

FOX HILL ISLAND UNIT 2

VAID

FOR / FOR / FOR VERIFICATION

FOR / FOR / FOR SERIAL NO. FK-188  
DESCRIPTION       
SERIAL 10-27-2 (B-2-R-2)  
Q.C. SCORE      YES      NO       
ACTION VERIFIED See input up to m-8934  
REMARKS

SEND TO MECH.

5/6/77 2/1/77

*[Signature]* DATE

Def. Exh. For In 451  
Plf. Exh. in       
Catherin CC  
Inc. 2119/82

15/1 14522

FOR NO.	188
REC'D	1/28/77
STATE	CONSTRUCTION
RESPONSIBLE DEPT.	INSTR.
DISTRIBUTION:	
CIVIL DEPT.	N.A.
ELECT. DEPT.	N.A.
INSTRUM. DEPT.	FCR + 1 ATT. DWG.
MECH. DEPT.	N.A.
PIPING DEPT.	N.A.
P&E DEPT.	FCR
COST DEPT.	FCR
Q.C. DEPT.	FCR
S. FOCKETT, SR.	FCR
P. FLASCH	FCR

134 14523



Burns and Roe, Inc.

100 East 42nd Street, New York, N.Y. 10017  
Telephone: (212) 512-5500 - N.Y. (212) 512-5501  
Telex: 154111 Burns Roe PARADISE N.Y.

Subject: W.O. 2555-02  
Jersey Central Power and Light Company  
Three Mile Island Nuclear Station Unit No. 2  
Transmittal of Field Change Request (FCR)  
and Associated Documents

Main Office  
100 East 42nd Street, Room 2000  
New York, N.Y. 10017  
(212) 512-5500

JD2477 E.H.M.

Mr. G. T. Cavis, Project Supt.  
United Engineers and Constructors  
P.O. Box 480  
Middletown, Pa. 17057

RECEIVED  
U.E.C. INC.

January 19, 1977

Serial No. 2925-JIT

Dear Mr. Cavis:

JAN 24 1977

Enclosed:

ENGINEERING  
DEPARTMENT

P.C.R. # - 188  
P.C. # - 122  
SERIAL # - 2925

☐ Specification Amend(s)  
Vellum \_\_\_\_\_ copy each:  
Spec. No. Amend No.

☒ FCR(s)/DCD(s)/DCR(s)  
copy(copies) each:  
FCR No. DCD No. DCR No.  
188 B&W FC 122

☒ Drawing(s)  
X Rep(s) X Print(s) each: ☐ Other (Identify)

Dwg. No. Rev. Dwg. No. Rev.  
B&W Dwg. 2841 00101

Status/Action: (Per B&R Test Rep. on \_\_\_\_\_)

Construction - Proceed to incorporate

☒ Test - Incorporation must be sched. by GPU Test Supt.

Very truly yours,

*John P. Cady, Jr.*  
John P. Cady, Jr.  
Project Manager

JPC/JGR/lf  
cc: R.W. Howard, Jr., GPU, w/TCR  
W.T. Gunn, GPU Site, w/TCR  
J.J. Barton, GPU Site, w/FCR & Dvgs.  
J. \_\_\_\_\_ w/FCR (2)  
J.

1577 4524

Field Change Request

FCR No. 188

System(s)/Equipment affected ELECTROMATIC RELIEF VALVE

\*1. ORIGIN: GPU-FM (Ltr. No.) \_\_\_\_\_ B&R (FC No.) \_\_\_\_\_  
 GPU (No.) \_\_\_\_\_ B&R (ECN No.) \_\_\_\_\_  
 UELC (ECN No.) \_\_\_\_\_ B&R (FCI No.) \_\_\_\_\_  
 B&W (FC No.) 122 Vendor \_\_\_\_\_

\*2. ORIGINATOR: L. R. PLOTKE (Name) Date Nov 22, 1976

\*3. DESCRIPTION OF CHANGE: MODIFY LEVER & BRACKET  
BY INSTALLING NEW BUSHING TYPE BEARINGS.  
K&B&C

JAN 24, 1977

INCHES  
 DEPARTMENTS

\*4. JUSTIFICATION OF CHANGE: IMPROVEMENT - TO ENSURE  
FREEDOM OF MOTION -

\*5. TECHNICAL MANUAL CHANGES REQUIRED: No

\*6. SPECIFICATION CHANGES REQUIRED: No

\*7. FEAR CHANGES REQUIRED No

FCR # 188  
 P.C. # 122  
 SERIAL # 2925

\*8. RESPONSIBILITY FOR PERFORMANCE OF CHANGE:

☐ UELC

☐ Vendor

(Name)

\*9. RETEST REQUIREMENTS:

\*10. DETAILED COST ESTIMATE 30 (included at B&W expense)

\*11. APPROVAL:

☐ APPROVED BY [Signature] DATE 1/11/77

Proj. Mgr./Director

☒ CONCUR

(Client)

DATE 1/15/77

\*12. STATUS: Construction ☐ Test ☒

(For \_\_\_\_\_ Date 1-1-77)

157 14525



Babcock & Wilcox

FIELD CHARGE PACKAGE SUBMITTAL FORM

WBS-6

Power Generation Group

P.O. Box 1260 Lynchburg, Va 24505  
Telephone (804) 384-5111

Babcock & Wilcox, Inc.  
100 Wilshire Avenue  
Paramus, New Jersey 07649  
Attn: R. J. Deane, Proj. Mgr.

Date: Nov 22, 1976  
B&W Contract No. 855-4  
Customer: J.C.P&L  
Customer Order No. 5-0003  
Sheet 1 of 1

RECEIVED  
U.E.B.C. INC.

JAN 24 1977

ENGINEERING  
DEPARTMENT

☒ J&R/3M Interface Changed  
For Comments & Approval by \_\_\_\_\_  
☐ For Information Only  
☐ Has been revised as per your  
previous comments of \_\_\_\_\_

Field Charge  
No.

FC-122

Component:

ELECTROMATIC  
RELIEF VALVE

Description:

MODIFY VALVE BY CHANGING  
BUSHINGS.

L.R. Pletche

P.C. # - 188  
P.C. # - 122  
SERIAL # - 2725

W. B. V. Service Corp., Paramus, N.Y. 10765

157 14526

FIELD CHANGE AUTHORIZATION

74-2257-00

HARCOCK &amp; FILCOE

JANUARY CONT.

CONTRACT NO. 440-7706

FOR NO. 122

REV. NO. 0

PROJECT NO.

P. O. NO. 00000000

TASK NO. 25

GROUP NO. 011 SEP NO. 0000

APPROVED BY J. L. Wilsher

DATE:

☐ EXPEDITE  
☒ NORMAL

FIELD CHANGE IS SPARES: Electromatic Relief Valve Mod.

DESCRIPTION OF FIELD CHANGE:

Modify Electromatic Relief Valve, BW mark no. RC-RV2 per the attached procedure 03 6913 00.

Description: Two bushings are added to lever and one to solenoid bracket. This will ensure freedom of motion of lever pin using corrosion resistant bushings.

REASON FOR CHANGE:

☒ SITE PROBLEM☐ DESIGN ERROR☐ CUSTOMER REQUEST☐ IMPROVEMENT☒ OTHER (SPECIFY)

Vendor requirement - Equipment Improv

SPR. NO. 00 LETTER 48/127 SPR-10

TASKS AFFECTED

TASK NO.	TASK ENGINEER	TASK NO.	TASK ENGINEER
2A	J. L. Wilsher		

RECEIVED  
H&C INC

JAN 24 1977

ENGINEERING  
DEPARTMENT

P.C.R.F. 188  
P.C.F. 122  
SERIAL # 2925

130

1511 14527

[illegible]

13F1 14528

# ENGINEERING INSTRUCTIONS

AS-64

PAGE 1 OF 7 PAGES

ENGINEERING INSTRUCTION NUMBER-30 ELECTROMATIC RELAY  
VALVE LEVER MODIFICATION

1. This engineering instruction is issued for the purpose of providing design, assembly and field modification instructions for the pilot valve lever pin.
2. The following parts are to be modified:
  - a. Lever
  - b. Bracket
3. The following parts are new:
  - a. Bushing type bearings for lever (2 parts).
  - b. Bushing type bearing for bracket (1 part).
4. Page 2, Table 1, provides information regarding the bushing type bearings.
5. Page 3, Figure 1, provides information regarding the modification of the lever.
6. Page 4, Figure 2, provides information regarding the modification of the bracket.
7. Page 5, Figure 3, provides information regarding the installation and removal tools.
8. Page 6 and 7, Provides typical view showing how to install the bushing with a vise.
9. Page 8, provides a final assembly view and clearance checks.

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JAN 24 1977

ENGINEERING  
DEPARTMENT

BABCOCK & WILCOX  
DOCUMENT NUMBER

03 6918 00

P.C.R. # - 188  
P.C. # - 122  
SERIAL # - 2925

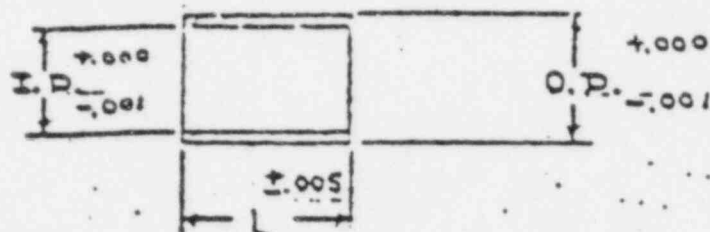
154/14529



INSTRUMENTS AND EQUIPMENT  
SECTION

AS-61

PAGE 2 OF 2 PAGES



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W.E.C.M.C.

JAN 24 1977

ENGINEERING  
DEPARTMENT

P.C.R. - 188  
P.C. - 132  
SERIAL - 2925

Boston Gear Catalog No.	Quantity	O.D.	I.D.	L
B4-1	2	.502	.377	3/8
B4-6	1	.502	.377	1

#### Notes:

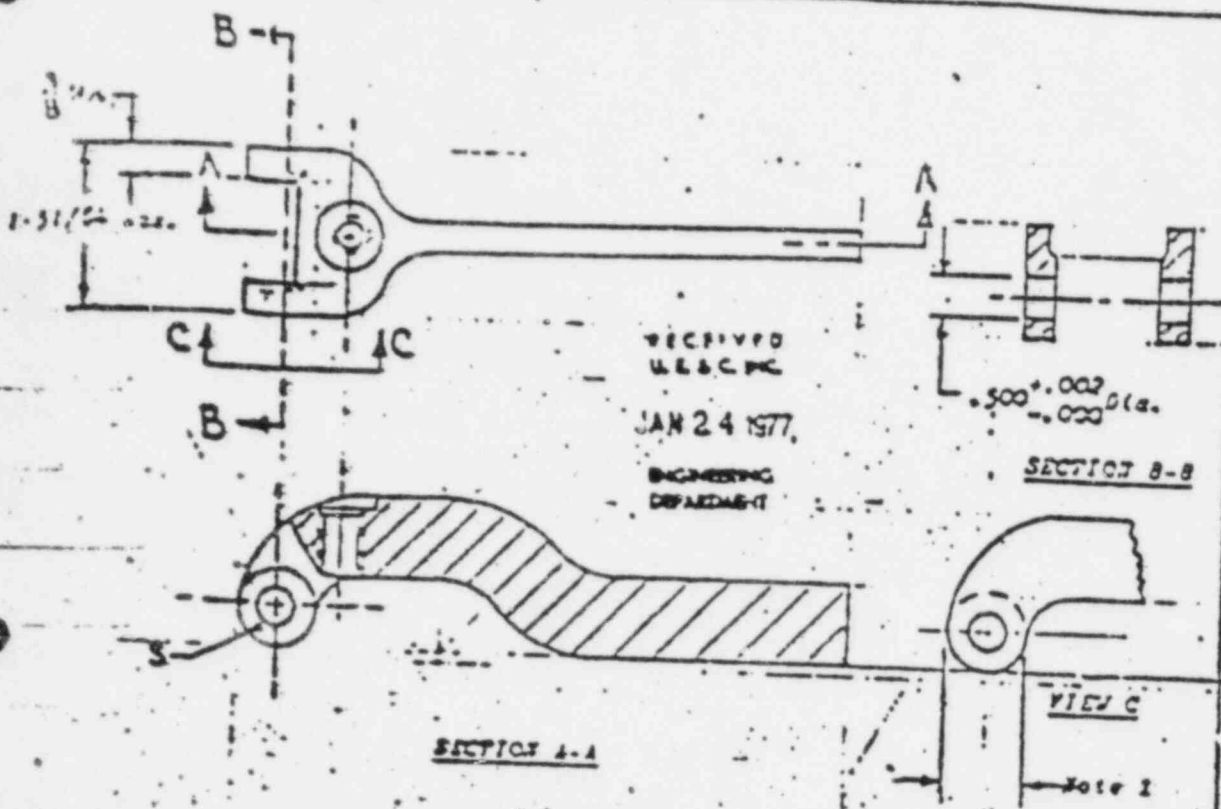
1. Best-bronze bushings, oil-impregnated, tin bronze material, 89% copper, 10% tin, 1.75 max graphite and .05 max other elements.
2. Bushings are impregnated with mineral oil. Good to 250°F Service.
3. Other bronzes may be used which conform to ASTM B433 Grade 1. Avoid leaded bronze, which has lower permissible service temperature.
4. Manufacturer: Boston Gear  
Quincy, Mass.

157 / 4530

1. This drawing is to be used for the purpose of the project.

AS-64

PAGE 3 OF 8 PAGES



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U.S. & C. INC.

JAN 24 1977

ENGINEERING  
DEPARTMENT

SECTION B-B

SECTION A-A

VIEW C

Note 2

NOTES

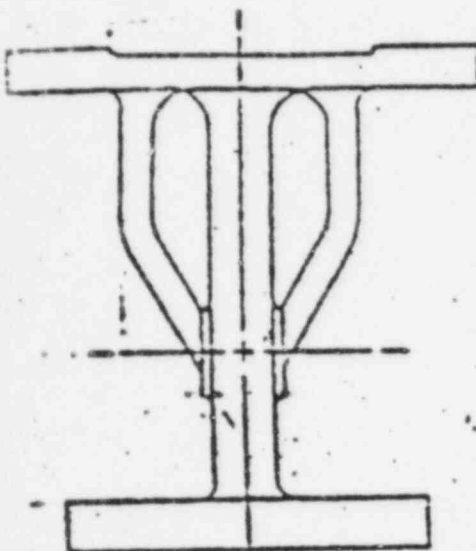
1. Measure the width of lever. If greater than 1-51/64, the spotfacing is required. Spotface when required around each lever pin hole as shown in view C providing the 1-51/64 width dimension.
2. Enlarge lever pin holes per section B-B. Centerline of holes to be perpendicular to surfaces 3.

P.C.R.A. - 188  
P.C.P. - 122  
SERIAL # - 2925

157 14531

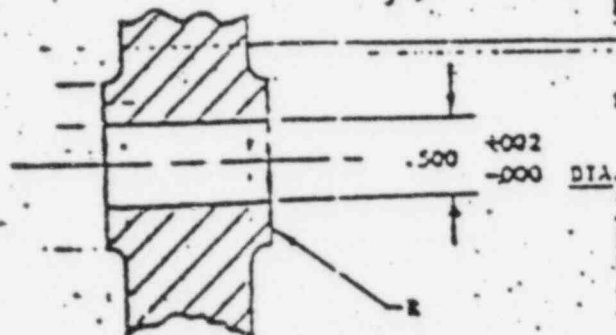
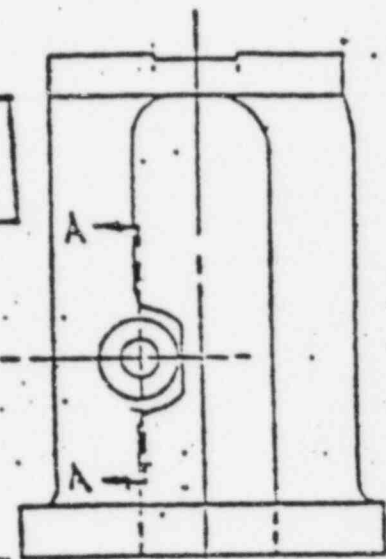
AS-24

PAGE 4 OF 7 PAGES



P.C.R. - 188  
P.C.P. - 122  
SERIAL - 2925

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U.S. AIR FORCE  
JAN 24 1977  
ENGINEERING  
DEPARTMENT



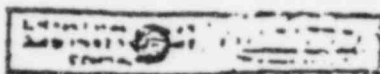
Notes

1. Enlarge hole as shown. centerline of hole to be perpendicular to surface R.

1011 4532

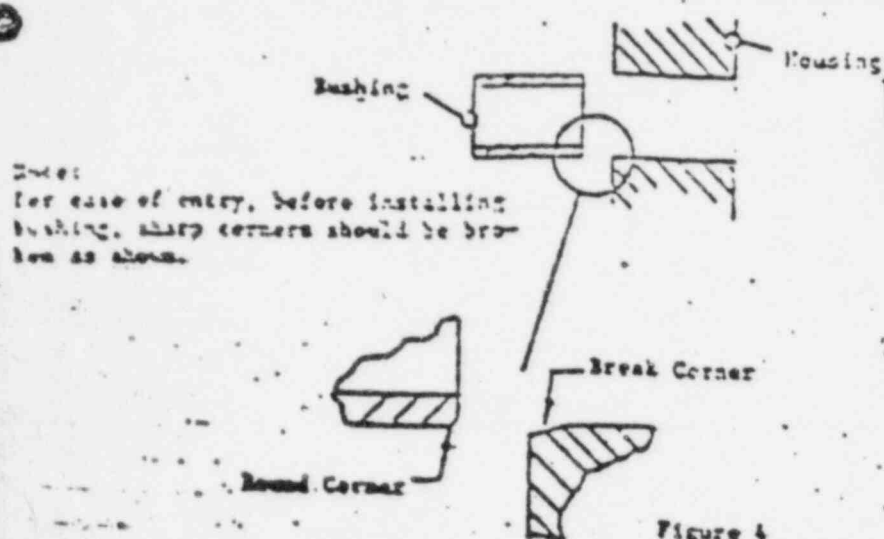






AS-64

PAGE 6 OF 9 PAGES



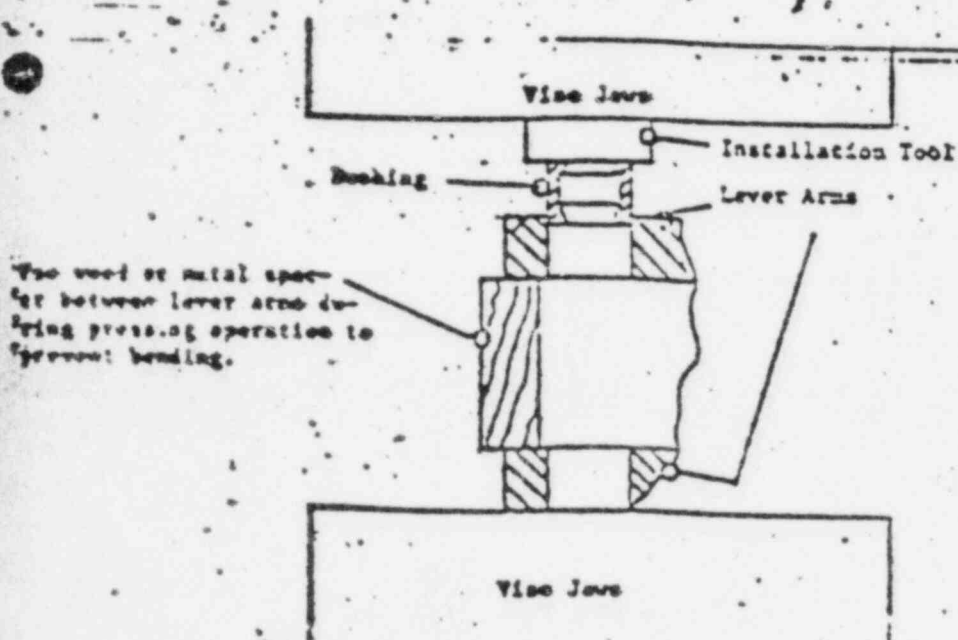
P.C.R. # - 198  
P.C. # - 122  
SERIAL # - 2925

RECEIVED  
U.S. & C. INC.

JAN 24 1977

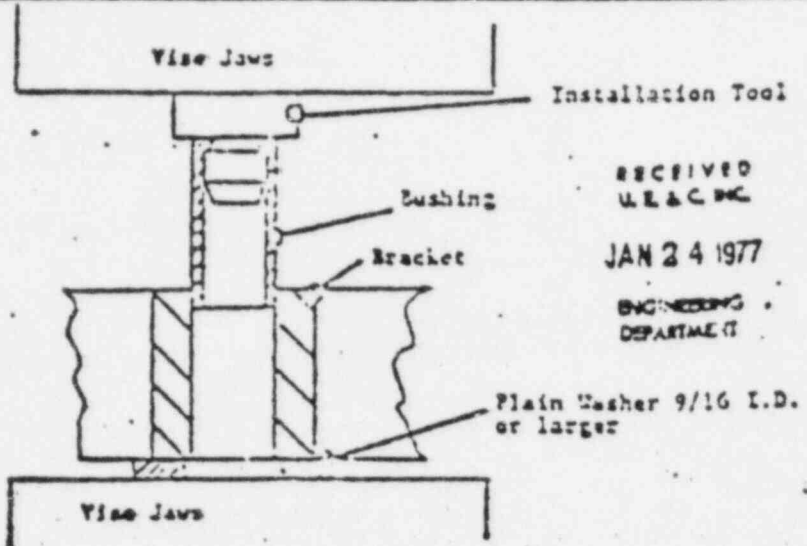
ENGINEERING  
DEPARTMENT

Figure 4

Arrangement in Vise Jaws for Pressing Bushing  
Into Lever

1517 4534

PCRA-188  
PCP-122  
SERIAL-2925

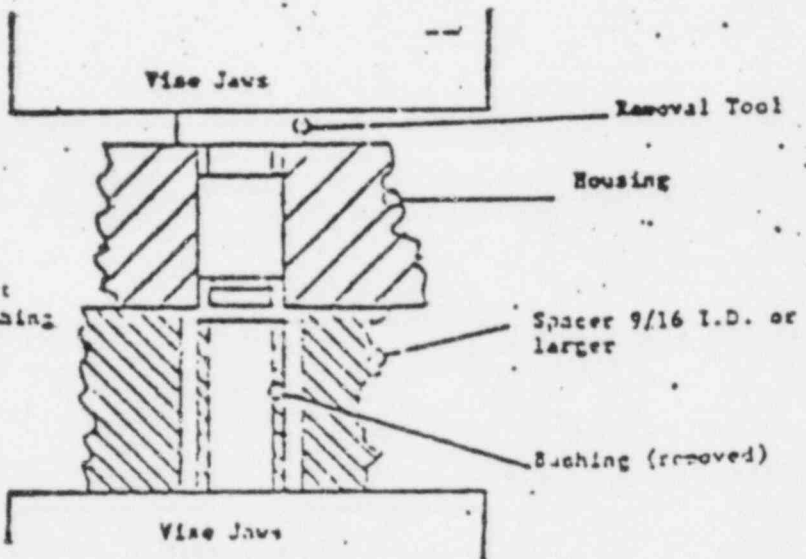


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U.S. & C. INC.  
JAN 24 1977  
ENGINEERING  
DEPARTMENT

Arrangement in Vise Jaws for Pressing Bushing into Bracket

Figure 6

Typical Arrangement  
for Removal of Bushing



1371-14535

INSTRUCTIONS

AS-64

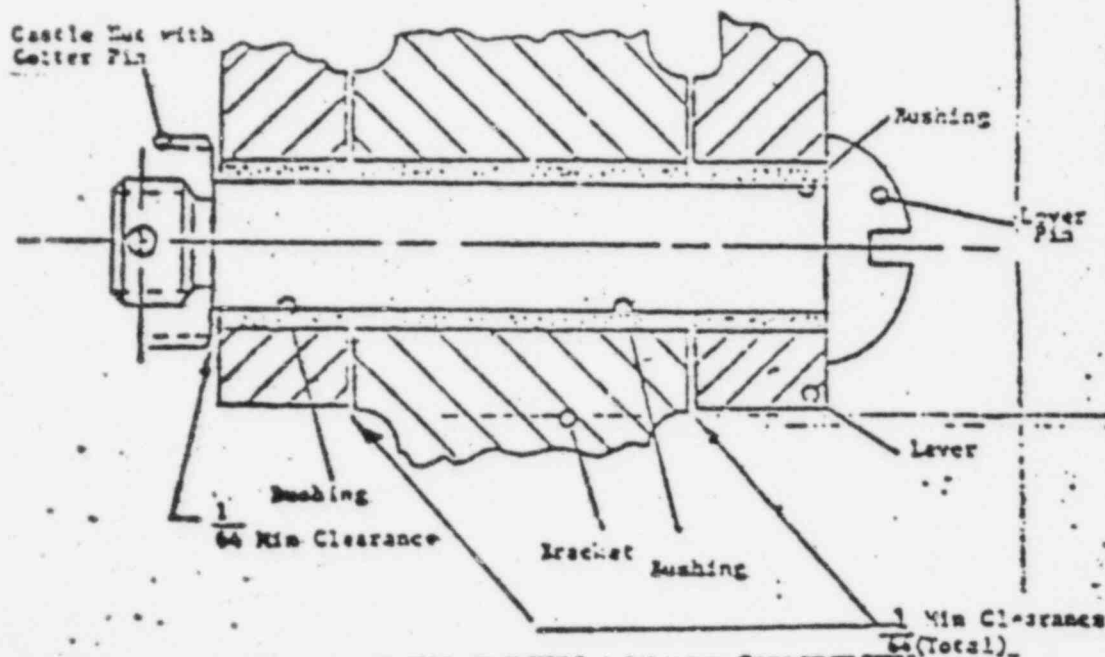
PAGE 9 OF 2 PAGES

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U.S. & C. INC.

JAN 24 1977

ENGINEERING  
DEPARTMENT

P.C.R. - 188  
P.C.F. - 122  
SERIAL # - 2925



Lever Pin Assembly - Verify Clearance for  
Rotation of Lever

Full

Figure 8

137 14536

INSTRUMENTS AND EQUIPMENT  
 RECEIVED

AS-64

REMARKS AND INSTRUCTIONS ARE LISTED IN DETAIL IN SYNOPSIS OF DATA

QTY. NO.	DESCRIPTION	APPROVALS	
		ENG.	O.A.
0	Released.	TBL 12/1/76	<i>[Signature]</i> 10-13-52

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 U.S. AIR FORCE  
 JAN 24 1977  
 ENGINEERING  
 DEPT. OF DEFENSE

P.C.R. # - 188  
 P.C. # - 123  
 SERIAL # - 2935

1 4 5 3 7



Page 1 of 2 848

Unit No. 1

Change/Modification Request Form  
TVA Nuclear Station

Note: This form is used by the Supervisor of Maintenance when a Work Request submitted to him represents a change or modification to an existing system or component. Change/Modification Request procedure (A.P. 1016, Sect. 7.2) should be used in completing this form.

1. System REACTOR COOLANT 2. Component INDICATOR VALVE (IC-2V2)

2. Describe Change/Modification requested:  
Add two corrosion resistant bushings to lower end and one to shield bracket in accordance with BUN FEA-83

3. Reason for Change/Modification:  
To improve freedom of motion of lower pin by installing corrosion resistant bushings. Corrosion of steel bushings has caused failure to operate at other plants.

4. Supervisor of Maintenance: [Signature] Date 1-10-77

5. Captain Engineer assigned: E.O. BARRY

7. Does the work constitute a change to a system or component as described in the FSAR? Yes ☒ No ☐

8. If 7 above is "yes", does the change constitute an Unreviewed Safety Question? Yes ☐ No ☒

9. If 8 is "yes", the work must receive RRC approval prior to performance. If 8 is "no", prepare and attach a detailed safety evaluation - page 2 of this form.

Lead Engineer: [Signature] Date 1-7-77

10. PORC has reviewed change/modification and agrees that it does not constitute a change to the FSAR or an Unreviewed Safety Question.

Chairman of PORC: \_\_\_\_\_ Date \_\_\_\_\_

11. Station Superintendent/Unit Supervisor has taken the following action: (check every one)

(a) Reviewed the change/modification and it does not constitute a change to a system or component described in the FSAR.

(b) The change/modification is a change to a component or system described in the FSAR but the change does not constitute an Unreviewed Safety Question. A written safety evaluation has been prepared and forwarded to the Manager, Generation Engineering for concurrence and documentation.

NOTE: (a) and (b) must receive Shop, Generation Engineering and Shop OGA approval.

Station Superintendent/Unit Supervisor: [Signature] Date 1-12-77

Post Change/Modification Review and Follow-Up

12. Supervisor of Maintenance - All action on Work Request which performed this change/modification is complete.

Signature: [Signature] Date 5-21-77

13. Lead Engineer - Necessary follow-up action has been taken:

(a) Revised Drawings Submitted (list affected drawings) BUN 23-41-605-C1

(b) FSAR Changes Submitted (list affected sections) N/A

(c) Procedure Changes Submitted (list affected procedures) N/A

(d) Preventive Maintenance Revised N/A

(e) Necessary Spare Parts Ordered N/A

14. Station Superintendent/Unit Supervisor: [Signature] Date 5-2-77

\* PORC reviews as requested only when requested by the Station Superintendent

000002"

1 4 5 3 8

Change/Modification Request Form  
TMI Nuclear Station  
Safety Evaluation

Page 2 of 2

Unit No. 1

Work Request No. 15443

1. System: Reactor Coolant

2. Component: Electromagnetic Relief Valve QC-QV2

3. Description of Change/Modification:

Add 2 corrosion resistant bushings to lever and 1 to external bracket in accordance with B1W FCA #123.

4. Reason for Change/Modification:

To improve freedom of motion of lever pin by installing corrosion resistant bushings. Rusting of these bushings has caused failure to operate at other plants.

5. Nuclear Safety Evaluation:

Does the Change/Modification:

- (a) increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety? YES ☐ NO ☒
- (b) create the possibility for an accident or malfunction of a different type than any evaluated previously in the safety and analysis report? YES ☐ NO ☒
- (c) reduce the margin of safety as defined in the basis for any technical specification? YES ☐ NO ☒

Details of Evaluation: If space only answers to above questions are "no", attach pages if required.

This change will not affect the setpoint, capacity, operation, or other design features of this valve as described in FSAR Sections 4.1.24 and 4.2.9.2. This change is an improvement which should result in better valve reliability, therefore the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR Section 4.2.9.2 is not increased. Further, the electromagnetic relief valve is not required to operate to protect the reactor coolant system against overpressurization as described in FSAR Section 4.2.7 during accident conditions. The electromagnetic relief valve is not mentioned in Tech Spec 8.1.1.3 or its basis, therefore the margin of safety described therein is not reduced.

NOTE: If "no" answers are given, the change must be approved by the NRC.

Examination prepared by: W. J. Bailey Date: 1-7-77  
Reviewed by: W. J. Bailey Date: 1-7-77  
Approved by: J. J. Colby Date: 1-13-77

000003

1 1 4 5 3 9

FIELD CHANGE PACKAGE SUBMITTAL FORM

BSS-3

Babcock & Wilcox

Power Generation Group

P.O. Box 1260, Lynchburg, Va. 24508  
Telephone: (804) 364 5111

TO R. M. Klingaman  
Manager, Generation Engineering  
Metropolitan Edison Company  
P. O. Box 542  
Reading, Pennsylvania 19601

DATE November 30, 1976

BAW CONTRACT NO. BSS-1

CUST. Metropolitan Edison Company

CUST ORDER NO. 77978

☐ Change in Interface with BAW-supplied equipment.  
NRC Approval Requested by \_\_\_\_\_

☒ No Interface Change Date \_\_\_\_\_

FIELD CHANGE  
NO. \_\_\_\_\_

COMPONENT:

DESCRIPTION:

FCB-183 Rev. 00  
(04-2255-00)

Reactor Coolant System

Electromagnetic Relief Valve Modification

The following drawing is included:

Drawing 31533

28-41-605-01

2-1/2" RC-V2 Relief Valve

Joel T. Janis  
Service Manager

*J. T. Janis*  
by J. R. Pugh

CC: C. R. Montgomery, CPU Service Corp., Parsippany, N.J.  
J. C. Norheim, Met Ed, Site, N.J.  
L. C. Rogers, BAW Resident Engineer Manager, N.J.

The BAW Field Change Form is to be used for all field changes.

098004

157 145.40



# FIELD CHANGE AUTHORIZATION 04 2255 00 BARCOCK & WILCOX

CUSTOMER: Met. Ed. CONTRACT NO. 420-00015 FCA NO. 183 REV. NO. 0  
 VENDOR: DYNENER P.O. NO. 02012015 TASK NO. 28 GROUP NO. 221 SER. NO. (N) 1  
 ORIGINATOR: J. L. Wilsher DATE: ☐ LAPSE DATE ☒ NORMAL

F.C. TITLE (MAX. 30 SPACES) Electromatic Relief Valve Mod.

## DESCRIPTION OF FIELD CHANGE:

Modify Electromatic Relief Valve, B&W mark no. RC-RV2 per the attached procedure 03 6918 00.

Description: Two bushings are added to lever and one to solenoid bracket. This will ensure location of lever pin using corrosion resistant bushings.

REASON FOR CHANGE: ☒ SITE PROBLEM ☐ ENGAG. EQUIP. ☐ CUSTOMER REQUEST  
☐ IMPROVEMENT ☒ OTHER (SPECIFY) Vendor requirement - Equipment Improv.  
 SPR. NOC. OR LETTER NO/REF SPR-107, NSS-9

## TASKS AFFECTED

TASK NO.	TASK ENGINEER	TASK NO.	TASK ENGINEER
28	J. L. Wilsher		

	TITLE	FC AUTHORIZATION APPROVAL	DATE	FC PACKAGE APPROVAL	DATE
APPROVALS	TASK ENGINEER	H. H. H.	11-17-70	J. L. Wilsher	11-17-70
	INTEGRATION			All M.W. Dept.	12-1-70
	ENGR. UNIT MGR.				
	NUCLEAR SEVP.			R. P. H.	11/27/70
	PROJECT MGR.				11/28/70

OTHER SUGGESTED APPLICABILITY:		CUSTOMER/CUSTOMER AGENT DISPOSITION OF FIELD CHANGE:		ADMIN. CHARGE NO.	
CONTRACTS: NSS-7, 6, 5, 4, 7, 8		IMPLEMENTED <input type="checkbox"/>			
9, 11, 12 & 13		NOT IMPLEMENTED <input type="checkbox"/>			
STD. PLANT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		REF. _____		FILE NUMBER	
INTEGRATION DATE		PROJECT MGR. DATE		SHEET	
				1 of 2	

000005

1 4 5 4 1



[illegible]

000006

1341 | 4 5 4 2

# ENGINEERING INSTRUCTIONS

ENGINEERING INSTRUCTIONS  
AND INSTRUCTIONS  
FOR THE

AS-66

PAGE 1 OF 3 PAGES

SUBJECT: PROPOSED LEVER PIN DESIGN MODIFICATION 31533VX-30 ELECTROMATIC RELIEF VALVE DESIGN AND ASSEMBLY INSTRUCTION

1. This engineering instruction is issued for the purpose of providing design, assembly and field modification instructions for the pilot valve lever pin.
2. The following parts are to be modified:
  - a. Lever
  - b. Bracket
3. The following parts are new:
  - a. Bushing type bearings for lever (2 parts).
  - b. Bushing type bearing for bracket (1 part).
4. Page 2, Table 1, provides information regarding the bushing type bearings.
5. Page 3, Figure 1, provides information regarding the modification of the lever.
6. Page 4, Figure 2, provides information regarding the modification of the bracket.
7. Page 5, Figure 3, provides information regarding the installation and removal tools.
8. Page 6 and 7, Provides typical view showing how to install the bushing with a vise.
9. Page 8, provides a final assembly view and clearance checks.

BABCOCK & WILCOX  
DOCUMENT NUMBER

03 6918 00

APPLICATION ENGINEER

DATE: 9/4/76

INST. NO.

Q & A. ENGINEER

DATE: 10-18-76

AS-66

MANAGER OF C

DATE: 12-13-76

PAGE 1 OF 3

000007

REV

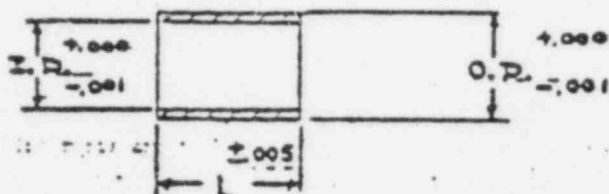
14543

# ENGINEERING INSTRUCTIONS

INSTRUCTIONS TO BUYERS  
AND INSTRUMENT  
ENGINEERS

AS-64

PAGE 2 OF 2 PAGES



Boston Gear Catalog No.	Quantity	O.D.	I.D.	L
B48-3	2	.502	.377	3/8
B48-4	1	.502	.377	1

## Notes:

1. Best-bronze bushings, oil-impregnated, tin bronze material, 87% copper, 10% tin, 1.75 max graphite and .05 max other elements.
2. Bushings are impregnated with mineral oil. Good to 250°F service.
3. Other bronzes may be used which conform to ASTM B438 Grade 1. Avoid leaded bronze, which has lower permissible service temperature.
4. Manufacturer: Boston Gear  
Quincy, Mass.

000398

TABLE 1

1 4 5 4 4

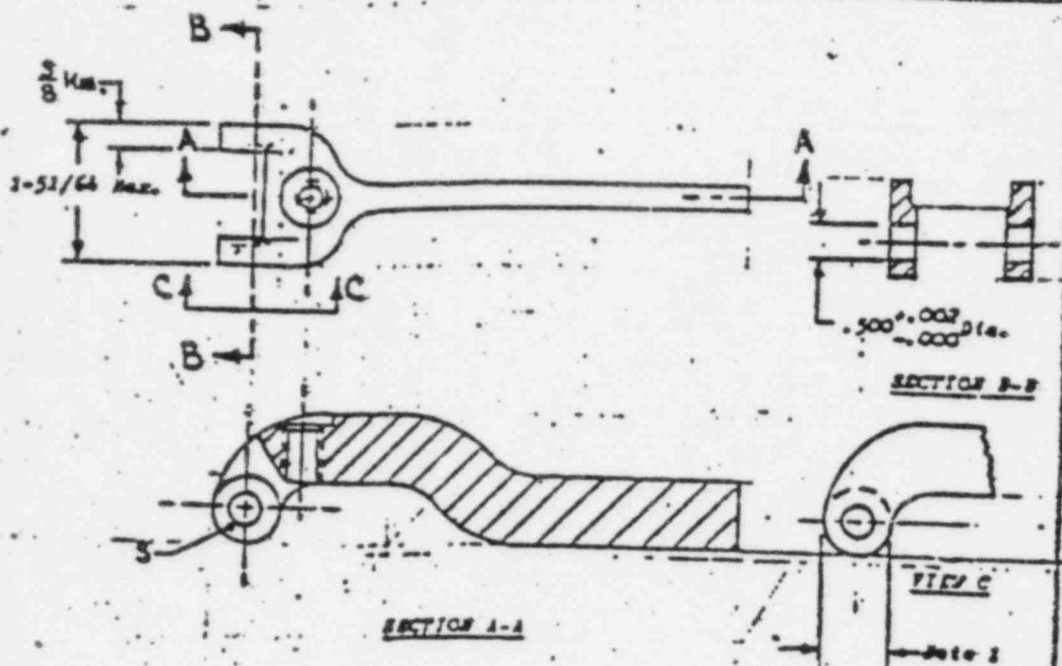


# ENGINEERING INSTRUCTIONS

IDENTIFYING TAGS  
AND INSTRUMENT  
EVT-1000

AS-64

PAGE 3 OF 8 PAGES



## NOTES

1. Measure the width of lever. If greater than 1-51/64, the spotfacing is required. Spotface when required around each lever pin hole as shown in view C providing the 1-51/64 width dimension.
2. Enlarge lever pin holes per section B-B. Centerline of holes to be perpendicular to surface S.

Figure 1

800089

1 4 5 4 5

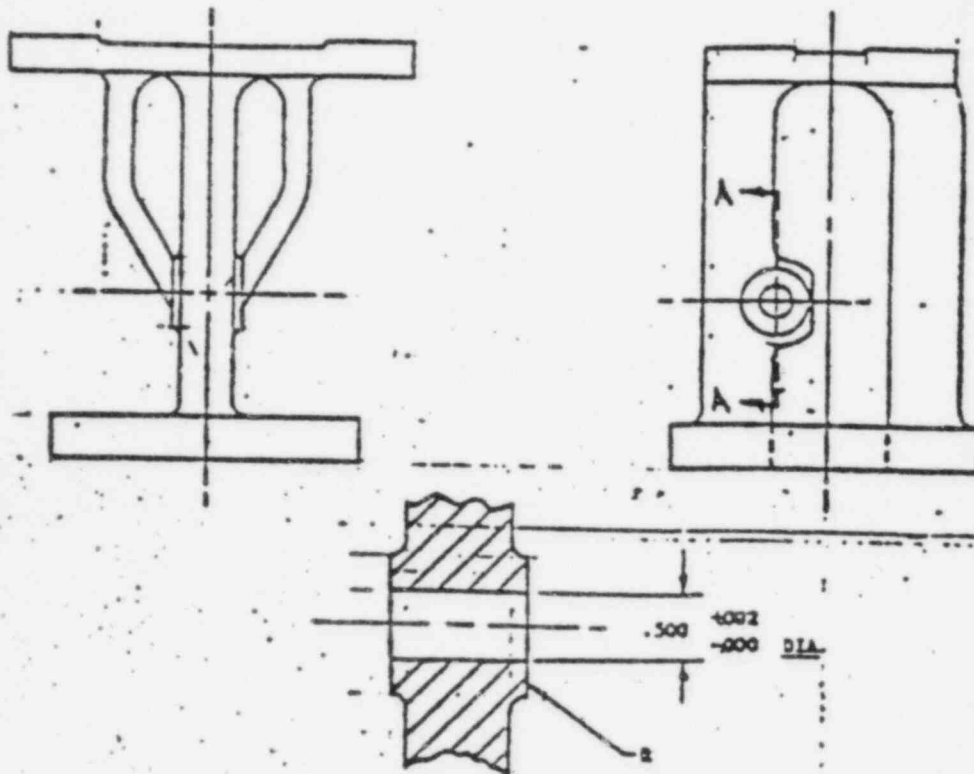


# ENGINEERING INSTRUCTIONS

UNCLASSIFIED  
AS-26  
EXCLUDED

AS-26

PAGE 4 OF 8 PAGES



## Notes

2. Enlarge hole as shown. Centerline of hole to be perpendicular to surface 2.

FIGURE 2

080018

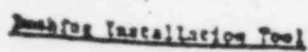
1 4 5 4 6

INSTRUMENT VALUE  
AND INSTRUMENT  
CITY

PAGE 2 OF 2 PAGES



Avoid  
Not Permissible

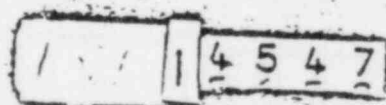


Page 24



Figure 28

000011



# ENGINEERING INSTRUCTIONS

INSTRUCTIONS FOR THE  
AND INSTRUMENT  
OPERATION

AS-A4

PAGE 6 OF 8 PAGES

Note:  
For ease of entry, before installing  
bushing, sharp corners should be broken  
as shown.

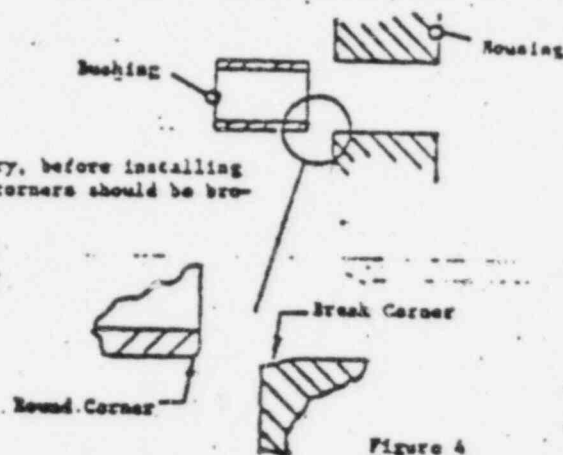
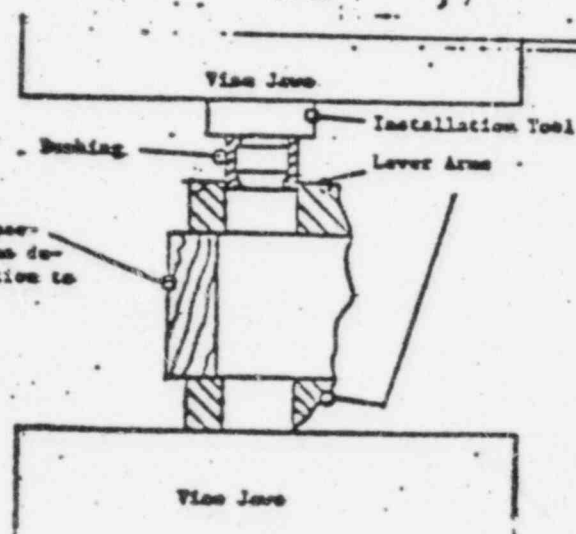


Figure 4

Use wood or metal spacer  
or between lever arm during  
pressing operation to  
prevent bending.



Arrangement in Vice Jaws for Pressing Bushing  
Into Lever

Figure 5

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# ENGINEERING INSTRUCTIONS

CRISTINA, VALVE  
AND INSTRUMENT  
COMPANY

AS-64

PAGE 7 OF 8 PAGES

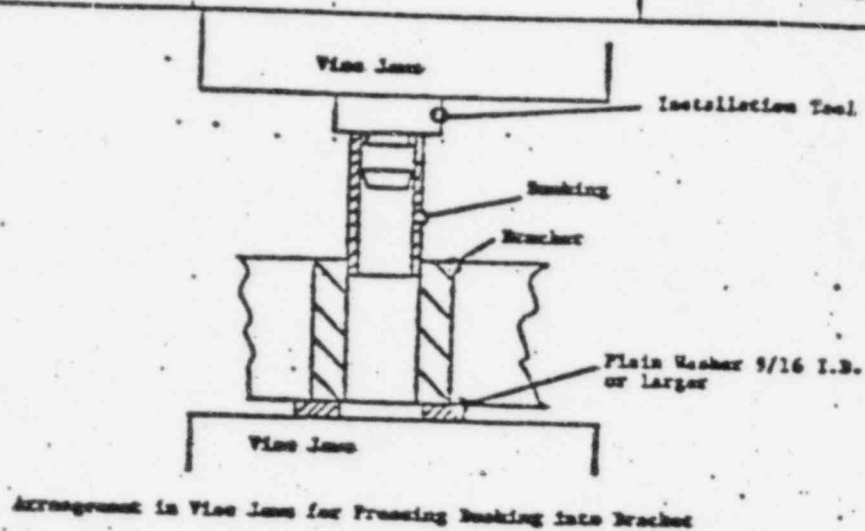
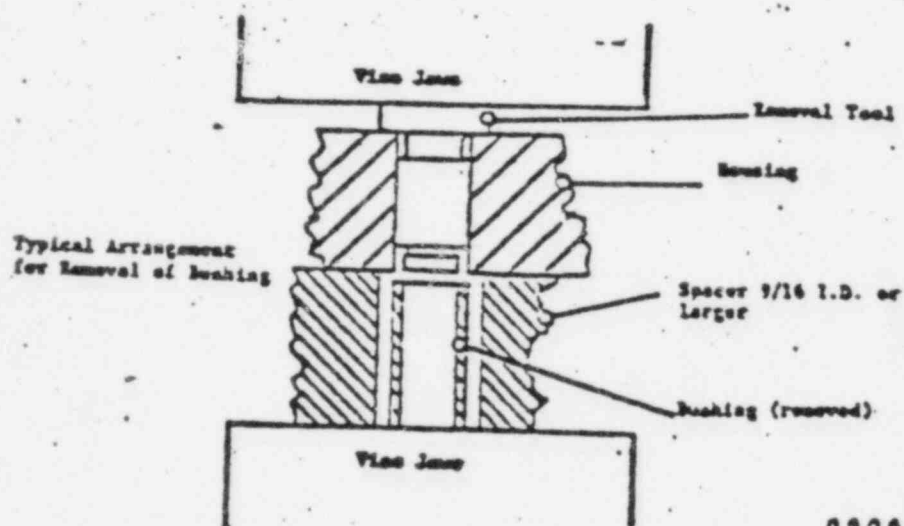


Figure 6



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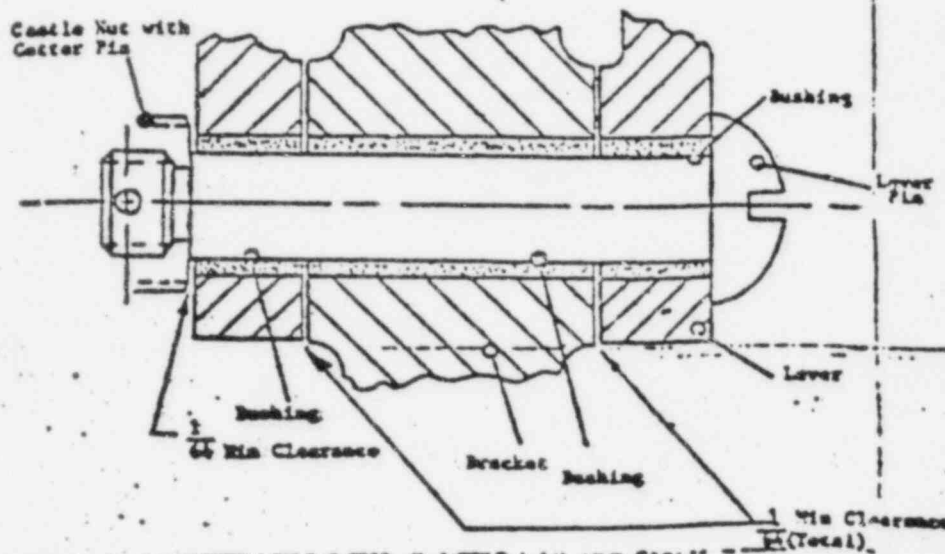


# ENGINEERING INSTRUCTIONS

AS-6A

INDUSTRIAL VALVE  
AND INSTRUMENT  
CRACKS

PAGE 2 OF 2 PAGES



Lever Pin Assembly - Verify Clearance for Rotation of Lever

Full

Figure 2

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PAGE 1 OF 1

SPEC. NO.

45-64

REVISIONS MADE TO INSTRUCTION ARE LISTED IN DETAIL IN CHRONOLOGICAL ORDER

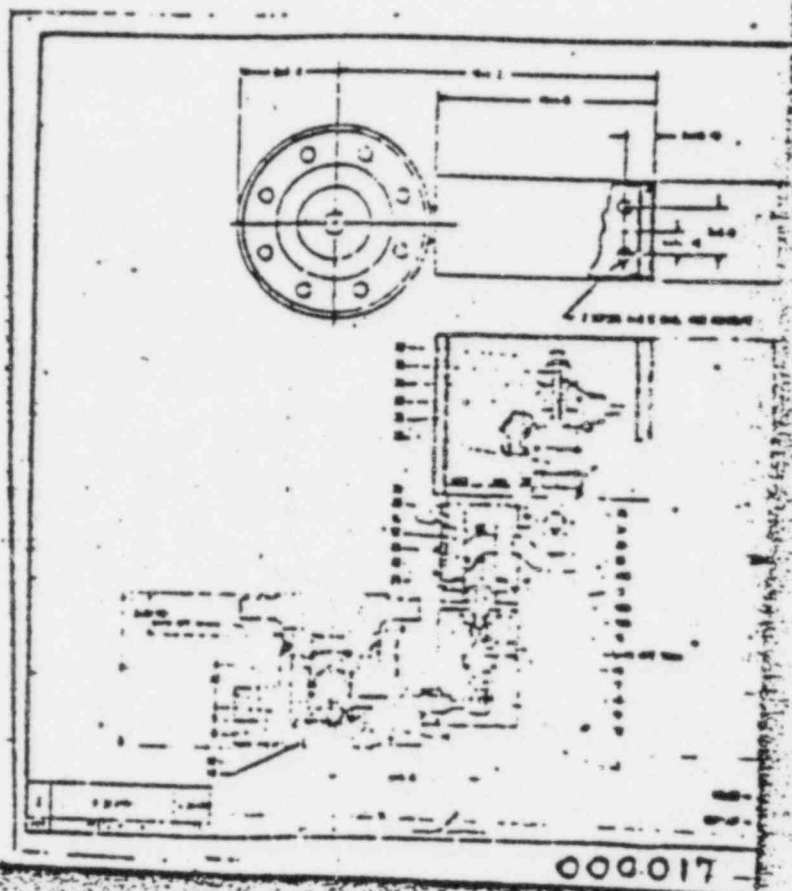
REVISIONS MADE TO INSTRUCTION ARE LISTED IN DETAIL IN CHANGES/REVISIONS SHEET			APPENDICES	
DATE	REV. NO.	DESCRIPTION	ENG.	D.A.
10-11-76 EP-952	0	Released.	TRE 11/1/76	

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DRESSER

DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

DRESSER INDUSTRIES, INC.  
P. O. BOX 1420  
ALEXANDRIA, LOUISIANA 71301

January 24, 1972

The Babcock & Wilcox Company  
Nuclear Power Division  
P. O. Box 1260  
Lynchburg, Virginia 24505

Re: Your Order No. 022660LS  
Dresser Order No. 35-10832-0

Gentlemen:

We hereby certify that the following valve furnished you on the above order has been inspected and tested and found to be in accordance with specifications, drawings, and requirements of this order.

OS-198, Rev. 1 - Order Control Specification

RG-7, Rev. 3 - Radiography Procedure  
SP-32, Rev. 1 - Ultrasonic Inspection Procedure  
SP-33, Rev. 2 - Liquid Penetrant Procedure  
WS-65, Rev. 2 - Welding Procedure  
WS-97, Rev. 2 - Welding Procedure  
WS-103, Rev. 3 - Hard Surfacing Procedure  
AS-27, Rev. 0 - Assembly Instructions  
CL-12, Rev. 1 - Nuclear Cleaning Instructions  
HY-7, Rev. 1 - Hydrostatic Test Procedure  
OS-164, Rev. 1 - Painting Procedure  
PC-13-M1, Rev. 0 - Packaging Instruction  
MA-15, Rev. 2 - Corrosive Resistant Steel Specification

Item 3 (1) 2-1/2" 31533VX-30(25)X2-1-XNY4-OS198  
Serial No. BN-04233  
Tag - RC-RV-2  
Customer Item 2  
Set @ 2300 PSIG  
Capacity 118,909 #/Hr. Steam  
Temperature - Saturated  
Voltage - 125V D.C.  
Bore - 1-5/16  
Control No. 9129906

000021

- Continued -

RC-RV2 620-0006

ARMEROST GAUGES AND INSTRUMENTS • HANGCOCK VALVES • CONSOLIDATED SAFETY AND RELIEF VALVES

Det. Exh. For ID 452  
Plf. Exh. in EV  
Catherine Cook  
Doyle Reporting Inc. 2/19/82

1319 114703

The Babcock & Wilcox Company  
Your Order No. 02266015  
Dresser Order No. 35-10832-0

1-24-72  
Page 2

Main Base Assembly 13463030S198  
Weld Area Radiographed per RG-7, Rev. 3  
R.T. No. N211  
Weld Area Liquid Penetrant Inspected per  
SP-33, Rev. 2

Lower Base 18330040S198 Forging No. 1833703  
Material - ASTM A-182 Gr. F-316  
Heat No. 8054177  
Forging Ultrasonically Tested per SP-32,  
Rev. 1  
Lower Base Liquid Penetrant Inspected  
per SP-33, Rev. 2

Top Flange 18601030S198 Forging No. 1848902  
Material - ASTM A-182 Gr. F-316  
Heat No. 8054177  
Forging Ultrasonically Tested per SP-32,  
Rev. 1  
Top Flange Liquid Penetrant Inspected  
per SP-33, Rev. 2

Cage 18333030S198 Casting No. 1833801  
Material - ASTM A-351 Gr. CF8M

Tube Insert 18334020S198 Bar Code 039352-15-0108  
Material - ASTM A-182 Gr. F316  
Heat No. 48736

Disc 18469030S198 Bar Code 050159-20-0232  
Material - ASTM A-565 Gr. 616  
Heat No. B20394  
Bar Ultrasonically Tested per SP-32, Rev. 1  
Disc Liquid Penetrant Inspected per SP-33,  
Rev. 2

Pilot Base 18472040S198 Bar Code 039359-20-0440  
Material - ASTM A-182 Gr. F316  
Heat No. 47194  
Bar Ultrasonically Tested per SP-32, Rev. 1  
Base Liquid Penetrant Inspected per SP-33,  
Rev. 2

Main Base & Pilot Base Assembly 18473030S198  
Hydrostatically Tested per HY-7, Rev. 1 and  
OS-198, Rev. 1; No Leaks  
Assembly Weld Liquid Penetrant Inspected per  
SP-33, Rev. 2

- Continued -

RC-RV2 620-0006

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The Babcock & Wilcox Company  
Your Order No. 02266015  
Dresser Order No. 35-10832-0

1-24-72  
Page 3

Valve Cleaned per CL-12, Rev. 1  
Valve Functional Tested per OS-198, Rev. 1  
Valve Painted per OS-164, Rev. 1, in  
accordance with OS-198, Rev. 1

Very truly yours,

D. Roberts  
Manager Quality Control

BY: R. R. Thomas  
R. R. Thomas  
Quality Control Engineer

RRT/srb

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RC-R#2 620-0006

5 d. 11

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