.027	.17				"	78050	50600	30.5	57.0	119	A	A
744	Wh21	.25	.91	.021	.033	.50				"	81750	41350	28.0	51.5	156	A	A
745	Wh21	.22	.86	.022	.025	.13				"	73600	49850	31.0	61.5	113	A	A
746	Wh21	.22	.76	.023	.020	.51				"	73600	41100	26.0	50.5	113	A	A
747	Wh21	.26	.83	.022	.030	.11				"	77750	51250	28.5	52.5	119	A	A

V.M. V.M.
DE6291
SENT TO

P. J. Jones

CLEARANCE PROCEDURE ON HELD HEATS

page 2172 PJ

Test No.	G-745 - Charpy V-Notch @ 710				33.0, 36.0, 32.0			
By	By				By			
By	By				By			

SPACE NO.

#2

DATE

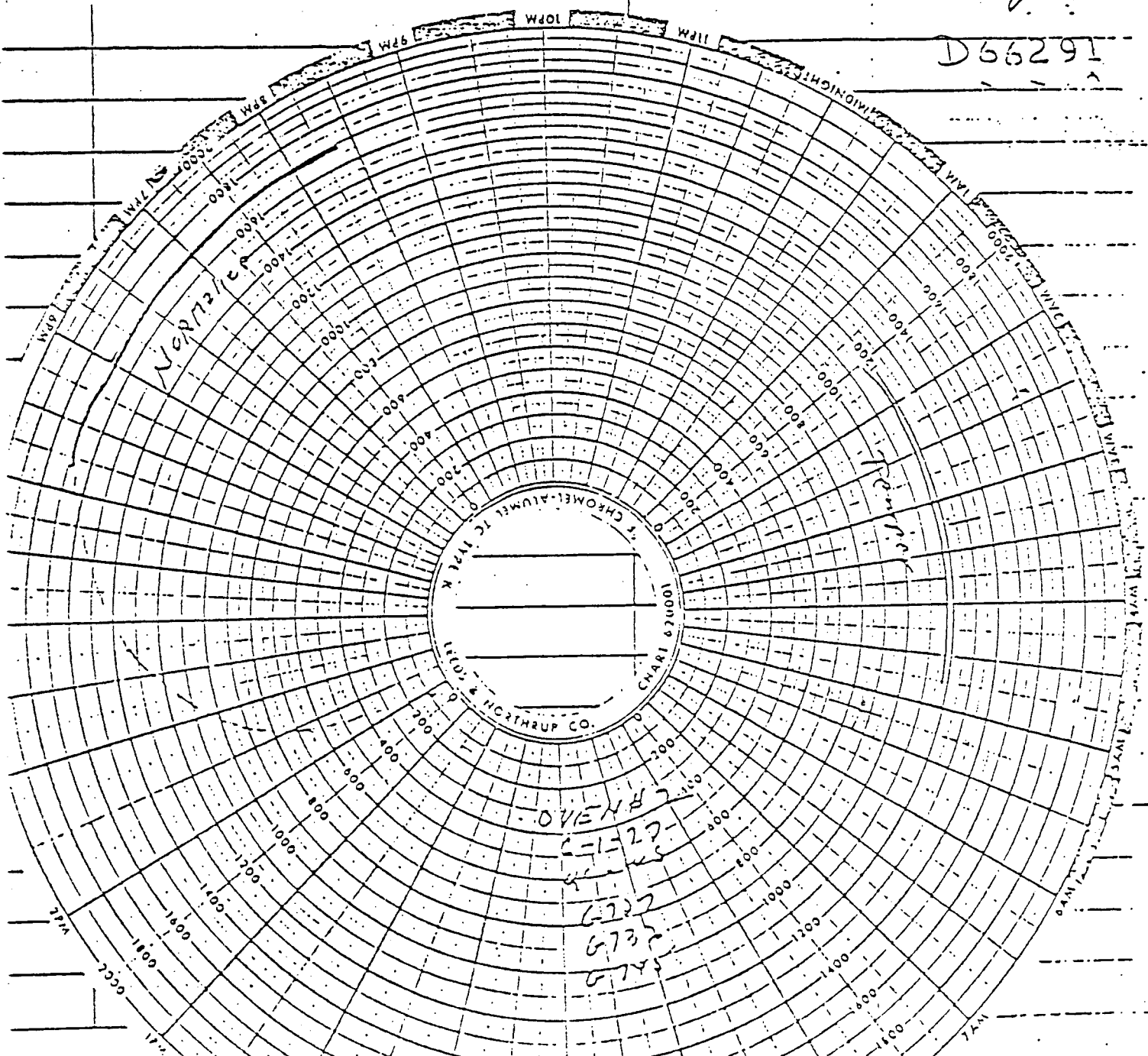
6/1/77 Disc

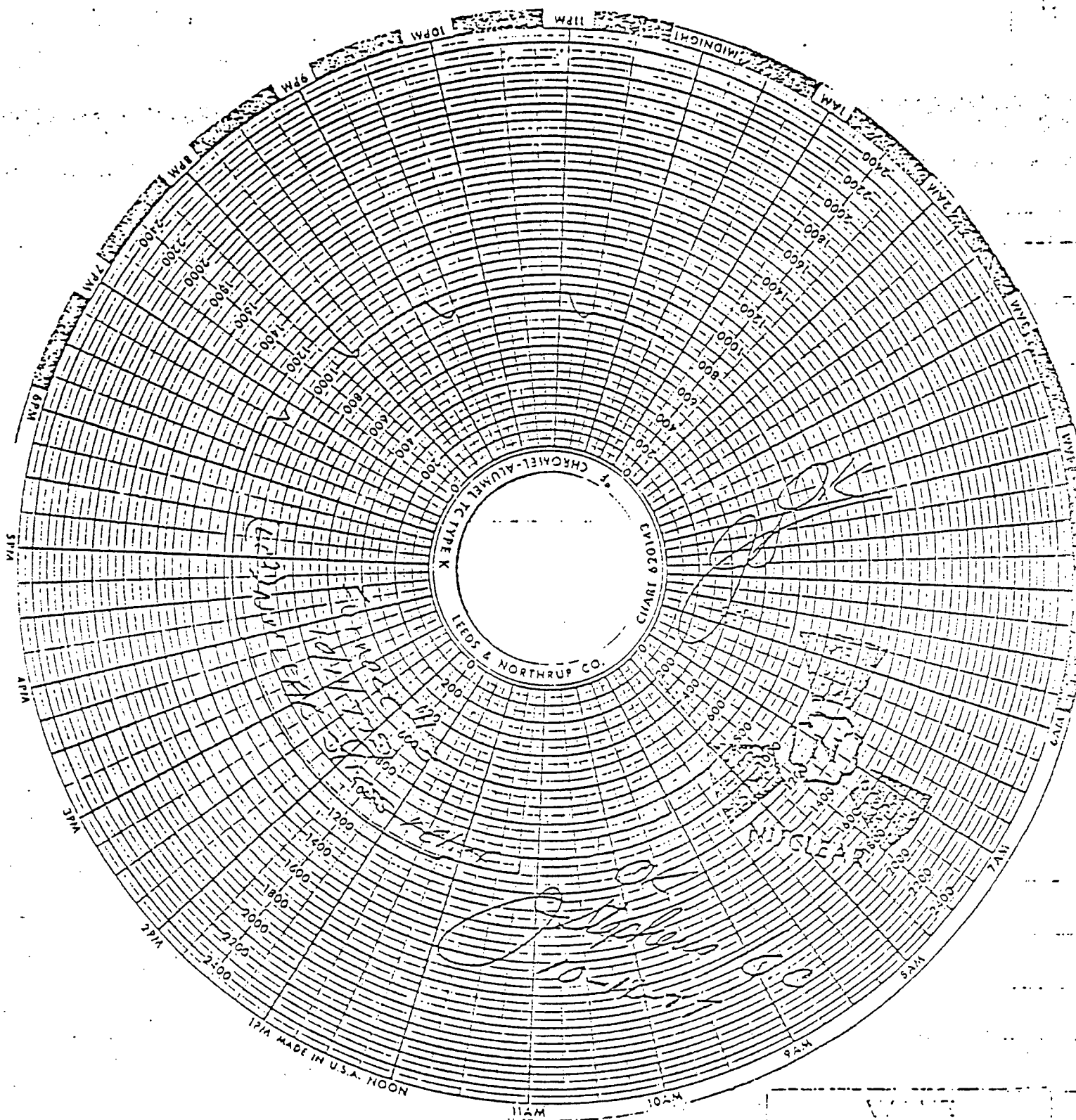
PROCESS: FUNDAMENTAL

STRESS RELIEVING

SERIAL	HEAT NO. & "P" NO. OR SERIAL NO.	DESCRIPTION
41L	G745 PN3724002AA	1680000's Bonnet
42L	G745 PN37239-02A	1680000's Hedges ✓
42L	G745 P1-P2-P3 PN3765313AA	2 1/2 2150 Side Bonnet
42L	G745 P1-P2-P3-P4-P5-P6-P7-P8 OC42275002A	1" Hill McCann Body
42L	G745 P1-P2-P3-P4-P5-P6 OC42275001A	1/2 3/4 Hill McCann Body

D66291





D 66292

5451046

G745

CHROMEL-ALUMEL TC TYPE K

WEDGE

CHROMEL-ALUMEL TC TYPE K

Handwritten signature

11-16-77

D56291

CHROMEL-ALUMEL TC TYPE K

G745

WEDGE

CHROMEL-ALUMEL TC TYPE K

600 800 1000 1200 1400 1600 1800 2000 2200

CHROMEL-ALUMEL TC TYPE K

500 800 1000 1200 1400 1600 1800 2000 2200

VALUE
D66291

WALWORTH COMPANY
GREENSBURG WORKS LABORATORY
Report of Chemical and Physical Tests of Steel

WALWORTH COMPANY—GREENSBURG WORKS LABORATORY

Report of Chemical and Physical Tests of Steel

Date 6-11-77

Date Cast Heat No.	Comp.	CHEMICAL ANALYSIS								Heat Treatment	Tensile Strength 1" St	Yield Point 1" St	% Elong. in 2"	% Red. of Area	DIN	DISPOSITION		NOTED DATE
		C	Mn	P	S	Si	Al	Cr	Mo							WALCO	ASPH	
5-27-77 G71.0	U121	.26	.01	.020	.030	.13				1700-3 1100-3	71100	47100	31.0	52.0	113	A	A	
G71.1	U121	.26	.92	.020	.031	.56				"	82100	52700	30.0	55.5	112	A	A	
G71.2	U121	.23	.70	.022	.027	.11				"	75500	47300	28.5	54.0	113	A	A	
G71.3	U121	.24	.05	.025	.027	.17				"	78050	50600	30.5	57.0	119	A	A	
G71.4	U121	.25	.94	.024	.033	.50				"	81750	41350	20.0	51.5	156	A	A	
G71.5	U121	.22	.05	.022	.025	.13				"	73600	49050	31.0	61.5	113	A	A	SEE CHURPY
G71.6	U121	.22	.76	.023	.028	.51				"	73600	41100	26.0	50.5	113	A	A	
G71.7	U121	.26	.03	.022	.030	.11				"	77750	51250	20.5	52.5	119	A	A	

CLEARANCE PROCEDURE ON FIELD HEATS

page 2472 PJ

Heat No.	G71.5 - Charpy V-Notch @ 10				33.0, 36.0, 32.0
Date					
Hour					
Relat	By	By	By	By	By
Relat	By	By	By	By	By
Relat	By	By	By	By	By



CERTIFICATE OF ANALYSIS AND TESTS

To: Walworth Company
Greensburg Plant
So. Greensburg, Pa. 15601
Attn: Vern Stucheli

DATE 9/26/77

QUOT. ORDER NO.

14583

OUR ORDER NO.

F.O. 69001

DESCRIPTION OF MATERIAL AND SPECIFICATIONS

1. Item 1: Nuts, SA 194, Gr. 6, Hex Nuts

APPROVED

1 1/2" = 8, Traca. Code OX

SIGNATURE

WALWORTH CO. - GREENSBURG, PA.
QUALITY CONTROL DEPARTMENT

2.

3.

PER ASME BOILER AND PRESSURE VESSEL CODE, SECTION III, DIV.1.
CLASS 3.

4.

CHEMICAL ANALYSIS

Manufacturer	Heat Number	Carbon	Mang.	Phos.	Sulfur	Silicon	Other	Condition	Notes
REC CORP. 1 1/2"	18479	.13	.50	.026	.024	.32		11.94	
1		/	/	/	/	/		/	

MECHANICAL PROPERTIES

Test Method	Tensile Strength ksi/ksi	Elongation %	Location of Area %	Hardness	Heat Treat	Tempering Temp.
1				RC 30/32		1100 deg. F.
2						
3						
4						

SPECIAL TESTS

1. This material was visual examined and found to be satisfactory.
2. This material was manganese phosphate coated followed by a solid film
lubricant (graphite) and found to be satisfactory.

WALWORTH COMPANY

We hereby certify that the foregoing data is a true copy of the
data furnished to us by the producing mill or testing laboratory.

VALVE

D 66291

H. E. C. CORPORATION

Helene Piccavuto

H. E. C. CORPORATION

47 CEDAR ST., NEW ROCHELLE, N. Y.



CERTIFICATE OF ANALYSIS AND TESTS

To: Walworth Company
Greensburg, Plant
So. Greensburg, Pa. 15601
Attn: Vern Stuchell

DATE 9/25/77

QUST. ORDER NO.
14582

OUR ORDER NO.
F.O. 69000

DESCRIPTION OF MATERIAL AND SPECIFICATIONS

1. **ST-10**
Item 1:1 1/2" x 9 1/2" part no. 664782
Material SA 564, Gr. 630, H1100
2. Material Solution treated - 1900 degrees F.
Age Hardened to 1100 degrees F. 4 hours air cool.
Finish: Code M

3. This material was liquid penetrant inspected and found to be satisfactory. This material was manganese phosphate coated followed by a solid film lubricant (All graphite) and found to be satisfactory.

4. PER ASME B & PV CODE, SECTION III, DIV. I

Joanne Roscher 10-8-77
SIGNATURE DATE

CHEMICAL ANALYSIS

INDEPENDENT CO. - GREENSBURG, PA.
QUALITY CONTROL DEPARTMENT

Manufacturer	Heat Number	Carbon	Manganese	Phosphorus	Sulfur	Silicon	Nickel	Chromium	Molybdenum	Copper	Lead	Antimony
R.E.C. 1 1/2"	676268	.037	.48	.020	.019	.62	4.19	16.18	.10			
		CU. 3.20; CR. .25; TR. .01										

MECHANICAL PROPERTIES

Tensile Ult./Sq. In.	Tensile Strength Ult./Sq. In.	Elongation % in 2"	Reduction of Area %	Hardness	Temp.
153,900	161,400	17.5	62.9	RC 37	

Charpy Impact Test

- SPECIAL TESTS

Test Temp - Room Ambient

Specimen	#1	#2	#3	Average	Req.
ft-lbs.	59	58	58	58	25 min. average
Specimens conforms to the requirements noted.					

~~XXXXXXXXXXXXXXXXXXXX~~

We hereby certify that the foregoing data is a true copy of the data furnished as by the processing mill or testing laboratory.

VALVE	R. E. C. CORPORATION
D66291	<i>Helen Ricevuto</i>
	Helen Ricevuto

R. E. C. CORPORATION

47 CEDAR ST., NEW ROCKFELL, N. Y.

WALWORTH COMPANY
GEORGETOWN PLANT

QC Form 114
Rev. 6

MOTOR OPERATED VALVE TEST REPORT

Date 11/23/77

Customer DRAVO CORPORATION Valve Description 16" 600# OS&Y BR GATE
Walworth Order PN 37239 02AA Body Heat 261G Tag No. 47W/401-14

OPERATOR (NAMEPLATE DATA)

Mfg. LIMITORQUE Type SB Size 4
Mfg. Order No. 3A 1783 A Serial No. 264375
Torque Switches: Total Amount 2 Open (Amount) 1 Close (Amount) 1
Limit Switches: Type RoTOR Amount 4
Wiring Diagram No. 15-476-2505-3

MOTOR (NAMEPLATE DATA)

UC

Mfg. RELIANCE Serial No. 1MA477806-G3
Torque 300/160 Ft. lbs. Amps 91.2/48.1 Volts 230/460 AC ☒ DC ☐
HP 39.4 RPM 3450 Duty 15 MIN Insulation B
Frame 326TY Phase 3 Cycles 60

OPERATIONAL REPORT

Switch Operation: Closed OK (Torque) Open OK (Limit)
Req'd Time to Open or Close 6.2 Min. 6.2 Sec.
Actual Time to Open 6.6 Min. 6.6 Sec. Actual Time to Close 6.8 Min. 6.8 Sec.
Voltage used for Test (check one) ☒ AC ☐ 220/240 ☒ 440/460 ☐ DC ☐
Starting Current 200 Amps; Running Current 78 Amps.
Required valve travel 11.3/2 inches/percent Actual Valve Travel 11.3/2 inches/percent

* Complete the following only when procedure 1-GT is specified.

Pressure differential used for test psig. Operator weight VALVE

* (Complete one form for full and one for reduced voltage)

DS5291

APPROVAL 11/23/77 SERIAL NO. 68811
Walworth Co. Inc. Date Customer or Representative Date

Unit Set and Checked by: George W. Pike (Electrician)

Remarks: 1

Watts Bar Nuclear Plant Feedwater Isolation Valve

Data Package: P3

Valve Serial No.: D66292

- 

(1)	5232 WE	D66292	N/A	A-12819-M-1	2	1644	1977
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

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

- 0

(a) Contingency

- * 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.

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

Commissions NP8254 6-22-20
(Nat'l Bd., State, Prov. and No.)



Wahworth

DATE 11-21-77

CERTIFICATE OF COMPLIANCE

MANUFACTURED FOR: Drava Corporation
Tennessee Valley Authority
Watts Bar Nuclear Plant Unit #1
Spring City, Tenn. 37381

WALWORTH ORDER: PN37239-02A YOUR ORDER: E2897-WN2

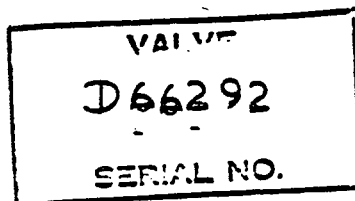
VALVE DESCRIPTION: 16" 600# WE Gate Valve

BM: 5-5232-57-160-00N

TAG: 47N401-14 SERIAL NO: D66292

<u>PART</u>	<u>HEAT NUMBER</u>	<u>MATERIAL</u>
Body	<u>374B P1</u>	<u>ASME SA-352, LCB</u>
Bonnet/Cover	<u>G780</u>	<u>ASME SA-352, LCB</u>
Wedge/Disc	<u>G492</u>	<u>ASME SA-352, LCB</u>
Studd (Code RW)	<u>16762168</u>	<u>ASME SA-564, Gr. 630</u>
Nut (Code OX)	<u>L8470</u>	<u>ASME SA-194, Gr. 6</u>

We certify the parts listed above conform fully to the specifications as indicated. Chemical and mechanical properties are attached.



For J. N. Benson
Manager, Quality Assurance

WALWORTH CO., INC.—GREENSBURG WORKS LABORATORY

Report of Chemical and Physical Tests of Steel.

...Date 5-4-77

CHEMICAL ANALYSIS

CHEMICAL ANALYSIS																		
Date Cast Heat No.	Comp.	C	Mn	P	S	Si	Ni	Cr	Mo	Heat Treatment	Tensile Strength Psi	Yield Point Psi	% Elong. in 2"	% Red. of Area	Blow	Hardness		NOTED DATA
																WALCO	ASTM	
4-20-77 G488	M421	.24	1.00	.019	.030	.51				1700-3 1180-3	75150	48100	31.0	59.0	143	A	A	
G489	M421	.30	.81	.022	.034	.46				"	74050	46300	30.0	55.5	143	A	A	
G490	M421	.26	.82	.019	.035	.55				"	72150	46900	30.5	58.5	137	A	A	
G491	M421	.24	.80	.020	.032	.41				"	71850	46200	30.5	56.0	137	A	A	
✓ G492	M421 M421	.23	.75	.020	.029	.48				"	72100	45550	31.0	62.0	143	A	A	
G493	M421	.22	.75	.021	.033	.38				"	72150	45900	30.0	55.5	131	A	A	
G494	M421	.23	.78	.019	.031	.43				"	72100	45200	29.5	52.0	137	A	A	
G495	M421	.24	.79	.020	.032	.42				"	73600	46100	29.5	55.5	143	A	A	
G496	M421	.23	.83	.018	.032	.48				"	73500	48200	30.5	60.0	137	A	A	

VALVE
 D 66292
 SERIAL NO.

VALVE

D 66292

SERIAL NO

CLEARANCE PROCEDURE ON HELD HEATS page 2433, b2

Heat No.					
Date					
Hour					
Refuel	By	By	By	By	By
Retreat	By	By	By	By	By
Retreatment					

CERTIFICATION OF IMPACT TESTING DATA

WMT & R Report No.6197.....

Customer: Walworth Company

Date: 5-2-77

Machine is certified to Watertown Specifications.

P.O. No. 15435

TESTING DATA

[illegible]

18TH A-370.

All testing done at Westmoreland Mechanical Testing & Research, Incorporated.

Certified by:

Donald J. Rossi, President

Accepted
JFM 5/1/17

Watts Bar Nuclear Plant Feedwater Isolation Valve

Data Package: P4

Valve Serial No.: D66293

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 Co., Greensburg Division, Greensburg, Pa. 15601
(Name and Address of Manufacturer)
2. Manufactured for Tennessee Valley Authority
(Name and Address of Purchaser or Owner)
3. Location of Installation Watts Bar Nuclear Plant - Unit 1, Spring City, Tenn.
(Name and Address)
4. Pump or Valve Valve Nominal Inlet Size 16" Outlet Size 16"
(Inch)

	(a) Model No. Series No. or Type	(b) Manufacturer's Serial No.	(c) Canadian Registration No.	(d) Drawing No.	(e) Class	(f) Mat'l. Std. No.	(g) Year Built
(1)	5232 WE	D66293	N/A	A-12819-M-1	2	1645	1977
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)							

5. Feedwater

(Brief description of service for which equipment was designed)

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

7. Cold Working Pressure 1440 psi at 100°F. ?

8. Pressure Retaining Parts

Mark No.	Material Spec. No.	Manufacturer	Remarks
(a) Castings			
Body 268G	SA-352, LCB	Valve Castings	Seal Welded Seat
Bonnet G699	SA-352, LCB	Walworth Co.	CoCrA Backseat
Wedge G727	SA-352, LCB	Walworth Co.	CoCrA Faced
(b) Forgings			

(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.

(1/78)

This form (800037) may be obtained from the Order Dept., ASME, 348 E. 47 St., New York, N.Y. 10017

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.

Address: None, Code Case No. None Date 11/27/77

Signed Walworth Co. by [Signature]
(Manufacturer)

Our ASME Certificate of Authorization No. 950 to use the N symbol expires 1/6/78
(Date)

Design information on file at <u>Walworth Co., Greensburg, Pa. 15601</u>	
Stress analysis report (Class 1 only) on file at <u>N/A</u>	
Design specifications certified by (1) <u>M. N. Brenner</u>	VAL <u>✓</u>
PE State <u>Tenn.</u> Reg. No. <u>9411</u>	<u>D 66293</u>
Stress analysis certified by (1) <u>N/A</u>	<u>7-4.</u>
PE State _____ Reg. No. _____	
(1) Signature not required. List name only.	
SERIAL NO.	

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 Co. of Hartford, Conn. 06102 have inspected the pump, or valve, described in this Data Report on 11-27 19 77 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 11-27 19 77
J. A. [Signature]
(Inspector)

Commissions HB 8154 [Signature]
(Nat'l Bd., State, Prov. and No.)



Walworth

DATE 11-21-77

CERTIFICATE OF COMPLIANCE

MANUFACTURED FOR: Dravo Corporation
Tennessee Valley Authority
Watts Bar Nuclear Plant
Unit #1
Spring City, Tenn. 37381

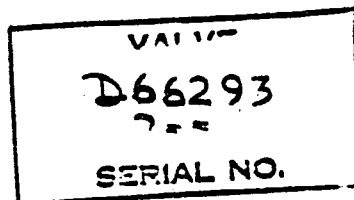
WALWORTH ORDER: PN37239-02A YOUR ORDER: E2097-WN2

VALVE DESCRIPTION: 16" 600# WE Gate Valve
BM: 5-5232-57-160-00N

TAG: 47W401-14 SERIAL NO: D66293

<u>PART</u>	<u>HEAT NUMBER</u>	<u>MATERIAL</u>
Body	<u>268 G</u>	<u>ASME SA-352, LCB</u>
Bonnet/Cover	<u>G699</u>	<u>ASME SA-352, LCB</u>
Wedge/Disc	<u>G727</u>	<u>ASME SA-352, LCB</u>
Stud (Code NL)	<u>676268</u>	<u>ASME SA-516, Gcs. 630</u>
Nut (Code OX)	<u>L8470</u>	<u>ASME SA-194, Gcs. 6</u>

We certify the parts listed above conform fully to the specifications as indicated. Chemical and mechanical properties are attached.



for J. N. Benson
Manager, Quality Assurance

WALWORTH COMPANY—GREENSBURG WORKS LABORATORY

Report of Chemical and Physical Tests of Steel.

Date 6-8-77

CHEMICAL ANALYSIS

CHEMICAL ANALYSIS																		
Date Cast Heat No.	Comp.	C	Mn	P	S	Si	Ni	Cr	Mo	Heat Treatment	Tensile Strength PSI	Yield Point PSI	% Elong. in 2"	% Red. of Area	BHN	DEPOSITION		NOTED DATE
																WALCO	ASTM	
5-25-77 G722	W421	.24	1.00	.022	.028	.52				1700-J 1180-J	80350	51950	27.0	50.5	156	A	A	
G723	W421	.25	.84	.022	.027	.53				"	76000	50550	30.5	56.5	143	A	A	
G724	W421	.25	.94	.022	.029	.59				"	83050	54500	30.0	60.0	156	A	A	
G725	W421	.22	.82	.022	.031	.50				"	78200	51150	31.5	60.0	143	A	A	
G726	W23B W421L	.16	.76	.022	.030	.55		1.31	.52	1025-J 1300-J	87850	55800	22.0	51.0	172	A	A	SEE PG. 2476
✓G727	W421	.21	.79	.022	.028	.55				1700-J 1180-J	74450	48000	31.5	58.5	143	A	A	SEE PAGE 2471 SEE CHIRPY
G728	W421	.26	.79	.023	.030	.43				"	78650	51700	27.5	46.5	142	A	A	
G729	W421	.25	.86	.020	.031	.54				"	76750	52550	29.5	55.0	149	A	A	
G730	W421	.24	.86	.020	.033	.56				"	82150	54500	28.5	58.0	156	A	A	
																	</	

DATE: 6-22-93
SERIAL NO. 72

CLEARANCE PROCEDURE ON FIELD HEATS

~~page 2462, b.1~~

P. Hume

Heat No.					
Date					
Hour					
Retest	By	By	By	By	By
Retreat	By	By	By	By	By
Retreatment					

CERTIFICATION OF IMPACT TESTING DATA

WMT & R Report No. 6376....

Customer: Walworth Company

Date: 6-7-77

Machine is certified to Watertown Specifications.

P.O. No. 17952

TESTING DATA

[illegible]

ASTM A370.

All testing done at Westmoreland Mechanical Testing & Research, Incorporated.

Certified by:

Donald J. Rossi, President

Watts Bar Nuclear Plant Feedwater Isolation Valve

Data Package: P5

Valve Serial No.: D66423