

SITE PROBLEM  
REPORT TRANSMITTAL

\*\*\*\* CLEARED \*\*\*\*

GP4 EXHIBIT 491 FOR IDENT.  
3/23/82 H. A. KUDOLPH

TO: Charge Control For Distribution  
S. H. Klein - Quality Assurance  
Central Engineering Files  
D. Putzger - Task Engineer  
J. Lauer - Project Manager

FILE: 13-14-386  
CONTRACT NO: 620-00 14  
SPR 386  
TITLE Electronic  
Relief valve modification  
DATE: 3/27/78  
STATUS CODE C

L. C. Rogers - MET. ED.  
F. R. Faist - TOLEDO  
J. R. Bohart - Intl. Support  
J. L. Donnell - OFR  
B. A. Karrasch - Plant Integration

0627-

Attached is one copy of Site Problem Report No. 386 which was processed on Contract 620-00 14. Future contracts have been reviewed for the potential of a similar problem. This problem ~~is~~ not considered applicable to other contracts.

REMARKS:

B. H. H.  
NUCLEAR SERVICE SUPPORT ENGINEER

**CLEARED**

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PDR ADOCK 05000289  
P HOL

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# SITE PROBLEM REPORT

BASCO & WILCOX SPR #386

CUSTOMER Toledo Edison Company	ORIGINATOR F.R. Faist	DATE 11/2/77	DOC. NO. CONT. NO. 13 - 600-0014	SPR NO. 386
VENDOR Crosby	P.A. NO. 023 090 IS		PART NO./IATA NO. 28/041/005	GROUP NO. 11/1/1
TITLE (MAX 30 CHARACTERS) Electronic Relief Valve Modification			PROBLEM CONTACT J. E. Anderson	

## DESCRIPTION OF PROBLEM:

See attached sheet.

PROBLEM IDENTIFICATION

STATUS-ACTION TO DATE, INCLUDING PERSONS CONTACTED: Lynb. Engineering is aware of this problem. S. A. Lamanna, Lynb., and J. A. Lauer, Proj. Mgr. know of this problem. T. D. Murray and B. R. Beyer, TECo, are also aware of the problem.

FURTHER ACTION RECOMMENDED BY SITE PERSONNEL: 1. Lynb. Engineering should review Crosby installation, operating and maintenance instructions No. I - 1115, Sect. 4.2 with the Crosby vendor to determine if these instructions will give the proper pilot valve stem adjustment when actuated. 2. Engineering to provide additional recommendation and concurrence with action taken.

RESOLUTION: *Reviewing Crosby with recommendations as per comm. with Mr. Dick Ahlstrom. The instruction manual section 4.2 will be revised by Crosby. P. A. Lauer will give copies of the revised pages for the I.M. Steve Lamanna.*

RESOLUTION

PREPARED BY <i>Doug Holsted</i>	DATE 11-4-77	APPROVED BY <i>J. A. Lauer</i>	DATE 11-7-77
<i>P. A. Lauer &amp; K. E. Lauer</i>		<i>11-7-77</i>	

COST CATEGORY <input type="checkbox"/> NORM <input checked="" type="checkbox"/> OTHER	FIELD CHANGE REQ <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	F.C.A. NO. 06- N/A	SIGNIF. DEFICIENCY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
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COMPLETION

SITE COMPLETION REPORT: SOM Letter #352, copy attached was written to TECo. Instruction manual is correct and will not be revised. Additional adjustment check provided. Eng. concurred with Crosby/TECo actions.

DEVIATIONS: <input checked="" type="checkbox"/> NONE	SPR REV NO. <input type="checkbox"/>
DATE COMPLETED: 2/21/78	
COMPLETED BY: <i>F. R. Faist</i>	
F. R. Faist	
SHEET 2 of 11	

7323 0180

Description of Problem:

On 10/13/77, the electromagnetic relief valve was tested after the completion of repairs as outlined in SPR #369. The valve was cycled six times successfully. On the seventh test cycle the pilot valve did not close. The ERV was isolated and permitted to cool down while waiting for Crosby representatives.

Crosby rep., Walt Conroy, arrived and the pilot valve assembly was removed from the main valve. Disassembly of the pilot valve revealed that the pilot valve stem had stuck open due to the close tolerance causing a binding condition between the O.D. of the stem and the I. D. of the pilot valve nozzle. Also, a small metal particle was found in the pilot stem/nozzle area. Subsequent cleaning of the inlet piping to the ERV revealed this same type of metal particles.

The Crosby representative furnished a detailed drawing of the pilot valve stem requiring a diameter of .374. This was changed to read .373 diameter .372.

by the Crosby rep., and the stem was modified accordingly by TECO Maintenance under the direction of the Crosby rep. This modification resulted in opening the clearance between the stem and the nozzle thus eliminating the binding. The nozzle was also reamed out with a reamer the same size, no material was removed.

All parts were cleaned and assembled. The solenoid linkage was adjusted to drop the adjustment bolt more squarely on the disc actuator. In addition, the adjustment bolt was positioned to move the pilot valve stem off the seat a maximum of .125". It had been moving off the seat some .375".

The pilot valve was tested without pressure by actuating the solenoid three times. The valve was tested again twice with 5 or 6 seconds between tests. This was followed by testing the valve five more times assuring actuation each time by a one minute delay between tests. The valve was tested with a pressure of 1100 psig on the second and third occasion.

JEA:nlf

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3 of 12

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ERU MOD. SECTION

TITLE

HX/KCH me S  
20 SPC #326  
620-0014

Suggested that  
fewer electric valves should RCI  
Test electrical network circuit 3 times

Open ~~at~~ RCI  
Follow twice for 5-6 seconds of  
test at ~~1000~~ 1000 ft. ~~from~~ ~~it~~  
do not go below 600 ft. RCI  
less should be a new 1500 ft. in possible  
will test at 1150 because of test time  
limitations -

Stroke 5 times occurring situation  
during each time - ~~last~~ ~~some~~ ~~1~~  
in between stroke to some degree  
~~Repeating~~  
Stroke 5 times again same as above  
NRC wants one cycle at temp. of 1150

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~~312-682-7001~~

4 of 22

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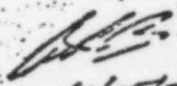
Crosby - Bolt Crosby  
Ext. L. L. L.

10-15-77

Accomplished things planned and  
discussed on 10-11-77.

Walt will include in his  
report recommendation to use  
method of adjusting solenoid  
to get  $\approx 0.100$  pilot valve stroke.

Crosby ~~will~~ Engineering will  
submit letter in charge on  
pilot valve stroke diameter.

  
11/15/77  
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# NUCLEAR POWER STATION MAINTENANCE WORK ORDER

Continuation sheet for No. 3 and No. 1A 1ED 10/72

FUNCTIONAL ACCOUNT NO. 558 3300 5 EQUIPMENT FILE NO. 77-2120 MWO NO. 77-2120

1. EQUIPMENT/INSTRUMENT NAME AND NO. PRZR ELECTROMAGNETIC RELIEF VALVE RC2A

2. MWO INITIATED BY: ☐ WHI ☐ AIR NO. ☐ NCR No. ☐ MWO NO. ☐ OTHER

3. DESCRIPTION OF PROBLEM/MALFUNCTION  
RC2A STUCK OPEN. TROUBLESHOOT AND  
REPAIR AS NEEDED. WORK WITH SERVICE MAN  
ON REPAIRS

4. WORK CLASSIFICATION  
☒ Normal ☐ Immediate ☐ Emergency ☐ Outage ☐ Preventive Maintenance  
☒ Routine ☐ Non-Routine ☒ Nuclear Safety Related/ASME ☐ Non-Nuclear Safety Related  
Frequency                       
Scheduled For                     

5. REP REQUIRED ☒ Yes ☐ No 6. CLEANLINESS INSPECTION REQUIRED ☐ Yes ☒ No 7. NPRD REQUIRED ☐ Yes ☒ No

8. PROCEDURE/INSTRUCTION                      9. APPROVED BY MAINTENANCE/ISC ENGINEER                      DATE 9/26/77

10. REVIEWED BY QUALITY CONTROL                      DESIGNATED INSPECTOR (Name)                      DATE 9/26/77

11. SPECIAL INSTRUCTIONS 1. Q.C. order to start work.

12. ASSIGNED RESPONSIBILITY                      13. TRANSITION TO COMMENCE WORK                      DATE 9/27/77

14. DESCRIPTION OF WORK PERFORMED  
IDENTIFIED VALVES REFINED PARTS & GASKETS  
VALUES - WAS AT - HDIC TO CYCLE VALVE DUE TO X-10  
RA-11 & V.H.H. when valve was closed with pressure  
pilot valve stuck again on the 5th floor.

15. TEST EQUIPMENT I.D. NO.                      CALIBRATION DUE DATE                      16. SPARE PARTS REQUIRED ☐ Yes ☒ No

17. MAINTENANCE COMPLETED AND INSPECTED PER REQUIREMENTS OF AG 15J4C0  
DESIGNATED INSPECTOR                      DATE 10/17/77 RESPONSIBLE FOREMAN                      DATE 10-17-77

18. TESTING COMPLETED & TESTED TO SHIFT FOREMAN/FOREMAN CONTROL  
TEST NO.                      SHIFT FOREMAN/FOREMAN                      DATE                     

19. ACTION ITEMS/FOLLOW UP  
☐ NPRD Form Completed (if required) ☐ None Required  
☒ Initiated Followup MWO NO. 77-2256 ☐ Other                       
☐ Initiated AIR/DVR NO.                     

20. MAINTENANCE/ISC ENGINEER                      MWO REVIEWED AND APPROVED                      DATE 10/17/77

COPIES: WHITE                      GREEN                      Shift Foreman                     

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70-3

7 of 22

FUNCTIONAL ACCOUNT NO.		EQUIPMENT FILE NO.		MWO NO.	
				77-2256	
EQUIPMENT INSTRUMENT NAME AND NO.					
Pressure Electric Relief Valve					
MWO INITIATED BY:				MWO NO.	
<input type="checkbox"/> WRI <input type="checkbox"/> AIR NO. <input type="checkbox"/> NCR No.				<input checked="" type="checkbox"/> OTHER B. B. B.	
DESCRIPTION OF PROBLEM/MALFUNCTION					
Remove from Electric Relief Valve assembly, and disassemble to cause positive identification of defective assembly. Disassemble. Inspect assembly. and cause as instructed by District Engineer. Repair as required. Reassemble when instructed.					
WORK CLASSIFICATION:		<input type="checkbox"/> Normal <input type="checkbox"/> Immediate <input type="checkbox"/> Emergency <input checked="" type="checkbox"/> Outage		<input type="checkbox"/> Preventive Maintenance	
<input checked="" type="checkbox"/> Routine <input type="checkbox"/> Non-Routine		<input checked="" type="checkbox"/> Nuclear Safety Related/ASME <input type="checkbox"/> Non-Nuclear Safety Related		Frequency	
				Scheduled For 11/12/77	
REP REQUIRED		CLEANLINESS INSPECTION REQUIRED		NPRD REQUIRED	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
PROCEDURE/INSTRUCTION		APPROVED BY MAINTENANCE/AC ENGINEER		DATE	
Number MP14A 02 Revision 0		<i>[Signature]</i>		11/12/77	
REVIEWED BY QUALITY CONTROL		DESIGNATED INSPECTOR (Name)		MIN. LEVEL	
<i>[Signature]</i>		Schultz/AC Section		E-M II	
SPECIAL INSTRUCTIONS		PERMISSION TO COMMENCE WORK		DATE	
Totally Test On Disc To Starting Work					
ASSIGNED RESPONSIBILITY		11/13/77		10/13/77	
11. <i>[Signature]</i>		12. <i>[Signature]</i>			
DESCRIPTION OF WORK PERFORMED					
Relief Valve was removed and found to be sticking open about 4". Stem was checked and found to be 372 which gives 0.003" clearance in the guide disc and disc was lipped. The main disc was checked for warpage. It was true and seating. The inlet line was cleaned to the block valve. The actuator actuator was adjusted to give the right valve - 0.100 opening.					
TEST EQUIPMENT I.D. NO.		CALIBRATION DUE DATE		SPARE PARTS REQUIRED	
MM 4.1		3-3-79		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    ILM JLT or P.O. or ETC.	
MAINTENANCE COMPLETED AND INSPECTED PER REQUIREMENTS OF AC 1544 GC					
DESIGNATED INSPECTOR		DATE		RESPONSIBLE FOREMAN	
<i>[Signature]</i>		10/12/77		<i>[Signature]</i>	
TESTING COMPLETED & RETURNED TO SHIFT FOREMAN/FOREMAN CONTROL					
TEST NO.		SHIFT FOREMAN/FOREMAN		DATE	
<i>[Signature]</i>		<i>[Signature]</i>		10/17/77	
ACTION ITEMS/FOLLOW UP					
<input type="checkbox"/> NPRD Form Completed (if required) <input checked="" type="checkbox"/> None Required					
<input type="checkbox"/> Initiated Followup MWO NO. <input type="checkbox"/> Other					
<input type="checkbox"/> Initiated AIR/DVR NO.					
MWO REVIEWED AND APPROVED					
MAINTENANCE/AC ENGINEER <i>[Signature]</i>					
CONFIDENTIAL COUNSEL ONLY 10/17/77					
WHITE - Routed to be completed/procedure BLUE - Maintenance/AC Office GREEN - Shift Foreman YELLOW - Operations Engineer					

8 of 11

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Pilot Whistler measurement is 0.372  
Diode measurement is 0.375

Valve was tested at ~ 1100 psi 10 times and closed satisfactorily with no leakage noted.

Valve was also tested one time at 2150 psi and closed satisfactorily with no leakage noted.

Valve was also closed and closed once and  
had two additional 0.5 second blows <sup>at 1100 psi</sup> like  
the 10 times above

B. J. J.  
12/14/77

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COPIES:

WHITE - Passed to be completed/procedure  
BLUE - Shift Foreman  
GREEN - MRC Office

YELLOW - Operations Engineer  
PINK - Operations QA Engineer

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1127-787  
726 215

REF ID: A660931

70-23 0188

ENGLI ALL OVER

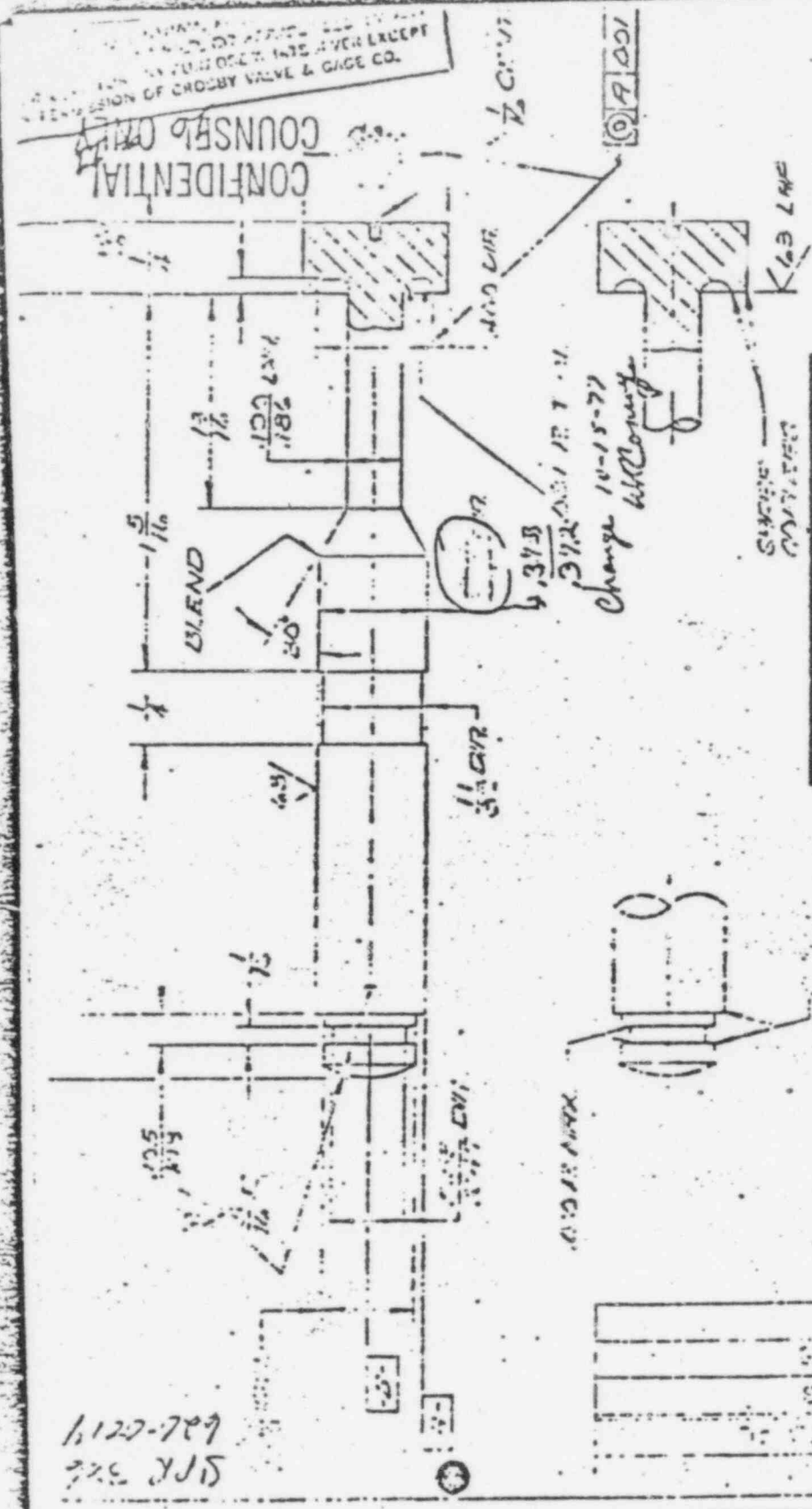
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ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED

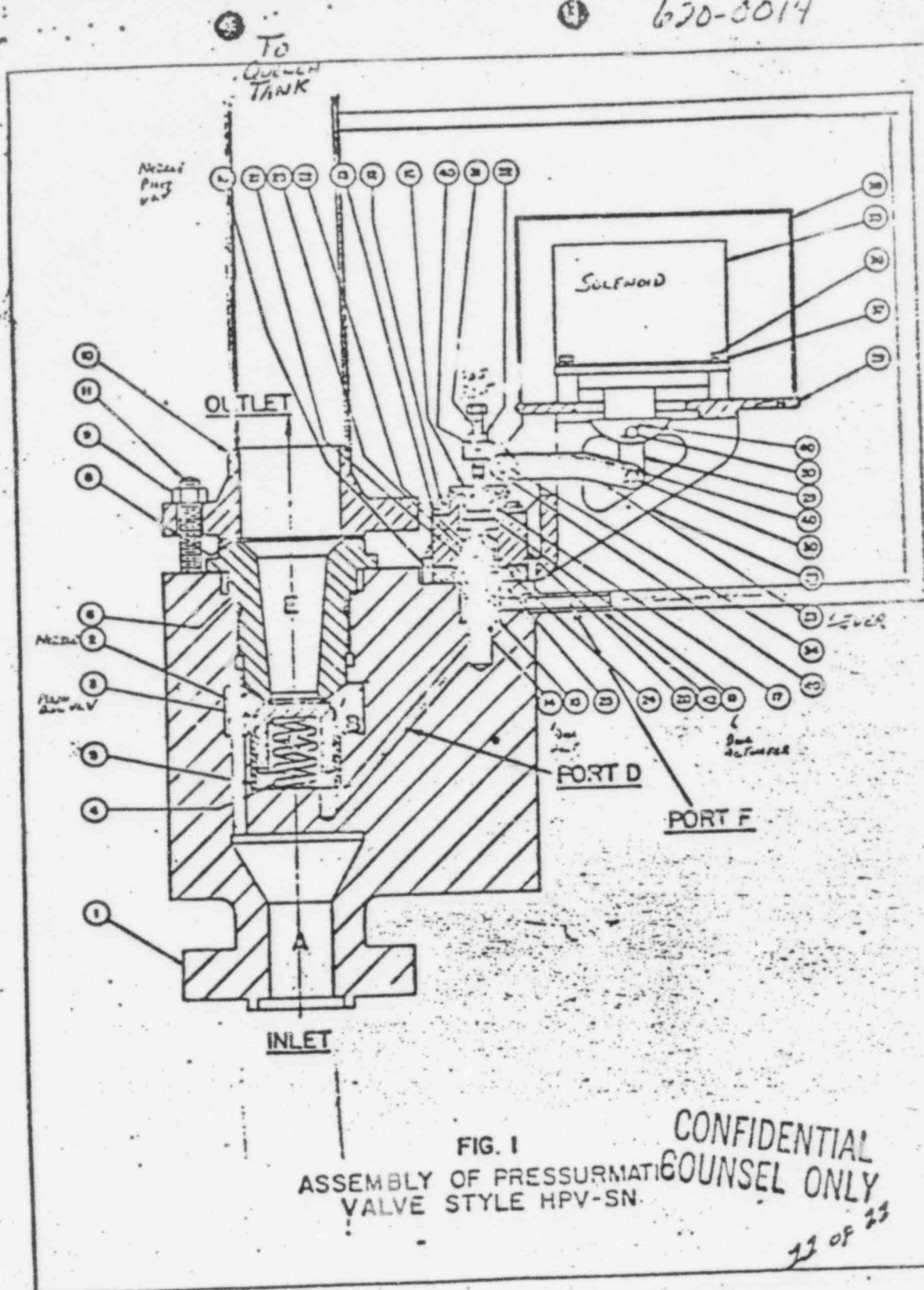
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CROSBY, W. E. & G. C.  
WREN, J. A. MACE  
W. C. (PILOT W. E.)  
WV-SN

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RGW	72



620-0014



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11 of 23

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